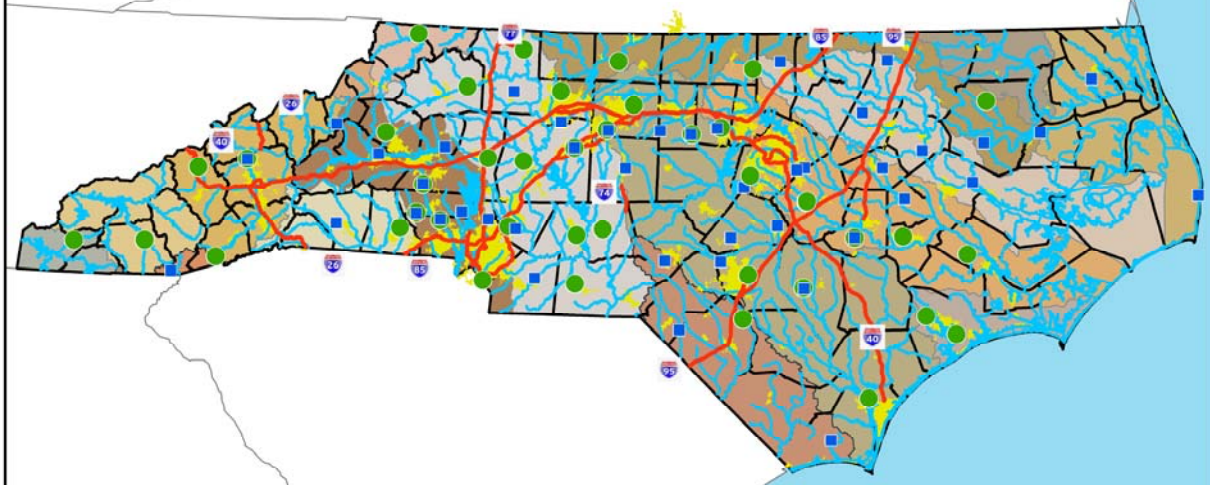
North Carolina

Solid Waste Management

Annual Report

July 1, 2007 – June 30, 2008



State of North Carolina
Beverly Eaves Perdue, Governor

Department of Environment and Natural Resources
Dee Freeman, Secretary

Division of Waste Management
Dexter Matthews, Director

Solid Waste Section
Paul Crissman, Chief

Division of Pollution Prevention and Environmental Assistance
Gary Hunt, Director

Community and Business Section
Scott Mouw, Chief

Reduce-Reuse-Recycle

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DPPEA would also like to thank the North Carolina state agencies that diligently submit their reports to their office each year. Their hard work and dedication is very much appreciated.

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- Bill Patrakis, *Medical Waste and White Goods Program*
- Rebecca Sluder, *Facility Data and Planning*
- Ethan Brown, *Facility Data and Planning*

North Carolina Department of Environment and Natural Resources
Division of Waste Management
1646 Mail Service Center
Raleigh, N.C. 27699-1646
(919) 508-8400
http://www.wastenotnc.org

- Rachel Eckert, *Recycling and Environmental Purchasing Coordinator*
- Jim Hickman, *Local Government Assistance Team Leader*

North Carolina Department of Environment and Natural Resources
Division of Pollution Prevention and Environmental Assistance
1639 Mail Service Center
Raleigh, N.C. 27699-1639
(919) 715-6500
http://p2pays.org

- Robert Matney, *Standards Engineer*

North Carolina Department of Administration
1301 Mail Service Center
Raleigh, N.C. 27699-1301
(919) 807-4544
http://www.doa.state.nc.us

- John Sharp, *Waste Management Analyst*

North Carolina Department of Transportation
1591 Mail Service Center
Raleigh, N.C. 27699-1591
(919) 250-4128
http://doh.dot.state.nc.us

On the Cover: N.C. Municipal Solid Waste (●) and Construction & Demolition (■) Landfills in relation to River Basins and Hydrography. Map created by Darren M. Johnson, Intern and NCSU student.

CONTENTS

APPENDIX

CHAPTER 1 – Solid Waste Management

Executive Summary

The state per capita disposal rate is 1.24 tons per person per year; a seven percent decrease from last fiscal year [FY] and an increase of sixteen percent from the FY 91-92 base year. North Carolina communities disposed of 11,284,712 tons of waste, which went to both North Carolina and out-of-state facilities. This represents a decrease of 5 percent or 552,392 tons less than the previous fiscal year. North Carolina-permitted municipal landfills received a total of 8,125,537 tons of solid waste during FY 2007-2008, which represents a 39,883 ton decrease from the previous year.

Decreases in both municipal solid waste and construction and demolition disposal can be attributed to a combination of factors. These factors include: deteriorating economic conditions leading to possible decreased consumption, a significant reduction in new construction, decreased manufacturing and a drought resulting in a lower moisture content in waste. The decrease in disposal by North Carolina counties over the past fiscal year can be attributed to the previously-mentioned reduction in construction and demolition disposal. North Carolina-permitted construction and demolition landfills disposed of 2,226,275 tons of solid waste during FY 2007-2008, which represents a 209,109 ton or nine percent decrease from the last fiscal year and a 15 percent decrease over the last two fiscal years. It is also estimated that up to one million tons of construction and demolition waste may be going into municipal solid waste landfills. If so, this decrease and/or lack of the expected increase in municipal solid waste disposal could in fact be largely attributed to a decrease in construction and demolition waste in municipal solid waste landfills.

Approximately 145,427 tons of waste were imported from other states during FY 2007-2008, compared to over 1,079,428 tons of waste exported during the same time period. During the 2007-2008 Fiscal Year, a decrease of 249,774 tons of waste were exported from North Carolina to Georgia, South Carolina, Virginia, and Tennessee. This clearly shows that North Carolina continues to export more waste than it imports.

Based on existing disposal trends, the forecast for waste disposal requirements 20 years into the future indicates a need for disposal capacity to handle approximately 18,354,972 million tons of waste in 20 years. If North Carolina's rate of MSW landfill use remains steady at last year's rate of approximately 8 million tons annually, the state would have 29 years of landfill capacity remaining.

There is a need to increase recycling efforts. Local governments made strides in FY 08 in recycling more oil filters and in increasing household hazardous waste [HHW] collections, although only a minority of communities operate such programs. Until small and mid-size municipalities update their programs to reflect the current state of the recycling industry, the number of curbside recycling programs will continue to decline. Without substantially increased efforts to improve participation through education, many local governments will continue to operate inefficient programs, and increases in disposal will outpace increases in recycling.

Solid Waste Management Act of 2007

The N.C. General Assembly passed Session Laws 2007-550 (Senate Bill 1492) and 2007-543 (Senate Bill 6). The changes were signed into law by Governor Michael Easley on August 31, 2007. Included in the bill were changes which affected solid waste law in the following ways:

- Strengthened the requirements concerning financial responsibility and compliance history of management and ownership of solid waste facilities,
- Increased the standards of construction and operation of future landfills,
- New or increased buffer (separation) requirements from future landfills to groundwater, bedrock, streams, wetlands, National Wildlife Refuges, State gamelands, and the State Parks System,
- Limited the capacity, disposal area and height of future landfills,
- Clarified the circumstances under which a county or a city can collect a fee for solid waste availability fee,
- Allowed a local government unit to employ a landfill liaison,
- Established the Solid Waste Management Account and allowed fees to be assessed on permit actions and annually,
- Enacted Discarded Computer Equipment Management Article 9 of Chapter 130A was enacted (televisions were included in the law in July 2008). Included in this law is a ban on disposal of televisions and computer equipment, effective January 1, 2011.

The new laws also affected revenue law (N.C.G.S. 105-164.16) in the following ways:

- A $2 per ton excise tax, effective July 1, 2008, is to be imposed on solid waste disposed of at North Carolina landfills and at transfer stations handling waste that will go to out-of-state landfills.
- The revenue from the tax will be distributed to the Inactive Hazardous Sites Cleanup Fund, the Solid Waste Management Trust Fund, and to the units of local government which provide solid waste programs.

Solid Waste Disposal in North Carolina

Current Year

North Carolina communities disposed of a total of 11,284,712 tons of municipal and construction and demolition waste in facilities located within North Carolina and out-of-state. North Carolina saw a 7% per capita decrease in waste disposal by NC counties from FY 2006-2007 to FY 2007-2008. Many counties have reported that most of this decrease is due to the recent economic downturn. This is the first decrease North Carolina has seen in waste disposal after many years of continual increases.

Per Capita Rates (all waste)

The state measures changes in waste disposal rates by comparing the current year's per capita waste disposal rate to Fiscal Year 91-92's base per capita rate. (**Formula: Total Tons Disposed ÷ Population = Per Capita Disposal Rate**).

NC Disposal Rates

Fiscal Years	Tons of Waste Disposed	Population	Per Capita Disposal	Percent Waste Reduction from Base Year 1991-1992
2007-2008	**11,284,712**	**9,069,398**	**1.24**	**↑ 16%**
2006-2007	11,837,104	8,860,341	1.34	↑ 25%
2005-2006	11,765,183	8,682,066	1.36	↑ 27%
2004-2005	11,029,485	8,541,263	1.29	↑ 21%
2003-2004	10,713,444	8,418,090	1.27	↑ 19%
2002-2003	10,236,960	8,323,375	1.23	↑ 15%
2001-2002	9,999,284	8,188,008	1.22	↑ 14%
2000-2001	9,752,510	8,049,313	1.21	↑ 13%
1999-2000	10,267,137	7,938,062	1.29	↑ 21%
1998-1999	9,214,323	7,797,501	1.18	↑ 10%
1997-1998	8,607,578	7,645,512	1.13	↑ 5%
1996-1997	8,741,727	7,490,812	1.17	↑ 9%
1995-1996	7,722,795	7,336,228	1.05	↓ 2%
1994-1995	7,624,144	7,180,525	1.06	↓ 1%
1993-1994	7,038,505	7,036,927	1	↓ 7%
1992-1993	6,890,818	6,892,673	1	↓ 7%
1991-1992	(managed) 7,257,428	6,781,321	(Base Year Rate) 1.07	
1990-1991	7,161,455	6,632,448	1.08	

Statewide solid waste disposal reporting began in FY 90-91. The state made slight reductions in per capita waste rates in the early 1990s. Several factors caused these reductions. In 1990, weighing of all waste at municipal solid waste landfills was initiated by legislative statute. Facilities started charging a disposal fee for each ton of waste disposed. This fee, often charged by the facility according to the tons of waste coming into a facility, lessened waste disposal for several years and created an incentive to explore alternatives to landfill disposal. Strong public and private interest helped local governments start recycling and waste reduction programs in response to state mandates and a perceived disposal crisis. In 1991, tipping fees charged by landfills averaged $18 per ton. At the time, this additional cost was considered to be economically prohibitive for landfill use as a means of disposal. This year, the average cost in North Carolina is $37.28 per ton.

Waste disposal is a free-market industry involving competition, which helps to keep disposal costs for consumers low. In the early 1990s, the practice of waste disposal drastically changed as stronger state regulations required lined landfills and leachate collection systems. Many local governments got out of the "business" of waste disposal. Ownership of landfills has moved primarily toward the private sector. The number of active municipal solid waste landfills managed by local governments has decreased from 105 in 1991 to 33 in June 2006. In the same 15-year time period, private landfills increased from five to the current number of eight privately owned landfills. Landfill tonnage rates vary between barely over *one thousand tons per year* at the Washington County Landfill to more than *one million tons per year* at the BFI Charlotte Motor Speedway Landfill. The average amount of waste going into landfills is 45,000 tons per year. The privately owned MSW landfills take an average of 100,000 tons per year. Of the ten largest landfills in North Carolina only one is owned by a local government - Wake County. The 10 largest landfills all take greater than 200,000 tons per year.

North Carolina Solid Waste Management Facilities

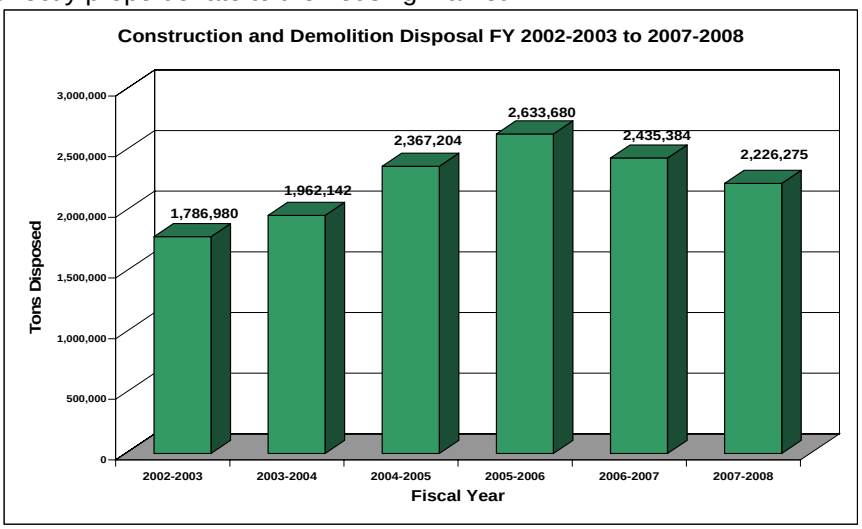
WASTE FACILITY OPERATING DURING FY2007-2008	ACRONYM	NUMBER IN NC
Municipal Solid Waste Landfills	MSWLF	41
Construction and Demolition Landfills	CDLF	68*
Industrial Landfills	IND	14
Land Clearing and Inert Debris Landfills	LCID	79
Land Clearing and Inert Debris Notification Site	LCIDN	744
Transfer Stations and Mixed Waste Processing Facilities	TRANS	89
Tire Monofills/Processing	TIRE	5
Incinerators	INC	6
Solid Waste Compost Facilities	SWC	43
Treatment and Processing-Yard Waste or Land Clearing Debris	TP-YW or TP-LCD	9
Treatment and Processing Land Clearing Debris Notification	T&PN	63
Treatment and Processing – Other	T&P	24
Septage Land Application Sites	SLAS	138
Yard Waste Notification Site	YWN	102
Closed Landfills which require Inspection	CLOSED	139

*Seventeen C&D landfills have ceased taking waste prior to or as of June 30, 2008.

Construction and Demolition Waste

Disposal of construction and demolition waste in North Carolina landfills for FY 2007-2008 totaled 2,226,275 tons, resulting in a decrease of approximately 209,109 tons or 8.6 percent from the previous fiscal year and a 15 percent decrease over the last two years. Although FY 2006-2007 saw a 7.5 percent decrease from FY 05-06, much of this was attributed to the end of several large demolition projects at the Fort Bragg in Cumberland County and at Pillowtex in Cabarrus County. The FY 2006-2007 Annual Report attributed the decrease in C&D disposal to the cessation of several large deconstruction projects. The most recent overall decrease may be due to the continued weakening of North Carolina's economy. Of all 64 C&D facilities that received waste during FY 2007-2008, only 14 showed an increase in waste received during FY 2007-2008. It should be noted that estimates indicate that up to one million tons of North Carolina's C&D waste could be going into MSW landfills along with the MSW waste. There are large areas of the state where there are no C&D landfills. Some waste hauling companies simply use the closest or most convenient MSW landfill for C&D waste.

According to the U.S. Census Bureau, privately owned housing unit construction decreased approximately 14.2 percent from 2006 to 2007 in North Carolina. The decrease in construction of new single family homes over the past year is most likely a result of a slower economy in North Carolina. The amount of waste going into construction and demolition landfills, as well as into municipal solid waste landfills, is also directly proportionate to the housing market.



Imports and Exports

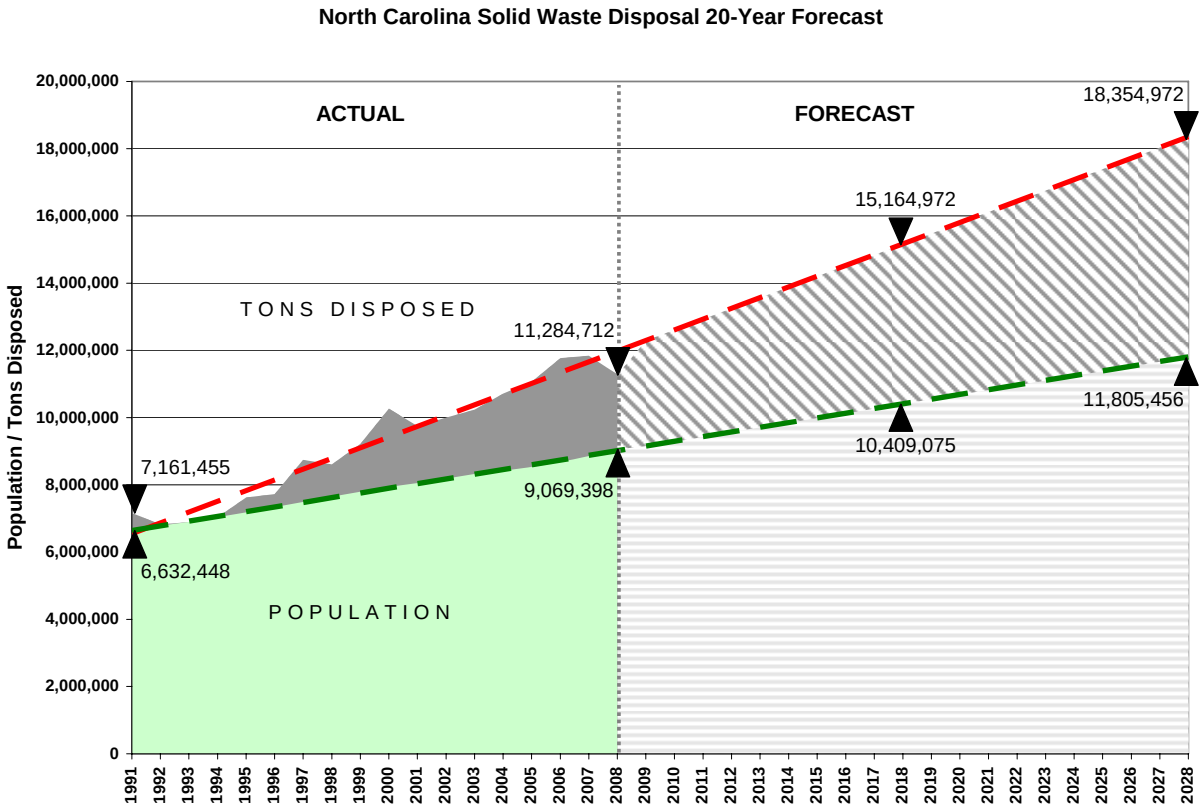
North Carolina continues to remain a net exporter of waste. Exported waste accounts for approximately 10 percent or a total of 1,079,428 tons of the total waste disposed in FY 2007-2008. Although North Carolina does remain a net exporter of waste, the state's exported waste did decrease significantly over the last fiscal year. From FY 2006-2007 to FY 2007-2008, North Carolina has seen a reduction in exported waste of approximately 19 percent.

In FY 95-96, North Carolina exported waste to only one landfill in South Carolina. During FY 2007-2008, 49 North Carolina counties exported at least some waste to 18 out-of-state landfills. Back and forth-movement (where waste leaves the state only to re-enter for disposal) - has continued. The Fort Mill Transfer Station in South Carolina received waste from Mecklenburg County, which was then sent back into North Carolina for disposal. For this reason, this waste has not been included in the report's import or export totals.

Imports continue to increase, since some North Carolina landfills are located near state borders. North Carolina imported 145,427 tons of waste from surrounding states during 2007-2008, an increase of 15,521 or 12 percent from FY 2006-2007. In FY 95-96, only one landfill, located in Forsyth County, received imported waste. Currently, twelve North Carolina landfills receive imported waste.

Projections

Regression analysis helps forecast future waste disposal. Factoring in population growth, North Carolina will dispose of approximately 15 million tons in 10 years, 17 million tons in 15 years, and 18 million tons in 20 years, with an estimated population of 11,805,456. This represents 1.55 tons of waste for every citizen in North Carolina. The implication of this trend is that demand for landfill space will increase with time as population grows and that per capita waste generation will continue the long term increase despite the decrease this year



State Waste Reduction Goal

The 1991 amendment to the Solid Waste Management Act of 1989 (Senate Bill 111) established a statewide goal to reduce the amount of landfilled material 40 percent by 2001. Disposal is measured on a per capita basis. Since FY 91-92, waste disposal increased 16 percent - from 1.07 to 1.24 tons per person per year. The statewide goal is still unmet. The state per capita rate has decreased 10 percent since last fiscal year primarily due to the slowing economy. North Carolina has seen a reduction in both municipal solid waste and construction and demolition waste disposal. Overall, per capita has increased since the base year of 91-92, although several counties achieved the state's waste reduction goal.

Three fundamental, interrelated reasons that contributed to this failure were changes in the dynamics of waste disposal, a lack of commitment to waste diversion, and economics. Waste management dynamics changed dramatically after the statewide reduction goal was established. Alternative technologies, such as incineration and mixed-waste composting, did not develop as anticipated. Despite a great deal of interest and significant investment in these technologies, they did not decrease landfill disposal as expected. Additionally, the U.S. Supreme Court overturned legislation on flow control and prohibited local governments from directing waste to certain disposal facilities. Legally, waste is considered a commodity, and is allowed free movement. The economics of landfill disposal evolved since the 1989 adoption of the goal. As private landfill owners competed for tonnages, tipping fees remained low. Landfills did not become as expensive to operate as initially projected. Landfill customers apparently adapted readily to higher tip fees and apparently did not pursue waste reduction as a way to control costs. The combination of strong state and national economies in the early 1990s, moderate disposal costs and the practice of local communities establishing their own goals reduced the motivation to divert materials from landfills.

The commitment to reduce waste has waned over the years. Local governments perceive the 40 percent goal as "just a goal" and not a mandate. Funding and resources for waste reduction activities never occurred at the levels required or anticipated for waste reduction success. Despite landfill bans for used oil, yard trash, white goods, antifreeze, aluminum cans, lead-acid batteries, whole scrap tires and oyster shells (oyster shells are only banned from landfills for a 90 day period to promote recycling and alternative uses before disposal) waste disposal continues to increase. Additional landfill bans on alcoholic beverage containers from restaurants, motor vehicle oil filters, recyclable rigid containers and wooden pallets take effect in 2008 and 2009 and may make an impact on disposal.

Solid Waste Permitting Fees

The Solid Waste Management Account was established by N.C.G.S. 130A-295.8. Effective July 1, 2007 all applications for a permit for a solid waste management facility are assessed a fee. The fee is to be used to support the solid waste management program established pursuant to N.C.G.S. 130A-294. In the first year, fees were collected on all applications which were "pending" as specified by the statute. This included numerous applications which were "in house" on that date. The amount of funding, due to permit applications, therefore for FY 2007-2008 is greater than is expected for future years.

PERMITS ISSUED AND PERMIT FEES PAID

Facility Type	Permits Issued FY05-06	Permits Issued FY06-07	Permits Issued FY07-08	Amount of Permit Fees Paid FY07-08	Number of Permit Fees Paid
CDLF	27	22	14	$214,500.00	21
COMPOST FACILITY				$ 1,250.00	1
HHW	13	2	20		
INCINERATORS	0	1	0	$ 1,750.00	2
INDUSTRIAL LF	9	5	12	$146,000.00	10
LCID	4	4	2	$ 4,000.00	7
MEDICAL	3	2	0		
MWP	1	0	0	$ 1,750.00	1
MSWLF	25	17	34	$569,000.00	34
STRUCTURAL FILL	1	0	0		
TIRE LF	0	0	0	$ 500.00	1
PROCESSING FACILITY	2	4	2	$ 4,250.00	2
TRANSFER STATIONS	11	22	18	$ 56,000.00	17
Totals	**96**	**79**	**102**	**$999,000.00**	**96**

The number of permits issued does not necessarily coincide with the number of permit fees paid. The permit fee is normally paid at the time that the application is received in the Solid Waste Section, not when it is issued. The permit decision may be made within the year. The permits issued primarily include permits to continue to operate existing facilities.

Annual Permit Fee Forecast for FY 2008-2009

The new statute, N.C.G.S. 130A295.8, also required that the Section collect annual permit fees at the facilities. The first collection of those fees was due August 1, 2008 and will be reported in the FY 2008-2009 annual report. Although collection is not complete as of the publication of this report, the following table is a forecast of the amount of the collected annual fees which are anticipated.

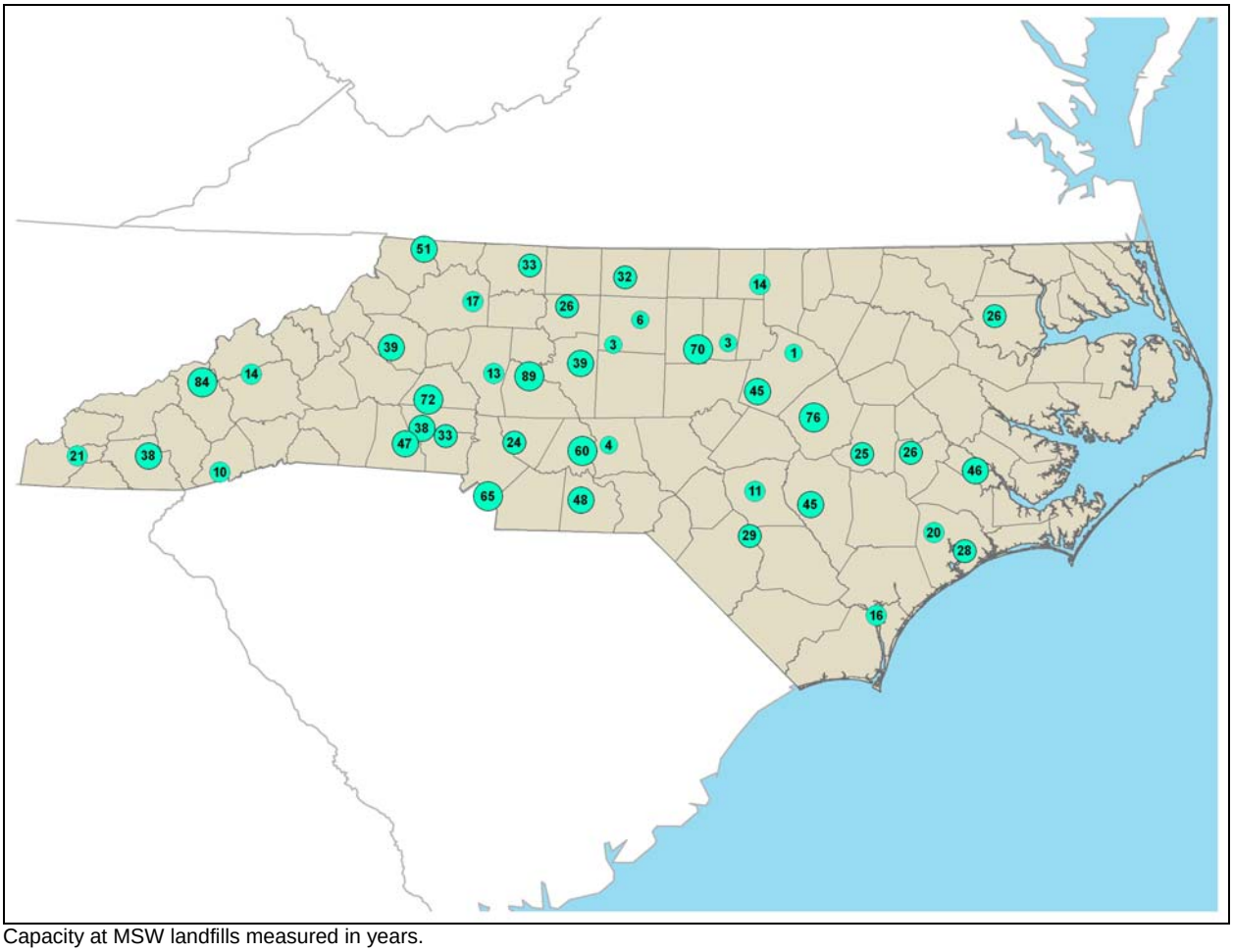
TYPE FACILITIES	COLLECTIONS	FEE AMT	TOTAL
Compost	18	$500.00	$9,000.00
IND	17	$2,750.00	$46,750.00
INC-I	2	$500.00	$1,000.00
INC-M	2	$500.00	$1,000.00
LCID	77	$500.00	$38,500.00
INC-MSWLF	1	$3,500.00	$3,500.00
MSWLF	42	$3,500.00	$147,000.00
MWP	11	$500.00	$5,500.00
TIRE	2	$500.00	$1,000.00
TP	25	$500.00	$12,500.00
TRANS	85	$750.00	$63,750.00
TRANS/MWP	2	$750.00	$1,500.00
CDLF	57	$2,750.00	$156,750.00
POST CLOSURE IND	13	$500.00	$6,500.00
POST CLOSURE MSWLF	122	$1,000.00	$122,000.00
POST CLOSURE CDLF	4	$500.00	$2,000.00
TOTAL	***480***		***$618,250.00***

The Solid Waste Management Account was established as required by the Solid Waste Act. The fees made possible the expansion of the permitting and compliance program within the Section. Deadlines, 90 day completion review and one-year final permit action, are a requirement of the new law. Due to the number of permit actions, the addition of permitting staff was essential. The number of permitted facilities has grown significantly in recent years. The compliance staff, in order to respond to complaints and to inspect all facilities as often as is deemed appropriate, also needed additional staff.

Landfill Capacity

Current Status

North Carolina currently has 41 operational municipal solid waste landfills and one municipal solid waste incinerator. The total remaining capacity of all North Carolina MSW landfills measures approximately 345 million cubic yards, with room for approximately 234 million tons of MSW waste. The estimate was obtained using the state's average utilization factor of .68 tons of waste per cubic yard of air space and does not include waste exported to out-of-state landfills. If North Carolina's rate of landfill use remains steady at last year's rate of approximately 8 million tons annually, the state would have 29 years of landfill capacity remaining.



Capacity at MSW landfills measured in years.

Projections

The concept of statewide capacity does not translate into statewide access. Regions of the state have limited capacity. Both eliminating out-of-state capacity and continuing the acceptance of out-of-state waste into North Carolina further shrinks this capacity number. At present, statewide capacity does not appear to be a problem. However, regions may experience disruptions and additional costs as facilities close, open, change jurisdictions or alter the average distance waste is transferred.

Much of the state's capacity is not widely available due to permit conditions, franchise arrangements, service areas and distance. The primary limiting factor regarding access to capacity in North Carolina is distance. The distance that large quantities of waste travel is normally less than 100 miles one-way.

Many landfills' franchise agreements only allow them to accept waste from a particular distance around the landfill. Examples of limiting factors affecting capacity are illustrated in that the Camp Lejeune landfill is for Marine Corps base use only; the Alamance County landfill is permitted to accept only Alamance County waste; and the Upper Piedmont landfill is permitted for a maximum of 600 tons per day.

Some landfill owners/operators choose not to accept waste from other jurisdictions, although their permit and franchise allow it. Additionally, landfill owner/operators may elect not to construct or use all of the permitted space. This remaining capacity also assumes a current level of imported and exported waste. Increases in the importing of waste into North Carolina could decrease capacity even further.

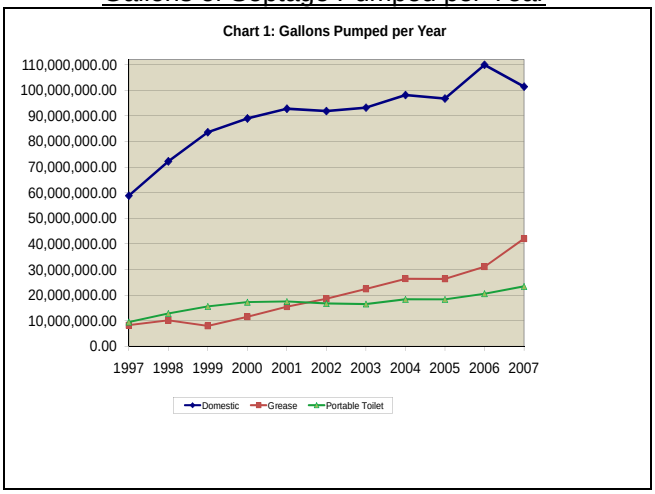
Solid Waste Section – Composting and Land Application Branch

The Composting and Land Application Branch is responsible for assuring that solid wastes are managed in a responsible, consistent manner that will protect public health and the environment across the state. The major areas of emphasis in the program are: permitting; septage management program compliance and training; development and maintenance of applicable laws and rules for septage management, composting, and treatment and processing; and providing technical/problem solving assistance to permittees, permit applicants, local governments and the general public. Permitting includes septage land application sites, septage detention and treatment facilities, septage management firms, solid waste compost facilities and treatment and processing facilities. The branch is also responsible for determining wastes and by-products that can be land-applied for beneficial uses and the best management practices to be followed for each by-product to assure protection of public health and the environment.

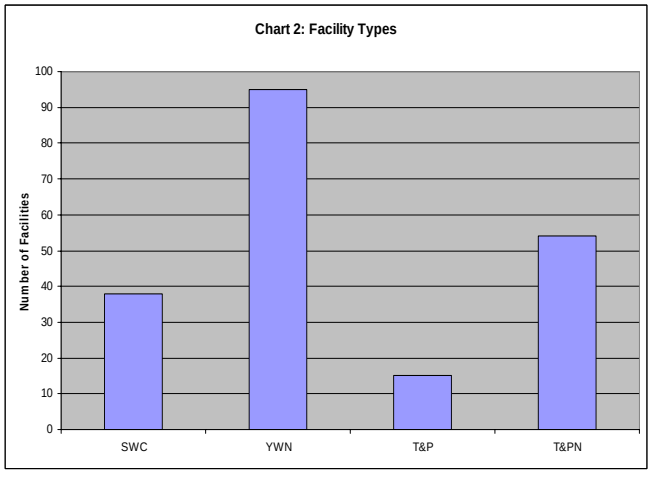
The Environmental Senior Specialists and Soil Scientists within the Composting and Land Application Branch have a broad range of duties. The primary responsibilities of the Environmental Senior Specialists include inspections of septage management firms, septage land application sites, and septage detention or treatment facilities. The specialists also handle complaint investigations and all compliance cases with septage management facilities. The soil scientists within the branch share inspection and compliance responsibilities for the previously mentioned facility types in addition to permitting the land application and detention or treatment facilities for septage. All branch staff play an integral role in providing technical assistance and annual training to septage firms throughout the state.

Septage Land Application Site

Gallons of Septage Pumped per Year



Compost Facility



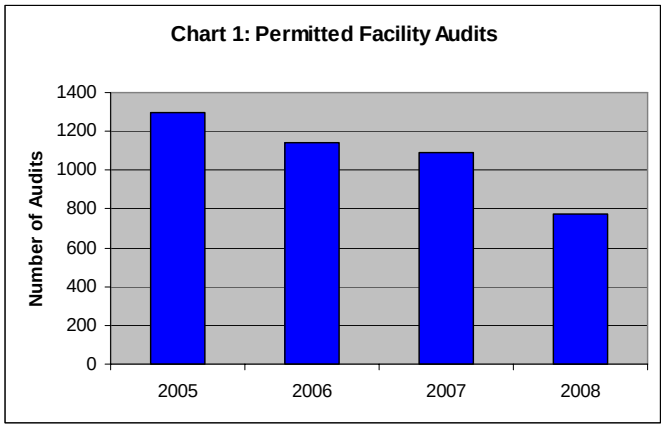
The facility acronyms utilized in Chart 2 are defined as follows: SWC- Solid Waste Compost Facilities, YWN- Yard Waste Notifications (small type I compost facilities), T&P- Treatment & Processing Facilities, T&PN- Treatment & Processing Notifications (small T&P facilities)

Solid Waste Section - Field Operations Branch

The Environmental Senior Specialists of the Solid Waste Section, Field Operations Branch, have varying job responsibilities, from regulatory and compliance action to providing technical assistance related to a host of issues. Presently, there are approximately 23 different types of solid waste facilities, ranging from the highly-engineered, complex, Subtitle D municipal solid waste landfills to medical waste incinerators. A routine audit of a facility may take as little time as half a day at a transfer facility to multiple days for a full inspection of a Subtitle D landfill.

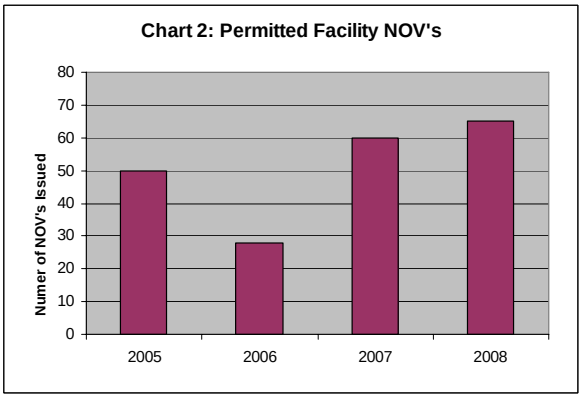
The various job responsibilities of the Field Operations Branch field staff include, but are not limited to: audits of permitted facilities, response to citizen complaints of illegal dumps and permitted facilities, tax certifications, enforcement actions, local government assistance, disaster response, education and training, provision of technical assistance to permitted facilities (in areas of operation, environmental assessment and remediation) and educational assistance to the public, local governments and solid waste management facilities in their annual reporting, as well as other administrative duties.

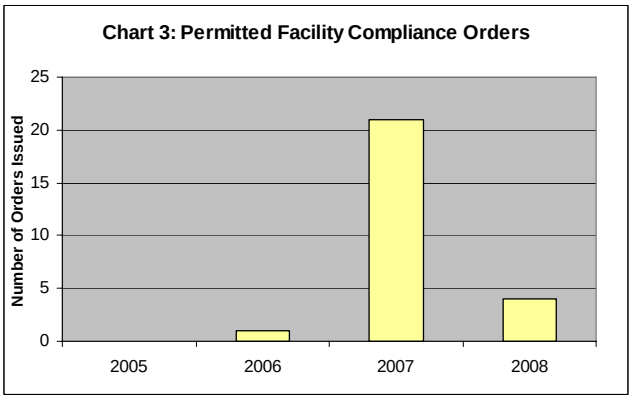
Permitted Facilities



Although the largest amount of staff time was spent conducting audits and providing technical assistance at permitted facilities during 2008, the actual number of facility audits has decreased in the past four years (see Chart 1). The decrease is largely due to the growing number of other solid waste program responsibilities, special projects and the increased time that is required to conduct audits at ever more complex facilities. Additionally, there has been a high turnover of field staff during 2007 and 2008, contributing to the decline in audits.

While the overall number of audits has declined, an increased effort was made during 2008 to inspect the smaller Land Clearing and Inert Debris "Notified" sites, which had been infrequently audited. A significant number of these sites were found to have compliance issues resulting in an overall increase in the number of Notice of Violations (NOVs) issued to permitted facilities during 2008 (see Chart 2). During 2007, there was an increase in the number of Compliance Orders (COs) issued to permitted facilities, mainly due to facilities receiving waste they were not permitted to receive and for mismanagement of leachate (see chart 3). During 2008, fewer permitted facilities were issued COs due in part to efforts by the Field Operations Branch field staff to educate facility operators about actions necessary to return to compliance after an NOV has been issued and to remain in compliance afterwards.

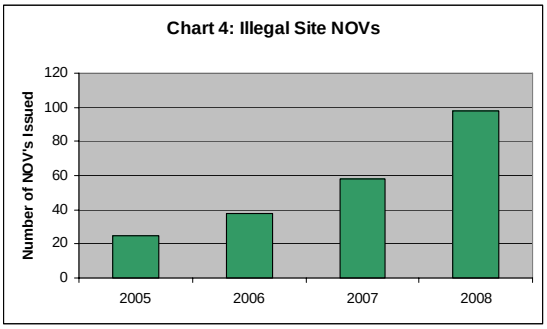


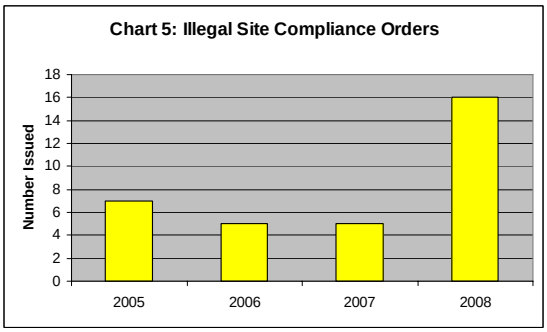


Field Operations Branch - Illegal Dumping

The Field Operations Branch has redoubled efforts for the past several years to curtail illegal dumping across the state. Due to that effort, there has been a steady increase in the number of NOVs issued to illegal sites in the past four years (see Chart 4) as well as an increase in COs issued to illegal sites in 2008 (see Chart 5). The approach utilized by the Field Operations Branch is to issue a violator a Notice of Violation requiring cleanup of an illegal dump. If the violator responds and complies with the NOV, further enforcement proceedings can be avoided. Most NOVs are resolved and therefore do not result in the issuance of a CO.

Under the direction of the Solid Waste Section, Field Operations Branch, an estimated 220,000 cubic yards of waste was removed from illegal dumps and sent to permitted solid waste facilities in 2008. An estimated total of $2,800,000 in disposal fees was collected by permitted solid waste facilities for waste that was removed from illegal dumps for proper disposal. For more information about the Field Operations illegal dumping prevention initiative see: www.wastenotnc.org/SWHOME/IllegalDumpinginNC.htm

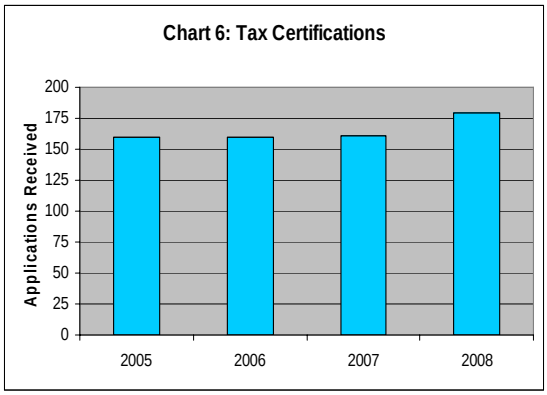




Field Operations Branch - Tax Certification Program

The purpose of the tax certification program is to encourage the purchase of resource recovery and recycling equipment and the construction of facilities that will remove recyclable commodities from the solid waste stream. Approved recycling equipment and facilities may be approved for an exemption from ad valoreum taxes. The last sentence of new N.C.G.S. 130-166.18(3) provides: "The standards shall be so developed as to qualify only those facilities and equipment exclusively used in the actual resource recovery or recycling process and shall exclude any incidental or supportive facilities and equipment." This provision restricts the equipment and facilities that can qualify and places the responsibility on the Department of Environment and Natural Resources to include appropriate restrictive provisions in its standards. Accordingly, the adopted standards reflect the statutory mandate that only limited expenditures and property qualify for special tax treatment. More information about the "N.C. Solid Waste Management Rule 15A NCAC 13B Section .1500 - Standards for Special Tax Treatment of Recycling and Resource Recovery Equipment and Facilities" can be found on our webpage at http://www.wastenotnc.org/swhome/tc_rule.htm.

Field Operations Branch field staff received 176 applications in 2008, which reflects a slight upward trend in the number of applications received (see Chart 6). Nearly all applications require site inspections/audits, which frequently include facilities with complex industrial processes including: steel production, craft paper production, glass production, and meat rendering facilities. Field Operations Branch staff must acquire a basic understanding of a wide array of complicated industrial processes before approval of facilities and equipment is granted.

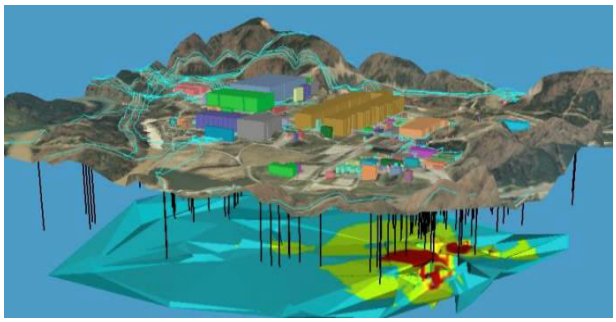


Emergency Site Selection Evaluations

Field Operations Branch field staff assist in the evaluation of staging sites used for disaster debris. These sites must meet requirements depending on the types of waste to be staged, including appropriate distance from residences, wells, surface water, businesses and roadways. The sites must also be evaluated for safety issues (power lines, traffic, etc.) as well as access and potential need for flood or erosion control.

After the Branch makes an initial recommendation, a request for approval is sent to the North Carolina Department of Cultural Resources, State Historic Preservation Office and to the NC DENR, Natural Heritage Program to ensure that the location of the potential disaster debris site minimizes possible harm to the natural and cultural resources of the surrounding community. Twenty-three sites were evaluated during 2008, bringing the total of approved disaster debris staging sites to 212. After a disaster debris site has been approved, counties or communities can request a six-month activation of the site to aid in the cleanup after the occurrence of a natural disaster. Only sites that have been approved through this process are eligible for FEMA reimbursement.

Field Operations Branch - Groundwater Monitoring Reports



Landfills contain numerous substances which, if released, could pose a significant threat to human health and the environment. Substances leaking from landfills can migrate, presenting a threat to the environment and to the public. Primary threats are the collection of explosive gases in surrounding buildings and exposure to contaminants via groundwater (e.g. potable wells).

The rate at which environmental contamination occurs is a function of many factors; most importantly, design, construction and operation of the facility, depth to groundwater, the type of soils or rock between the bottom of the landfill and groundwater, precipitation rates at the landfill, etc. Because of these factors, the time needed to identify a contaminant release varies from one landfill to another. Therefore, over time, the number of landfills with contaminated groundwater is expected to increase. Without adequate monitoring data, one can only estimate how many solid waste facilities have contaminated groundwater, how significant that contamination might be, and whether or not nearby potable wells and/or buildings are threatened by contamination caused by the disposal facility.

Modern landfill designs include liners and leachate collection systems to contain waste and prevent the release of these dangerous substances. Unfortunately, almost all landfills that opened in North Carolina prior to 1993 were not constructed with liners and leachate collection systems so groundwater contamination is being detected at a growing number of closed, unlined landfill sites.

Environmental monitoring is required at 273 solid waste management facilities, and that number continues to grow each year. Additionally, the number of monitoring wells needed to adequately monitor expanding solid waste management facilities continues to increase. To address the ever-increasing time involved in processing environmental data received by the Field Operations and Compliance Branch, databases have been developed to enable staff to store, retrieve, and analyze a massive amount of environmental data and provide public access to more data via the Internet. To make this possible, the Field Operations Branch is requiring facility owners/operators to submit environmental data reports in electronic format. Presently, the environmental database has data from approximately 85% of the 273 landfills that perform environmental monitoring in North Carolina. Some of the expected benefits of creating, populating and maintaining the database are 1) paper and space reductions in report preparation, mailing and filing, 2) increased efficiency in the data submission process, 3) improved long-term data formatting organization and management, and 4) less time and financial expenditures involved in data reporting.

The two Solid Waste Section, Field Operation Branch hydrogeologists assigned to address environmental compliance issues at solid waste management facilities across the state oversee the environmental monitoring, and if required, assessment and remediation at 273 permitted facilities and numerous large illegal dumps each year. Groundwater monitoring data collected over a number of years indicates that approximately 208 solid waste landfills currently being monitored in North Carolina have contaminated groundwater. Concentrations of volatile organic compounds exceed the groundwater protection standards at 99 landfills and concentrations of metals and inorganic compounds exceed the groundwater protections standards at 132 landfills.

Based on the environmental data that has been received and logged into the database, approximately 140 of these have at least one monitoring well location with an organic contaminant that exceeds the North Carolina 2L groundwater standards. Of these, 63 sites are currently investigating the contaminant release and 19 sites are conducting environmental cleanup activities.

CHAPTER 2
GOVERNMENT WASTE REDUCTION ACTIVITIES

Annual reports received from local governments provide data on source reduction, reuse, recycling and composting activities statewide as well as other aspects of solid waste management. Data from these reports develop a picture of waste reduction efforts in North Carolina and the relative effectiveness of these programs and trends in program implementation.

Source Reduction and Reuse Programs

The number of local governments with source reduction and/or reuse programs grew slightly during FY 07-08. The increase of governments reporting programs from 95 to 97 is likely due to reporting fluctuations. Changes in each of the reuse and source reduction program types were minor, although the number of reported swap shops in use in North Carolina dropped from 86 to 81 in FY 07-08. It is difficult to tell if the actual number of swap shops has decreased or if the decrease can be attributed to reporting errors.

Despite the reported decrease, local government interest in swap shop programs continues to grow. Swap shops programs are both inexpensive and popular with citizens. During FY 07-08 the 81 swap shops in place likely resulted in the reuse of more than 2,000 tons of useable items.

Local Reduction/Reuse Programs

Program Type	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08
Source Reduction Programs							
Backyard Composting	67	69	68	59	55	53	48
Grass Cycling	29	38	38	33	33	32	34
Xeriscaping	8	11	14	13	14	12	15
Junk Mail Reduction	61	65	63	59	59	55	59
Enviroshopping	27	32	31	29	25	26	21
Promotion of Non-toxics	27	27	28	30	23	22	17
Other	4	2	1	2	1	3	1
Reuse Programs							
Swap Shops	34	33	31	33	37	32	31
Paint Exchange	19	19	18	18	18	19	18
Waste Exchange	3	4	6	8	3	3	2
Pallet Exchange	6	5	9	9	4	5	3
Other	9	11	7	11	5	4	8
Local Governments with Programs	**109**	**112**	**109**	**104**	**102**	**95**	**97**

Local Government Recovery

Despite increases in many of the commodities tracked, local government recovery fell by more than 91,000 tons during FY 07-08. The majority of the decrease can be attributed to decreases in yard waste recovery and tire recycling. The decrease in organics, including yard waste, can be attributed to drought conditions that were prevalent throughout the state during FY 07-08. In total, the recovery of organics decreased by more than 75,000 tons during the year.

Tire recovery also decreased dramatically during the year, falling by more than 45,000 tons. Although some of this increase can be attributed to a slowing economy, it is difficult to tell how much of the decrease is directly related to the economic slowdown. It is likely that abnormally high recovery during FY 06-07 may also be partially responsible for the sharp decline in FY 07-08.

Overall, most other commodity categories saw increases or very minor decreases during the year. The one exception was metals which decreased by approximately 12,000 tons. Strong market conditions for metals are the probable culprit and the actual recovery of metals likely increased despite the decreased tonnage reported by local governments. High prices paid for metals during periods of strong market

conditions results in a shift of scrap metal and aluminum cans away from local government collection programs and into private sector transactions, which the state does not track on an annual basis.

Fiber, glass and plastic recovery achieved all time highs during FY 07-08. The 15,000 ton increase in fiber recovery was likely due to strong market conditions which allowed many local governments to expand the variety of paper products accepted for recycling. Total local government recovery of glass grew to more than 56,000 tons during FY 07-08. The 5,000 ton increase in recovery is likely due to a new law requiring holders of certain Alcoholic Beverage Commission (ABC) permits to recycle beverage containers. The law, which became effective on January 1, 2008, does not require local governments to provide services to affected permit holders, however, some local governments have decided to provide recycling services or are allowing permit holders to utilize city/county drop off sites for recycling. The increase in plastic recycling during the year may also be partially due to the new ABC permit holder recycling law. It is also likely that strong market conditions for plastics played a role in the increase. Some local governments have expanded the variety of plastics accepted for recycling.

Local Government Recovery (Tons) and Performance Measures

Material	FY 98-99	FY 99-00	FY 00-01	FY 01-02	FY 02-03
Total Paper	233,339	241,859	263,365	267,840	275,538
Total Glass	41,623	41,826	46,936	49,891	51,433
Total Plastics	14,835	14,474	15,062	17,269	16,807
Total Metal*	77,564	86,480	92,634	114,786	109,723
Total Organics**	525,033	638,757	540,582	468,901	689,027
Special Wastes***	3,817	4,907	4,947	5,426	5,926
Construction and Demolition Debris	N/A	59,598	15,406	17,648	20,002
Tires	N/A	N/A	N/A	N/A	N/A
Other	63,794	5,329	6,120	5,896	4,626
Totals	**960,005**	**1,093,032**	**985,052**	**947,657**	**1,173,082**
Per Capita Recovery (lbs.)	**254.40**	**285.61**	**243.66**	**231.47**	**281.88**
Recovery Ratio (Recycling:Disposal)	**0.10**	**0.11**	**0.10**	**0.10**	**0.11**

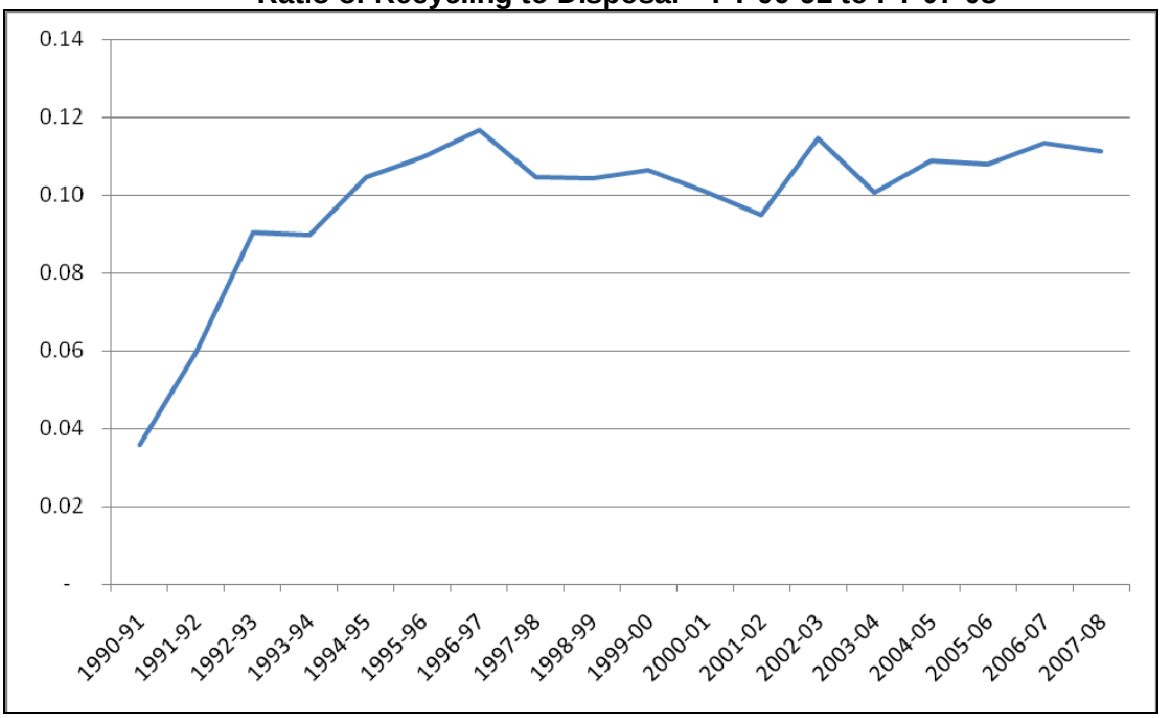
Material	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08
Total Paper	267,371	303,514	292,641	305,615	321,019
Total Glass	52,117	44,003	45,421	51,883	56,837
Total Plastics	18,679	18,320	18,177	19,373	22,298
Total Metal*	114,097	109,612	108,488	96,884	84,740
Total Organics**	589,124	583,101	619,494	631,393	554,576
Special Wastes***	6,271	6,690	6,955	8,304	7,195
Construction and Demolition Debris	24,084	20,292	24,001	40,352	59,501
Tires	N/A	113,670	146,177	187,273	142,160
Other	4,773	5,677	7,743	5,558	6,753
Totals	**1,076,516**	**1,204,879**	**1,269,097**	**1,346,635**	**1,255,079**
Per Capita Recovery (lbs.)	**255.76**	**282.13**	**292.35**	**303.97**	**276.77**
Recovery Ratio (Recycling:Disposal)	**0.10**	**0.11**	**0.11**	**0.11**	**0.11**

* Includes white goods, aluminum cans, steel cans and other metals.
** Includes yard waste, pallets and wood waste.
*** Includes electronics, used oil, oil filters, antifreeze and batteries.

The ratio of recycling to disposal decreased slightly from 0.1135 to 0.1113 in FY 07-08. The ratio is used to compare changes in disposal from year to year as they relate to changes in recycling from year to year. Since both disposal and recycling decreased during FY 07-08, the decreasing slope seen in the figure

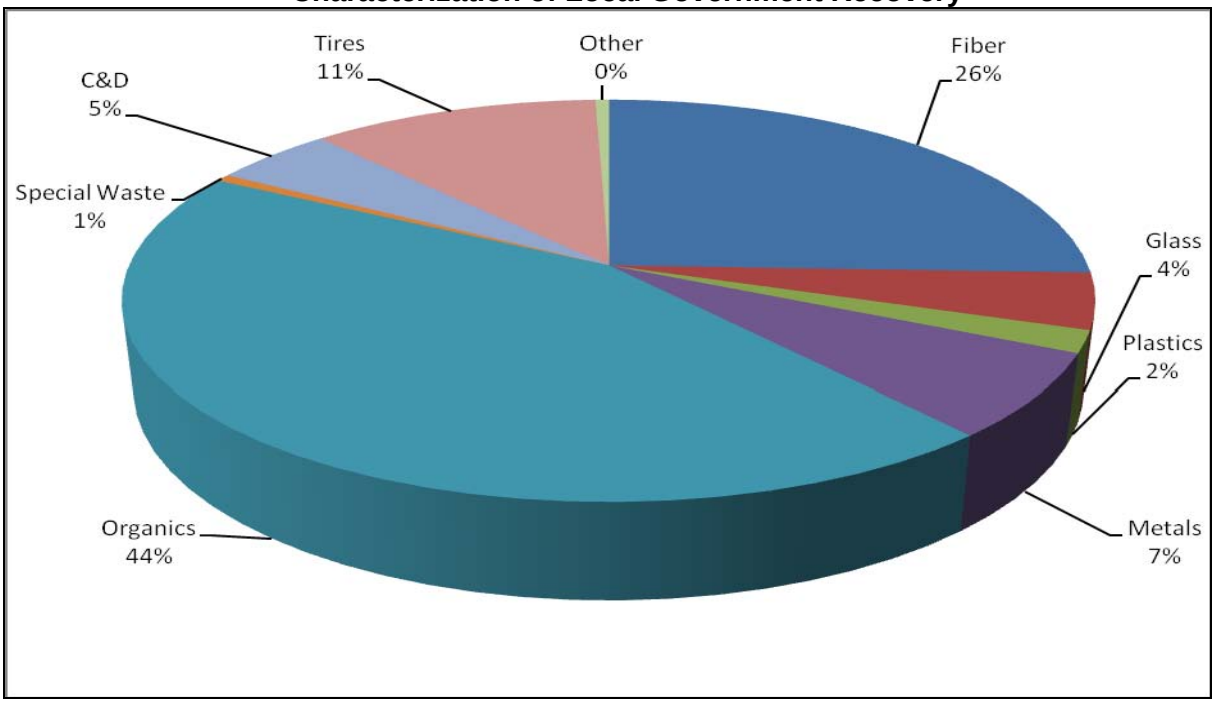
indicates that disposal decreased by a smaller amount than recycling. In this case, disposal decreased by 4.8 percent, while recycling decreased by 6.8 percent.

Ratio of Recycling to Disposal – FY 90-91 to FY 07-08



Despite a sharp decrease in yard waste recovery, the recovery of organic materials, primarily through mulching and composting, remains the single largest component of local government recycling programs. During FY 07-08 the recovery of organics constituted 44 percent of total local government recovery. Fiber and tires were the next two largest categories contributing 26 percent and 11 percent respectively.

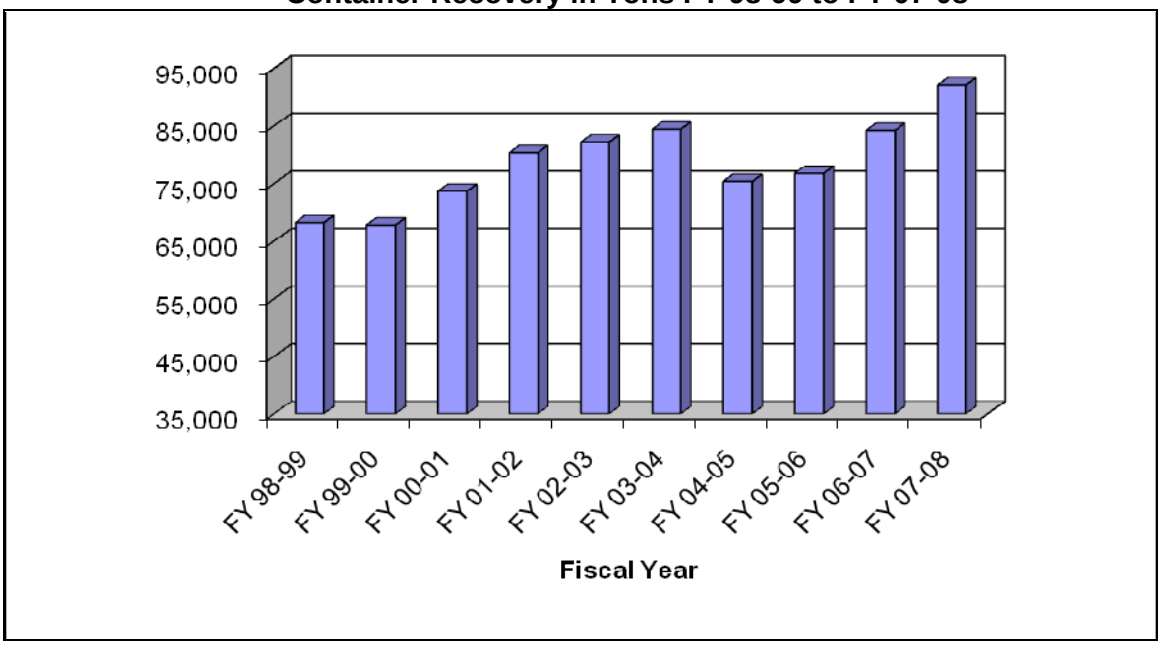
Characterization of Local Government Recovery



Recovery of Traditional Materials

Recovery of glass, PET, HDPE, aluminum and steel containers grew dramatically during FY 07-08 surpassing 90,000 for the first time. In total 92,081 tons of these traditional materials were recovered up nearly 8,000 from FY 06-07. Of the container commodities, only aluminum experienced a decrease in recovery. The decrease in aluminum recovery was likely the result of aluminum being shifted out of local government recycling programs and into private party sales due to high prices paid for aluminum during the year. Most of the overall increase in container recovery can be attributed to the ABC permit holder recycling law, which took effect on January 1, 2008.

Container Recovery in Tons FY 98-99 to FY 07-08



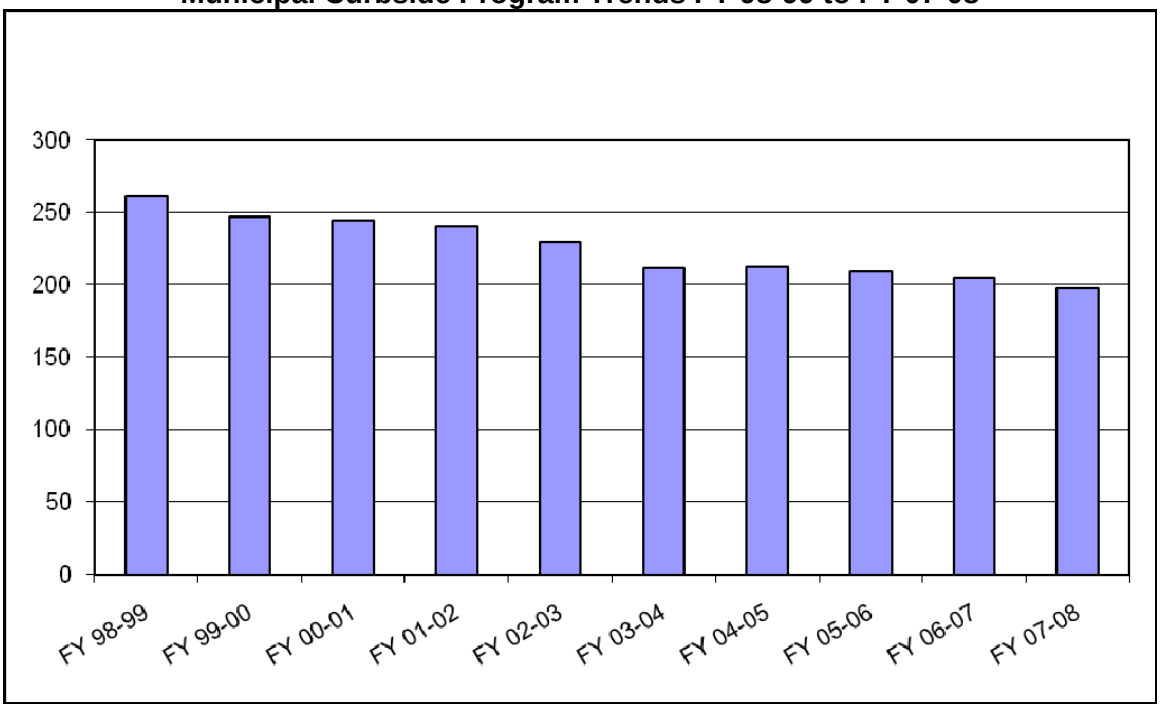
Local Government Recycling Program Management

Despite the addition of a few new curbside programs, the number of municipal curbside recycling programs dropped again during FY 07-08 to 198. The majority of the curbside programs dropped each year are contracted for or operated by small and mid-sized municipalities usually located in rural counties. This trend has been continuing since 1999 and may represent a problem for achieving meaningful waste reduction throughout North Carolina. Many of these curbside recycling programs were originally implemented in the early 1990s with out much thought or planning for maintaining the programs into the future. Although some programs are beginning to be modernized with great success, many are still being operated in a manner consistent with the state of the recycling industry in the early 1990s. Although recovering more than 400 pounds of recyclables per households served is very achievable in modern curbside programs, most curbside programs in the state are only recovering about 240 pounds per household served. This underperformance results in inefficient curbside programs in which the costs appear to outweigh the benefits. Without a continual focus on improving and modernizing curbside recycling programs, curbside recycling in small mid-sized rural municipalities will continue to disappear.

During FY 2007-08 several larger cities, such as Fayetteville, began the process of implementing curbside recycling programs. Most of these programs will begin during FY 2008-09. Increasing media coverage of environmental issues during the year also resulted in an increased interest in recycling from many small and mid-sized communities. Should these communities decide to implement programs, it is likely that the number of municipal curbside programs will begin to rise next year reversing a nine year decreasing trend.

Despite the continued loss in municipal curbside recycling programs, the number of households served by curbside recycling continues to rise due to growth and annexations in urban and suburban areas of the state. During FY 07-08, the number of households served by curbside recycling increased to 1.48 million up from roughly 1.4 million households in FY 06-07. The addition of curbside programs in several large cities during FY 08-09 should result in a continued increase next year.

Municipal Curbside Program Trends FY 98-99 to FY 07-08



Drop-off programs continue to contribute more to recycling than any other type of program, however, with continued increases in the number of households served by curbside recycling it is likely that curbside recycling programs will soon surpass drop off recycling. During FY 07-08 approximately 38 percent of all material recovered by local governments was collected at drop off sites. This compares to 37 percent from curbside collection, 24 percent from "other programs", such as school recycling programs, and one percent from mixed waste processing programs.

Local Government Recovery by Program Type

Program Type	Percent of Total Recovery
Curbside	37 %
Drop-off	38 %
Mixed Waste Processing	1 %
Other Programs	24 %

Special Waste Management

The following table shows a summary of local government recovery of special wastes for FY08. Municipal and county performance in this area presents a mixed picture, with increases in some material categories from the previous year and declines in others.

The collection of lead acid batteries fell 19 percent to its lowest total in many years. This fairly large drop in collected tonnage may reflect private citizens taking advantage of the increased market value of batteries to recycle them for cash at scrap yards instead of through local government collection programs. Among the other automotive related materials, antifreeze also saw a small decrease from previous year's collected gallons.

However, oil reversed a recent downward trend to climb back over 900,000 gallons. Oil filters also continued an incremental rise, helped by new filter recycling programs in Yadkin, Rowan, and Davidson counties and a jump in tons in Wayne County's program. The trend toward higher oil filter recovery will be watched closely as the filter disposal ban comes into effect in 2009.

Although there was a decline in overall household hazardous waste (HHW) programs due to some communities discontinuing one-day collection event programs, three permanent HHW programs were added in Avery, Madison, and Union counties. Total HHW tons diverted also maintained the upward momentum sustained over the past five fiscal years. The large per-ton price tag of HHW collection (over $1,200/ton) remains a drag on the development of additional programs.

Local Government Special Waste Management, FY04 to FY08

	FY04	FY05	FY06	FY07	FY08
Used Motor Oil					
Number of programs	124	119	122	126	124
Gallons collected	939,916	987,057	933,618	872,399	901,565
Oil Filters					
Number of programs	19	17	20	32	32
Tons collected	24.07	20.40	28.21	35.84	37.94
Antifreeze					
Number of programs	63	55	58	61	62
Gallons collected	26,767	41,050	32,415	35,492	33,393
Lead Acid Batteries					
Number of programs	90	89	95	93	90
Number collected	100,217	97,290	91,947	83,853	67,662
Household Haz. Waste					
Number of programs	32	34	34	40	34
Number of permanent sites	17	17	16	17	20
HHW tons collected	1760.17	1940.57	2066.91	2227.24	2281.75
Total cost reported	$2,429,912 $1,381/ton	$4,417,657 $2,276/ton	$2,718,980 $1,315/ton	$2,729,511 $1,226/ton	$2,849,781 $1,249/ton

Conversions: Oil, 1 gal = 7.4 lbs; Antifreeze, 1 gal = 8.42 lbs; Lead Acid Battery, 1 battery = 35.9 lbs

Yard Waste Management

As seen in the following table, yard waste tonnage for FY08 was down substantially from FY07, likely reflecting the effects of North Carolina's drought in reducing the generation of grass, leaves, and other yard debris. Total yard waste managed declined almost 15 percent, with the total for diverted tonnage lower by a slightly smaller percentage. Still, conversion of yard wastes to mulch and compost by North Carolina local governments remains a large portion of the overall reduction of disposed tonnage in the state, diminishing North Carolina's landfill tonnage burden by about 4.5 percent. The "Yard Waste Diverted From Disposal by Local Governments, FY96 – FY08" Chart shows the historical trends in yard waste recovery, demonstrating FY08's similarity to North Carolina's last drought period in 2002.

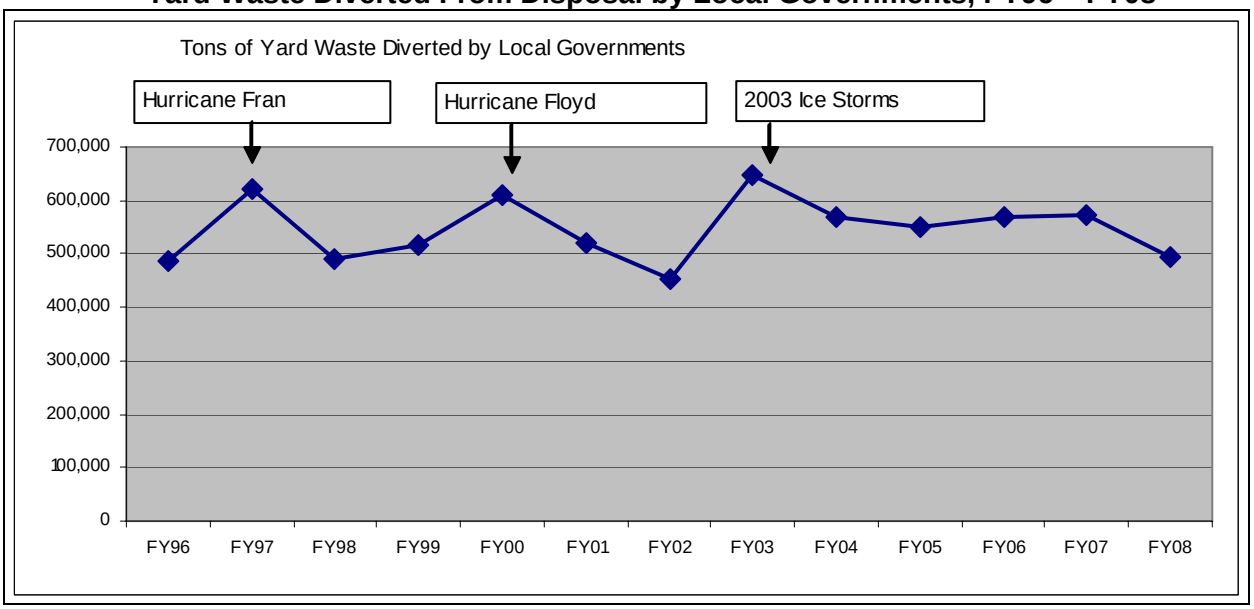
Local Government Yard Waste Management FY07 and FY08

Destination of Materials	FY 07 Tons Managed	FY 08 Tons Managed	Percentage Change
End Users (direct delivery)	57,854	44,759	-22.7%
Local mulch/compost facility	513,140	448,878	-12.6%
TOTAL DISPOSAL DIVERSION*	**570,994**	**493,637**	**-13.6%**
Other Public Facility**	*107,486*	*152,021*	+41.5%
Private Facility	77,819	67,494	-13.3%
LCID Landfill	142,647	114,020	-20.1%
YARD WASTE TOTALS	**791,460**	**675,151**	**-14.7%**

* Tonnages under the row for "Total Disposal Diversion" are not included in diversion because of data redundancy, uncertainty about actual disposition of the waste, and actual disposal of noted tonnages.

** Yard Waste Totals exclude tons for "other public facilities" - it is assumed these tons were captured under other categories.

Yard Waste Diverted From Disposal by Local Governments, FY96 – FY08



Recycling Markets and Prices

Recycling market prices sustained their strong recent track record in FY08 due to the continued impact of China's tremendous appetite for raw materials, as well as the incrementally increased dependence of U.S. manufacturers on recycled commodities. The following table displays the material prices received by three representative processing facilities in eastern, central, and western North Carolina over the course of the fiscal year, showing almost unprecedented values for materials such as steel and aluminum cans, as well as for newsprint and mixed paper.

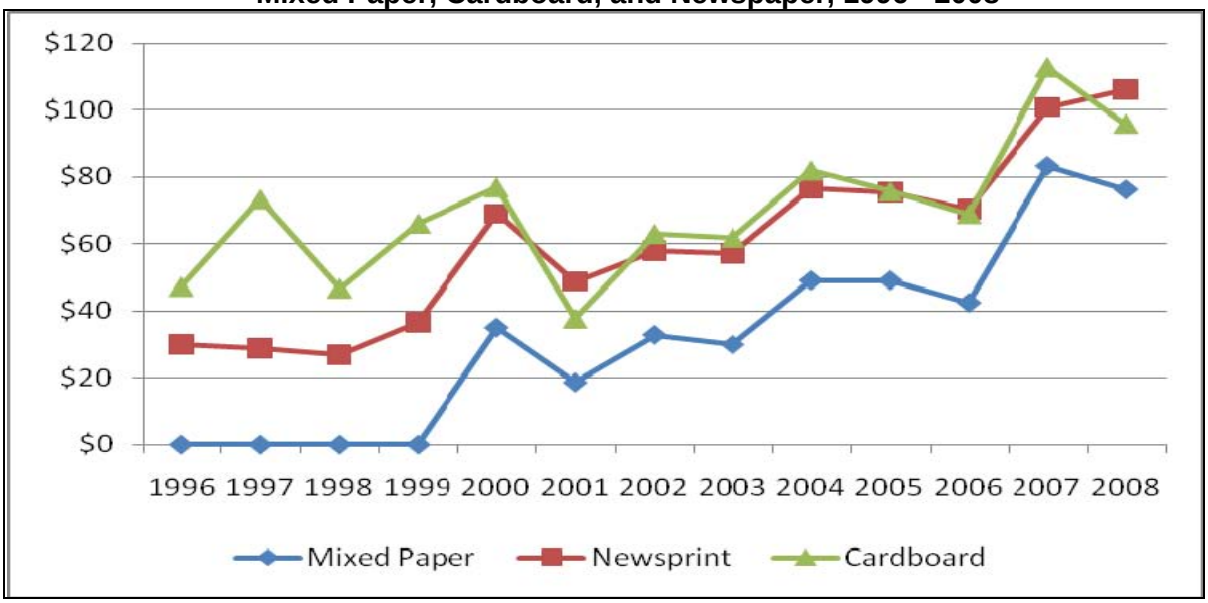
Recycling Market Prices Received by Major NC Processors, FY 08

Material	Summer 2007	Fall 2007	Winter 2007-08	Spring 2008	Summer 2008
Aluminum Cans, Lbs., loose	$.90	$.78	$.84	$1.00	$1.01
Steel cans, gross tons, Baled	$146	$138	$157	$270	$369
PETE, Lbs. Baled	$.17	$.19	$.20	$.19	$.19
HDPE, Lbs., Baled	$.27	$.30	$.33	$.32	$.30
Newsprint, ton, baled	$114	$115	$127	$132	$146
Corrugated, ton, baled	$133	$141	$118	$137	$117
Office paper, ton, baled	$192	$218	$240	$257	$240
Mixed paper, ton, baled	$93	$120	$100	$100	$100
Clear glass, ton	$23	$24	$24	$25	$25
Brown glass, ton	$17	$17	$16	$18	$18
Green glass, ton	-$5	-$2	-$2	-$1	-$1

The table also shows small increases in the value of glass, although green is still at net negative value, as North Carolina's glass plants do not make green bottle products and the material has to be blended or shipped to distant users. But across the board, the growing demand for traditional curbside and drop-off materials was indicated by robust material pricing for FY08.

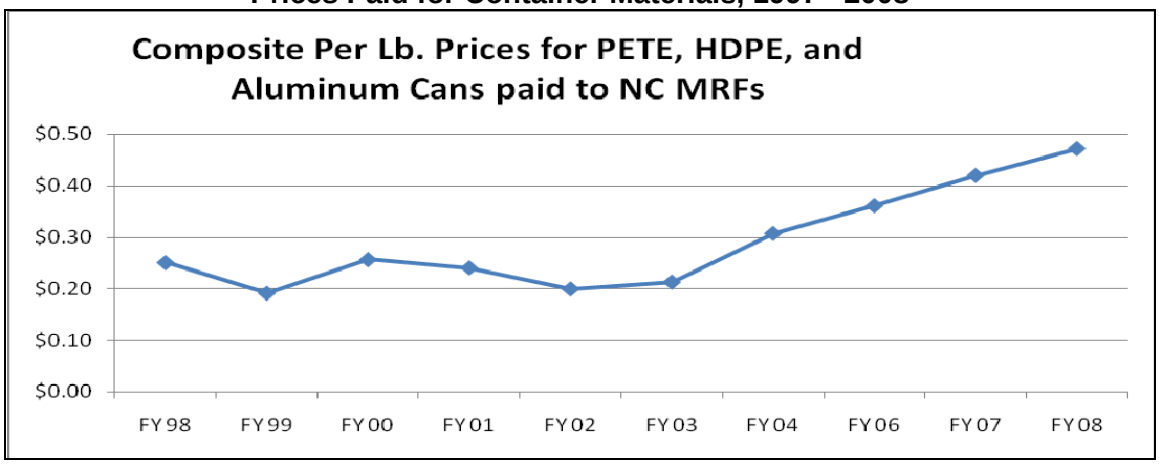
The following figure presents data on paper mill pricing for the southeastern U.S. as reported in the Official Board Markets Yellow Sheet, a major paper industry trade publication. The graphic shows the strong and rising track record for fiber products over the 12 year period, sustained again by a combination of voracious export demand and the southeast's healthy recycled paper-making capacity.

Prices Reported for the Southeast for Mixed Paper, Cardboard, and Newspaper, 1996 - 2008



Container materials such as PET, aluminum and HDPE also continued their strong price performance in FY08, experiencing similar market dynamics as fiber. The data in the following figure shows the composite price per pound received by material recovery facilities in North Carolina for these commodities.

Prices Paid for Container Materials, 1997 - 2008



Recycling Market Developments in FY 08

The implementation of North Carolina's ABC law in 2008 spurred the start-up of a number of small-scale collection companies and the expansion of existing recycling firms, especially in the more urban areas of the state such as the Triangle, Charlotte, the Triad, Wilmington, and Asheville. By the middle of 2008, a steady flow of plastic bottles, aluminum cans, and especially glass from ABC permit-holders was starting to move through processing facilities and on to market end-users such as the Owens-Illinois glass plant in Winston-Salem and St. Gobain in Wilson. A survey of private collection companies and municipalities that chose to provide ABC collection services projected an annual diversion of over 30,000 tons of material from the ABC law.

Another trend in FY08 was the increased development of small recycling firms providing subscription-based residential recycling to households in different parts of the state, including Wilmington, the Outer Banks, and the Mooresville and Morganton areas. These companies have found a niche in the willingness of households not under a local government curbside program to pay a small monthly fee for such services. With a rise in dense population settlements outside incorporated areas and an increase in

the public's desire to participate in environmentally sustainable practices, this niche recycling sector may continue to grow.

FY 08 also saw the continued development of material recovery facilities (MRFs) as a new plant started operation in Charlotte, an additional start-up was planned for the fall in Fayetteville, and upgrades of a number of source-separated MRFs to single stream were set in motion in late 2008. Although the facility in Charlotte experienced technical and market problems toward the end of the year that led to a partial shutdown, a rebound in material value should continue the long-term trend toward more sorting capacity around North Carolina.

The state's commercial composting infrastructure was augmented by a new facility in the Charlotte area in 2008, and interest increased throughout the fiscal year in the diversion of food waste and other organics. However, uncertainty in the application of various permits started to provide a hindrance to the development of the composting sector; the resulting regulatory bottleneck will need to be resolved to help the long-term expansion of commercial composting.

In general, the recycling industry continues to grow in North Carolina in many different ways, with existing companies making investments in expanded collection and processing capacity, new companies locating to the state, and, in some cases, disposal-oriented companies such as C&D landfills beginning operations to capture recyclable materials. Plastics and electronics recycling were particular areas of expansion in FY08. To track the growth of the industry, DPPEA conducted another jobs study in FY08 that documented a rise in direct private sector recycling jobs to a new high of 14,490 in the state with an estimated payroll of over $370 million per year. North Carolina is now home to over 550 different kinds of recycling companies.

Market Downturn in late 2008

After the close of FY08 and beginning in November 2008, the global economic and financial crisis began to severely affect recycling commodity prices. A host of factors led to the drop in material values, chiefly a dramatic cutback in Chinese manufacturing production, the overall decline in consumer spending, and the serious downturns in the housing and automotive sectors, which are big users of recycled-content materials and products. With the price of petroleum also dropping, recyclable plastics were caught in a double squeeze of a decline in demand and increased price competition from suddenly cheaper virgin plastics.

Although it is uncertain at the end of 2008 how fast the world and U.S. economies will rebound, it is clear that the deep penetration of recyclable materials into the global manufacturing base exposes these commodities to fate of the overall economy in an unprecedented way. In some respects, that fact bodes well for recyclables in the long term. The trend toward greater reliance on secondary materials means that as the world's economy emerges toward growth, recyclables will make a parallel recovery. But in the short term, FY09's recycling market picture looks like it will be the worse since the early 1990s, with cons.

CHAPTER 3 – Scrap Tire Management

Scrap Tire Disposal Account

The Scrap Tire Disposal Account (STDA) was created by the 1993 General Assembly. It receives 22 percent of the revenues from the Scrap Tire Disposal Tax initiated on October 1, 1993. The program is operated within the Division of Waste Management – Solid Waste Section (Section) by a staff of one.

Beginning in October 1993, 25 percent of the STDA fund was allocated for cost overrun grants to counties and 75 percent was allocated for cleanup of nuisance tire sites. Starting with the August, 1997 distribution, 50 percent of the fund is allocated for cost overrun reimbursements to counties, 10 percent for cleanup of nuisance tire sites and 40 percent for processed tire material market development grants.

FY 07-08 Balances

Balance of Funds as of July 1, 2007	$6,948,055.68
Deposits Received FY 2007-2008	$3,260,507.05
Total Funds in Account	$10,208,562.73
Grants to County Scrap Tire Programs	$1,670,879.62
Nuisance Tire Site Cleanup Program	$244,094.85
Processed Tire Material Grants	$516,800.00
Balance of Funds as of June 30, 2008	$7,776,789.26
Obligated funds as of June 30, 2008*	$2,815,569.90
Net Balance of Funds as of June 30, 2008	$4,961,219.36

* $2,815,569.90 obligated: $590,570 for tire cleanup, $2,225,000 for tire recycling grants

Tire Tax Distribution

Of the state's tire disposal tax revenue, 70 percent is distributed to counties on a per capita basis. In the past year, the total amount distributed was $9,686,746.78. This subsidized tire disposal costs for the counties, but did not cover the total expenses of some counties. The total distributed to the counties represented 79 percent of the total reported disposal costs of $12,284,756.57. The distribution provided an average of $1.05 for each of the 9.3 million scrap tires handled by the counties.

On January 1, 1994, counties stopped charging tipping fees to dispose of tires that were certified as generated in N.C. (N.C.G.S. 130A-309.58). Counties may charge a fee for tires presented for disposal that are not accompanied by a scrap tire certification form verifying the tires were generated in North Carolina, scrap tires stockpiled prior to January 1, 1994, or new tires that are scrapped by their manufacturer because they do not meet the standards for salable tires.

Counties whose scrap tire management costs exceed the amount they receive in their allocation of the tire tax can apply for a grant to cover the deficit. For the first grant cycle of this fiscal year, 62 counties requested $1,103,052 and were awarded $776,546. In the second grant cycle, 58 counties requested $1,451,633 and were awarded $894,333.

Funds are available to help counties whose costs exceed their allocation. Historically, the amount of grant funds requested by counties has surpassed availability. Scrap tire legislation requires the Section to consider county efforts to avoid free disposal of out-of-state tires and county program efficiency in using their allocated funds when making decisions about grant awards. The amounts requested and awarded are as follows.

Cost Over-Run Grants to Counties

Date Grants Awarded	8/05	1/06	8/06	1/07	8/07	1/08
Grant Period	10/04-3/05	4/05-9/05	10/05-3/06	4/06-9/06	10/06-3/07	4/07-9/07
Funds Available	$884,873	$872,316	$827,869	$936,920	$893,843	$874,742
Funds Awarded	$799,168	$907,438	$847,422	$917,175	$776,546	$894,333
Grant Requests	60	61	61	62	62	58
Funds Requested	$1,157,388	$1,267,951	$1,312,536	$1,206,815	$1,103,052	$1,451,633

Processed Tire Material Market Development Grants Awarded

The goal of the section's grant program is to make scrap tire recycling sustainable in North Carolina. We anticipate awarding grants for manufacturing rubber products such as ground rubber, mats, auto parts, gaskets, flooring material, tire-derived fuel, new tire manufacturing and other applications.

The Processed Scrap Tire Material Market Development Grants program received its first allocation of funding in August 1997. Successful Grants awarded to date are:

- Roll-Tech, Inc., Hickory, N.C. $212,420.00
  Construct additional molds to increase hard rubber tire manufacture
  COMPLETED
- Continental Tire, Inc., Charlotte, N.C. $1,520,000.00
  Develop "tire to tire" technology with 25 percent recycled content goal
  COMPLETED
- Jackson Paper, Inc., Sylva, N.C. $377,000.00
  Boiler modifications for tire-derived fuel
  COMPLETED
- N.C. State University, Raleigh, N.C. $38,291.00
  Tooling development for scrap tire recycling
  COMPLETED
- Texas Encore Materials, Inc. (Carolina Materials LLC), Belmont, N.C. $983,360.00
  Manufacture extruded sheets from processed tire material
  COMPLETED
- Roll-Tech LLC, Hickory, N.C. $855,937.50
  Equipment acquisition for manufacturing solid rubber wheels
  COMPLETED
- N.C. State University, Raleigh, N.C. $122,480.00
  Performance of Tire Chips in Bed Systems Drain-fields of Septic Systems
  COMPLETED
- Central Carolina Holdings LLC, Cameron, N.C. $912,000.00
  Equipment acquisition for expansion of TDF and crumb rubber production
  COMPLETED

Tire Cleanup Program

A total of 382 nuisance tire sites have been identified in North Carolina: 356 have been cleaned and 24 sites have cleanups underway. The remaining two sites are either under investigation or enforcement action. Counties are encouraged to locate and clean all small tire sites through countywide cleanup activities.

Status	Number of Sites	Total Known Tires	Total Tires	Cleared Tires
Cleaned Up	356	8,507,942	93.5%	8,507,942
Under Clean Up	24	581,280	6.4%	102,844
Remaining Sites	2	11,000	0.1%	0
TOTAL	**382**	**9,100,222**	**100%**	**8,610,786**

The law requires the section to first address nuisance tire sites that pose the greatest threat to public health and the environment. Although many of the largest sites have been identified and cleaned up, the division continues to investigate complaints and identify sites which require cleanup. The section has established and implements specific cleanup plans for each known nuisance tire site. The plan is implemented as soon as possible to minimize potential threats to human health and the environment, usually within 30 days.

To date, 185 nuisance tire sites were cleaned using STDA funds. Cost recovery efforts collected $446,263.03 from responsible parties in 14 of these sites. One site is under cost recovery action. The section is committed to the N.C. Big Sweep program and other countywide cleanup efforts, with reimbursements going to counties that request funds to dispose of scrap tires collected by these events. As a cost-saving measure, minimum-security inmates have been used to help remove tires from numerous nuisance tire sites in 28 counties.

Scrap Tire Generation

The U.S. EPA standard to estimate scrap tire generation is one tire per person, per year[1]. The 2007 N.C. population was about 9.1 million, so it is estimated an equal number of tires were generated. This includes passenger, truck, and tires for special uses, such as off-road equipment and tractors. Counties report tires collected in either tons or the number of tires. Tons can be converted to number of tires to be compared to the population to determine the state's scrap tire generation rate. Several methods of converting tons to number of tires have been used over the years in an attempt to be most accurate. An EPA workgroup consisting of state scrap tire regulators, including North Carolina, has developed a conversion method for all states to use that will provide consistency in reporting. This will be beneficial by providing greater accuracy in compiling national reports that track trends in scrap tire management and recycling.

During FY 07-08, North Carolina counties disposed of 9,251,951 tires (calculated using the EPA workgroup method). Comparing scrap tire generation to population results in 1 scrap tire per person.

Tire Volume

All counties are required to provide a facility for scrap tire collection and to report on their management programs. A summary of this data can be found in the table that follows

In FY 07-08, North Carolina businesses and individuals disposed of approximately 166,260 tons of tires. These tires were managed by county collection facilities and private processing/disposal facilities as follows:

153,112 tons	Managed by counties and shipped to two NC processing firms
354 tons	Managed by counties and shipped to out-of-state processors
12,794 tons	Tires taken directly to processing firms (not managed by counties)
166,260 tons	**Total**

Counties reported receiving approximately 153,466 tons from N.C. scrap tire generators. The counties shipped about 153,000 tons to two private North Carolina recycling facilities; the remaining tons were shipped to out-of-state processors.

Two private N.C. processing firms received 153,466 tons from county tire programs and an additional 13,000 tons directly from disposers not participating in county tire programs. These may be individuals involved in privately-funded cleanups or tire dealers not participating in a county program. In addition, the two N.C. processors received 39,675 tons of tires from other states.

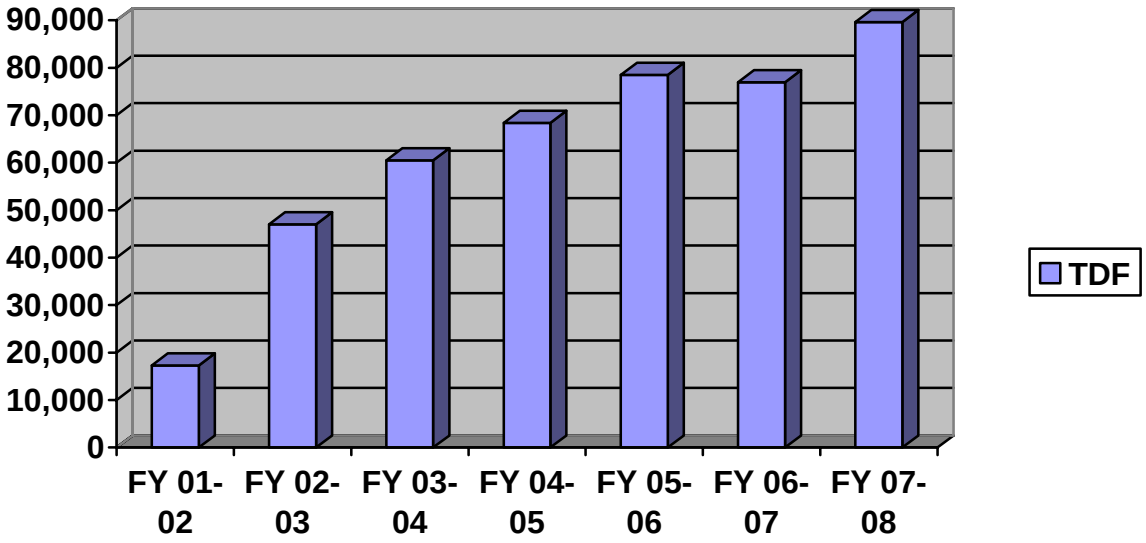
The tire program's success is proven by the increase in the number of tires properly disposed at permitted facilities. When free disposal was implemented in 1994 for scrap tires generated in the normal course of business in N.C., a potential problem emerged of illegal disposal of out-of-state tires at county collection sites. Counties should be diligent in screening scrap tires brought for disposal to identify out-of-state tires and other tires not eligible for free disposal. Those that do not are likely spending a portion of their tire tax revenues for disposal of out-of-state tires.

1"Markets for Scrap Tires," 1991. U.S. EPA, Office of Solid Waste. EPA/530-SW-90-074A. Washington, DC.

The Section assists counties in avoiding fraudulent disposal of out-of-state tires. County efforts to deter disposal of out-of-state tires is an eligibility factor when awarding grants from the STDA to cover cost overruns.

Tire Recycling

In FY 07-08, 69% of tires received by the two North Carolina processing facilities were recycled. In order of weight recycled, the categories are tire-derived fuel, civil engineering (including drain field material), other rubber products, crumb/ground rubber, and recap/resale. The remaining tires go to the two permitted tire monofills in the state. The market for tire-derived fuel (TDF) has seen strong growth in the last few years. In FY 07/08, 89,616 tons of TDF were produced, up from 76,934 tons in FY 06/07. One North Carolina processor, Central Carolina Tire Disposal, added an additional TDF production line this year to meet increased demand, which resulted in the increase in TDF production. This processor also added new equipment in the spring of this year for the production of crumb/ground rubber. The combination of the additional TDF production capacity and the new ground rubber production line increased tire recycling at this facility to 80% this year. It is expected the recycling rate will be even higher next year, once these new production lines have been in place an entire year. The section is actively pursuing new opportunities for sustainable scrap tire recycling.



County Tire Disposal

There are 98 county programs, including one regional program [Carteret, Craven and Pamlico (CRSWMA)]. Counties reported spending a total of $12,284,757 for scrap tire disposal. The reported costs for scrap tire disposal varied greatly. Some counties only report disposal costs while other counties include associated costs, such as personnel or equipment. Counties with unusually low costs may stockpile tires during the year rather than sending them for processing. Some of the fluctuation is probably due to recordkeeping errors or county reporting errors. Also, some counties manage tires inefficiently. For example, counties that allow citizens to dispose tires in "green boxes" or at multiple recycling facilities incur increased labor costs to recover and load tires into trailers.

Tire disposal costs charged by processors are very competitive in North Carolina. North Carolina processors report that county contracts typically charge $70-$85 per ton, including transportation and trailer rental costs. Counties at a distance from processing facilities may pay as much as $85-$100 per ton.

COUNTY REPORTS OF TIRE DISPOSAL ACTIVITIES

County	Tons Collected	Tax Revenue	Total Costs	Contract Cost	Contractor
Alamance	3304.10	$153,481.10	$263,357.20	$76.56	CCTD
Alexander	427.31	39,723.16	36,763.50	75.00	USTR
Alleghany	235.92	12,103.19	21,499.00	60.00	USTR
Anson	309.86	28,088.59	26,832.00	79.00	USTR
Ashe	616.55	28,249.43	52,906.62	60.00	USTR
Avery	284.30	20,002.11	28,326.75	99.64	USTR
Beaufort	961.90	50,996.22	82,160.28	85.41	CCTD
Bertie	258.38	21,453.43	27,018.97	86.00	CCTD
Bladen	620.47	36,298.38	53,109.26	70.04	CCTD
Brunswick	1328.62	102,018.98	141,529.48	76.24	CCTD
Buncombe	2893.39	242,450.42	275,931.00	74.00	USTR
Burke	1357.36	97,880.81	115,234.00	69.00	USTR
Cabarrus	2359.95	170,485.13	155,717.48	85.00	USTR
Caldwell	1536.00	87,277.09	101,960.47	849.00	USTR
Camden	82.84	10,032.36	14,387.40	1,100.00	CCTD
Caswell	147	25,992.22	14,625.34	51.77	CCTD
Catawba	3563.11	165,806.06	255,628.02	74.00	USTR
Chatham	768.39	62,915.24	65,099.16	68.22	CCTD
Cherokee	401.01	29,272.76	52,876.80	1,040.00	USTR
Chowan	604.40	16,124.48	47,039.00	51.92	CCTD
Clay	210.00	11,045.64	24,857.80	1,014.00	USTR
Cleveland	1599.85	106,888.68	156,018.13	60.00	USTR
Columbus	629.60	60,273.22	99,292.02	76.42	CCTD
CRSWMA	3062.41	188,528.03	293,942.88	53.09	CCTD
Cumberland	4537.43	339,384.59	286,589.48	61.00	CCTD
Currituck	353.57	25,491.41	36,772.59	104.83	WM
Dare	617.47	38,135.80	50,084.00	N/A	
Davidson	2445.41	170,809.20	183,130.48	74.00	USTR
Davie	545.16	43,420.16	43,072.32	79.00	USTR
Duplin	889.91	57,811.81	88,356.70	852.54	CCTD
Durham	2986.16	270,102.69	270,463.94	90.57	CCTD
Edgecombe	1024.75	58,431.12	76,628.00	1,039.00	CCTD
Forsyth	5883.88	363,048.51	475,345.51	77.50	USTR
Franklin	637.31	60,352.15	60,059.42	82.00	CCTD
Gaston	2953.56	216,157.96	252,279.47	81.25	USTR
Gates	172.61	12,629.25	14,783.00	51.92	CCTD
Graham	160.61	8,936.49	23,310.20	145.14	CCTD
Granville	781.78	59,149.83	62,315.73	79.71	CCTD
Greene	219.39	22,752.63	20,099.32	78.08	CCTD
Guilford	6861.92	491,458.37	499,547.48	72.80	CCTD
Halifax	951.10	61,587.64	101,707.45	855.00	CCTD
Harnett	1305.18	113,290.24	80,407.68	45.00	CCTD
Haywood	777.11	62,466.38	100,170.32	134.75	USTR
Henderson	1947.67	109,339.36	214,437.60	102.00	USTR
Hertford	374.00	26,302.20	42,666.97	991.75	CCTD
Hoke	465.48	45,568.93	34,597.34	74.59	CCTD
Hyde	96.53	6,116.23	15,477.79	92.19	CCTD
Iredell	3001.92	157,673.76	252,598.89	77.00	USTR
Jackson	533.69	39,871.77	60,942.71	98.30	USTR
Johnston	2392.37	164,415.75	200,568.12	55.49	CCTD
Jones	268.53	11,361.90	30,507.15	76.85	CCTD
Lee	782.31	59,567.41	41,482.67	50.00	CCTD
Lenoir	1429.00	64,281.22	122,852.62	84.12	CCTD
Lincoln	1215.00	77,768.45	98,480.15	77.70	USTR
Macon	856.08	44,852.30	96,231.50	85.00	USTR
Madison	171.00	32,927.15	18,691.00	1,354.00	USTR

County	Tons Collected	Tax Revenue	Total Costs	Contract Cost	Contractor
Martin	369.69	23,741.74	29,765.31	80.51	CCTD
McDowell	819.61	32,133.55	84,423.60	83.00	USTR
Mecklenburg	18,193.57	896,175.41	1,325,150.48	73.00	USTR
Mitchell	430.00	17,571.94	46,469.80	1,080.70	USTR
Montgomery	524.17	30,248.00	36,215.14	66.00	CCTD
Moore	938.52	89,971.12	63,637.59	47.94	CCTD
Nash	1320.53	101,323.32	114,344.57	83.50	CCTD
New Hanover	3636.55	200,413.49	302,589.65	83.00	CCTD
Northampton	688.49	23,757.77	DNR	DNR	CCTD
Onslow	2138.00	177,439.99	184,776.78	79.46	CCTD
Orange	1410.56	135,768.16	111,154.64	80.86	CCTD
Pasquotank	781.65	43,430.46	79,818.83	56.33	CCTD
Pender	820.00	52,763.15	74,094.73	61.00	CCTD
Perquimans	278.00	13,559.86	15,833.00	51.92	CCTD
Person	458.00	41,185.96	44,785.00	845.00	CCTD
Pitt	2653.63	160,162.48	213,004.12	73.26	CCTD
Polk	324.12	21,018.26	DNR	DNR	USTR
Randolph	2354.00	152,123.71	212,167.00	67.94	CCTD
Richmond	1026.29	51,452.65	49,727.00	52.00	CCTD
Robeson	1332.87	141,680.47	109,338.34	72.20	CCTD
Rockingham	1381.10	101,390.28	109,949.00	65.30	CCTD
Rowan	2903.00	148,040.68	228,669.86	1.13	USTR
Rutherford	1577.00	69,712.14	121,815.60	0.95	USTR
Sampson	1593.87	70,275.19	141,771.00	87.90	CCTD
Scotland	608.12	40,777.28	66,189.35	72.15	CCTD
Stanly	913.90	65,218.54	91,919.62	73.00	USTR
Stokes	530.64	50,994.60	50,820.61	79.25	USTR
Surry	1786.79	80,327.83	138,015.07	77.24	CCTD
Swain	175.00	15,247.39	13,650.00	975.00	USTR
Transylvania	403.75	33,315.52	42,103.00	83.50	USTR
Tyrell	44.95	4,659.47	4,497.50	50.00	CCTD
Union	2350.98	184,249.82	154,458.68	68.00	USTR
Vance	903.69	48,429.11	110,862.00	122.68	CCTD
Wake	13,180.09	853,212.52	885,962.33	45.00	CCTD
Warren	307.49	22,059.67	24,134.80	81.00	CCTD
Washington	371.73	14,772.51	DNR	DNR	CCTD
Watauga	714.00	47,737.72	45,352.00	60.00	USTR
Wayne	2729.00	126,845.21	194,735.00	815.00	CCTD
Wilkes	1279.75	73,850.12	120,000.00	94.92	USTR
Wilson	2906.03	85,174.01	201,806.41	60.00	CCTD
Yadkin	390.80	41,504.21	45,263.55	69.25	USTR
Yancey	361.00	20,182.08	34,715.45	0.97	USTR
TOTAL	**153,111.54**	**$9,686,746.78**	**$12,284,756.57**		

CCTD – Central Carolina Tire Disposal / USTR – U.S. Tire Recycling / WM – Waste Management
DNR=Did Not Report

The information in this table was taken from the Dept. of Revenue reports of tire tax distribution and from the Scrap Tire Management Annual Reports submitted by the counties. The contract cost is either per ton, per load or per tire.

CHAPTER 4 - White Goods Management

"White goods" are defined in General Statute 130A-290 (a)(44) as, "refrigerators, ranges, water heaters, freezers, unit air conditioners, washing machines, dishwashers, clothes dryers and other similar domestic and commercial large appliances." In 1993 the North Carolina General Assembly passed the statute because white goods were difficult to dispose of and contained chlorofluorocarbons refrigerants (CFCs) which pose a danger to the environment. Counties were mandated to manage them by providing at least one disposal site, at no cost to citizens, and to require the removal of CFCs. To fund this statute, the General Assembly imposed a $3 tax (Advanced Disposal Fee) on new white goods purchased.

Current Trends in White Goods Management

- The economic downturn has caused a sharp fall in demand for scrap metal from overseas markets. This has caused a corresponding fall in the price paid for scrap metal by recyclers. The downturn, which began in the first half of 2008, has yet to be strongly reflected in the activities by counties in this report. It can be expected that, in future grant periods, as revenues received by counties for scrap metal fall, more counties will seek to pay for operational expenses by increasing demand for grants from the program.

- In the grant periods reflected in this report, demand for scrap was still relatively high and counties continued to receive good revenues for the sale of the scrap. This is demonstrated by the relatively few counties applying for grants from the grants program to pay for daily operational expenses. Some counties made improvements to their infrastructure with the ample revenues received from scrap sales and the tax distributions.

- Several counties have much more extensive white goods programs than is required by law. An example of one of these programs is a program with numerous white goods collection points. Programs such as these have high costs and continue to ask for financial assistance.

- Due to sparse populations and small tax bases, a few rural counties continue to need support of their white goods programs through grants from the program.

- The number of counties that have improved their reclamation of chloroflourocarbon (CFCs) refrigerants with money provided by the white goods program continues to grow. Progress in this area has been made by increasing compliance activities by Section staff. By providing money for the purchase of equipment, the training of personnel and discovering markets for reclaimed gases, the program promotes the reclamation of CFCs as another revenue source.

- Counties violate the white goods law when they do not use white goods tax revenues for white goods management. Overview to ensure that the law is followed should result in improved county programs.

This interim report is based on information supplied by counties' Annual Financial Information Reports (AFIRs). AFIRs are submitted to the Office of the State Treasurer. AFIRs are due by November 1st. At the time this report was prepared, December 15, 2008, only 32 counties had submitted their AFIRs. A final, revised report will be issued when the remaining counties submit their AFIRs. It should be noted that, aside from the lateness of many AFIRs, many have blank or erroneous entries.

Counties forfeit their distribution of the white goods tax revenue if an AFIR is not received by the Office of the State Treasurer or if the amount of funds in a county's white goods account is 25% or greater of the fiscal year total funds available. Counties that did not report as of December 15, 2008 are located in the following table.

Counties that did not report as of December 15, 2008

Alamance	Alexander	Anson	Ashe	Beaufort	Bertie
Burke	Caldwell	Camden	Carteret	Caswell	Cherokee
Chowan	Cleveland	Columbus	Currituck	Dare	Davidson
Greene	Guilford	Halifax	Harnett	Hertford	Hoke
Hyde	Jackson	Jones	Lincoln	Macon	Madison
Martin	Mitchell	Moore	Nash	Northampton	Orange
Pamlico	Pender	Perquimans	Person	Pitt	Polk
Richmond	Robeson	Rockingham	Rowan	Sampson	Scotland
Stanly	Tyrrell	Union	Vance	Wake	Warren
Watauga	Wayne	Wilkes	Wilson	Yadkin	Yancey

Financial Update

- **The white goods management account no longer runs a large surplus**. In FY 98-99, 42 counties forfeited tax proceeds, the largest number of counties to do so in one year to date. However, by the fourth quarter of FY 07-08, only 16 counties had forfeited their proceeds.

- The passing of NC House Bill SL2007-0323 came into effect on July 1, 2007 and authorized the Department of Revenue [NCDOR] to increase the amount that the Department may be reimbursed for the cost of collections from $225,000 per year to up to $425,000 per year. This fiscal year the NCDOR retained $233,835.01 for their expenses.

- The amount of forfeited funds available for redistribution dropped 75 percent from the early years of the decade. At the same time, county requests for cost overrun grants have declined steadily and capital improvement grant requests have increased.

WHITE GOOD TAX REVENUE ALLOCATIONS

White good tax revenue received by NCDOR	**$4,975,395.47**
Amount retained by NCDOR for cost of administration of tax	**-$233,835.01**
TOTAL REVENUE AVAILABLE FOR DISTRIBUTION	**$4,741,560.46**
Allocated for the White Goods Management Account (20%)	**$948,312.09**
Amount forfeited from distribution to counties, reallocated to the White Goods Mgmt Acct	*$399,942.50*
Final amount in White Goods Mgmt Acct	*$1,348,254.59*
Allocated for the Solid Waste Management Trust Fund (8%)	**$379,324.84**
Allocated for direct distribution to counties (72%)	**$3,413,923.53**
Amount forfeited from distribution to counties, reallocated to the White Goods Mgmt Acct	*$399,942.50*
Final amount distributed to counties	*$3,013,981.03*

The White Goods Management Account was established to help counties whose costs exceed their share of Advanced Disposal Fee (tax) revenue. The account receives 20 percent of white goods tax revenues. It also receives funds forfeited by counties whose surplus exceeds their threshold amount.

Although $3,413,923.53 (72 percent of the net disposal fee collections) was allotted for distribution, ineligible counties forfeited $399,942.50. The White Goods Management Account received the forfeited funds and 20% of the tax revenue.

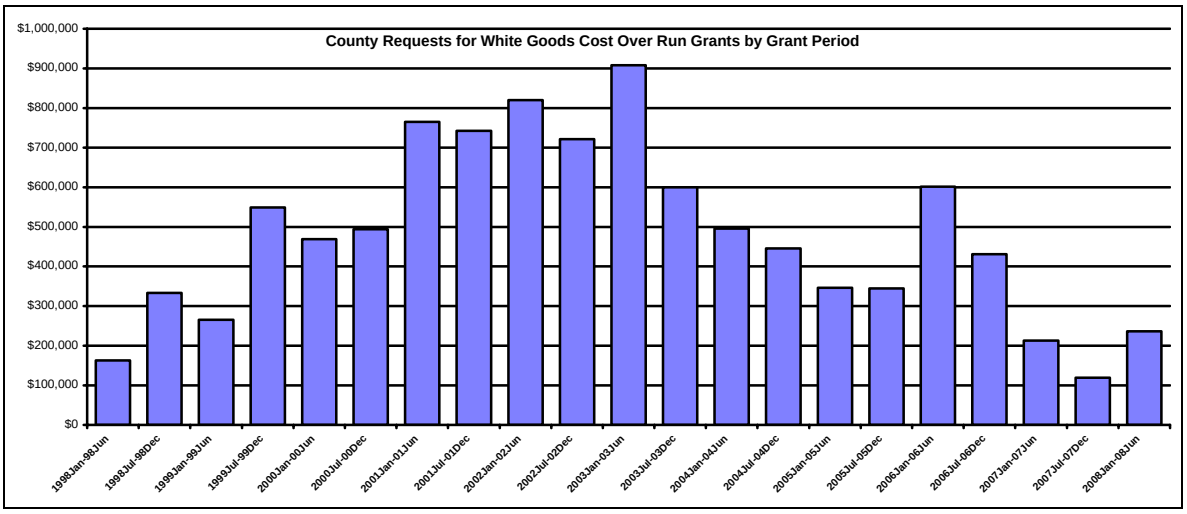
WHITE GOODS MANAGEMENT ACCOUNT BALANCE FY 07-08

BEGINNING BALANCE (July 1, 2007)	**$1,221,275.42**
Funds received from NCDOR	***$1,348,254.59***
Cost Overrun Grants disbursed	***-$191,707.67***
Capital Improvement Grants paid	***-$546,763.09***
Clean up of illegal white goods sites	***-$3,800.00***
Funds reserved for future grant awards*	***-$1,000,000.00***
ENDING BALANCE (June 30, 2008)	**$827,259.25**

*Includes $500,000 reserved for capital improvement grants and $500,000 reserved for overrun grants.

Graph 1 (see below) shows that total amounts of money requested by counties for cost overrun grants in the last recent grant periods remains low relative to the past 10 years. This is believed to be primarily due to the high value of scrap metal and the good returns counties are receiving for the sale of their scrap metal. The high value of scrap metal is being driven primarily by demand in the overseas markets. This condition had existed for the past several years. The recent economic downturn has caused a drop in the value of scrap metal. Some sources indicate that scrap metals prices have decreased by as much as fifty percent. This means that counties will experience a significant loss of revenue from the sale of appliances as scrap metal leading to increased requests in the number of counties requesting cost over run grants to meet daily operating expenses and an increase in the amounts of the grants requested can be expected.

.**Graph1**



Over $64,058.70 in grants went to 12 counties for cost overrun July-December 2007; $127,648.96 was distributed to 19 counties for cost overrun January-June 2008 (Tables 1 and 2).

Table 1 **Grant Requests & Awards from the White Goods Management Account for Cost Overruns July- December 2007**

County	ADF (tax)	Amount Requested	Amount Awarded
Ashe	$4,831.68	$6,334.60	$6,334.60
Chatham	$10,817.96	$29,863.82	$2,986.38
Chowan	$1,268.26	$4,313.87	$4,313.87
Cleveland	$18,130.36	$13,079.42	$13,079.42
Currituck	$4,408.77	$3,703.71	$3,703.71
Edgecombe	$9,868.84	$4,365.05	$2,182.52
Gates	$2,174.95	$5,036.66	$5,036.66
Mitchell	$2,981.79	$20,251.50	$10,125.75
Perquimans	$2,332.42	$5,912.47	$5,912.47
Stanly	$11,084.34	$2,978.08	$1,489.04
Tyrrell	$794.85	$16,781.16	$1,678.12
Washington	$2,504.52	$7,216.16	$7,216.16

Table 2

Disposal Grant Requests & Awards from the White Goods Management Account for Cost Overruns January- June 2008

County	ADF (tax)	Amount Requested	Amount Awarded
Bladen	$6,161.93	$8,876.37	$8,876.37
Camden	00	$6,645.00	$6,645.00
Chatham	$10,817.96	$17,943.68	$1,794.37
Chowan	$1,268.26	$3,376.74	$3,376.74
Cleveland	$18,130.36	$47,488.22	$23,744.11
Currituck	$4,408.77	$5,922.32	$4,441.74
Edgecombe	$9,868.84	$11,209.92	$5,604.96
Gates	$2,174.95	$3,955.00	$3,955.00
Haywood	$10,622.06	$440.18	$440.18
Lenoir	$10,905.13	$26,452.04	$13,226.02
Mitchell	$2,981.79	$25,688.21	$12,844.11
Nash	$17,287.89	$45,768.90	$22,884.45
Northampton	$1,861.56	$185.19	$185.19
Orange	$23,201.62	$25,320.30	$12,660.15
Perquimans	$2,332.42	$2,679.58	$2,679.58
Rutherford	$11,843.58	$1,303.42	$1,303.42
Transylvania	$5,691.40	$189.89	$189.89
Tyrrell	$794.85	$975.15	$975.15
Warren	$3,743.46	$1,822.54	$1,822.54

Capital improvement grants totaling $546,763.09 were awarded to nine counties (Table 3). In FY 07-08, counties received a total of $738,470.76 in cost overrun and capital improvement grants and $1,348,254.59 in revenues was received. .

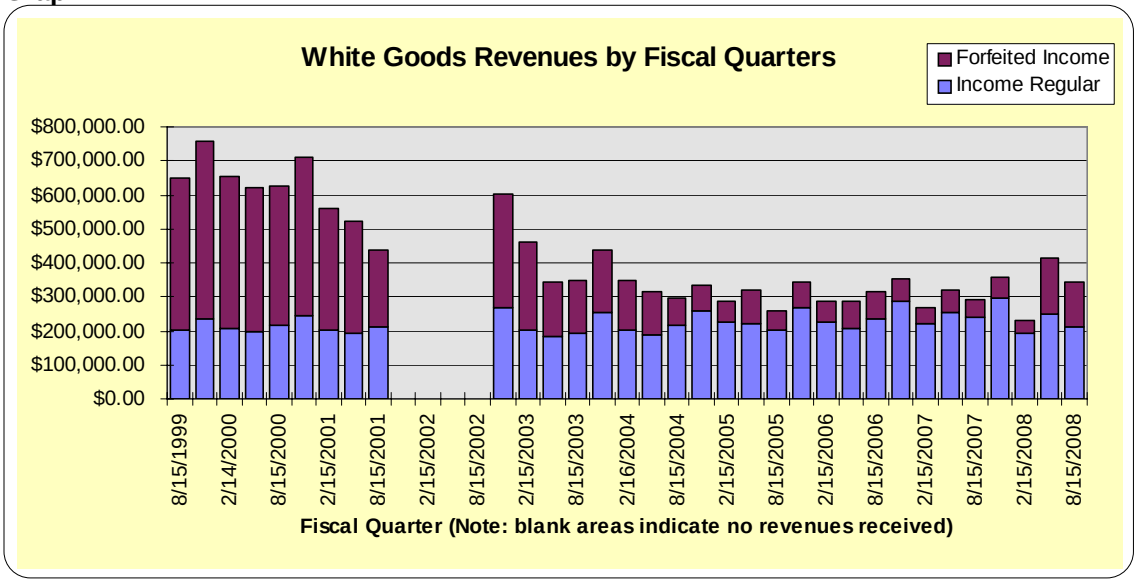
Table 3

Capital Improvement Grants Paid to Counties for Fiscal Year 2007-2008

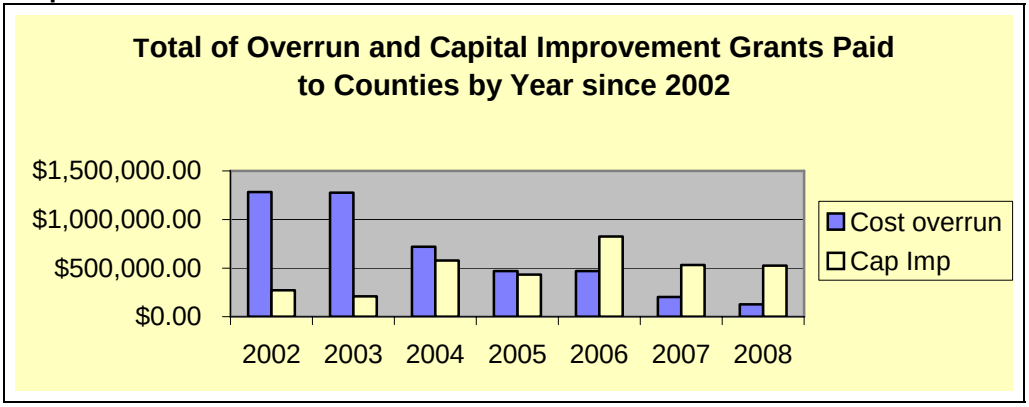
County	Amount	Purpose
Bladen	$74,804.69	white goods facility
Gaston	$44,954.71	tractor
Jackson	$7,260.30	CFC equipment
Nash	$29,600.00	white goods pad
Pasquotank	$59,000.00	mini-excavator
Pitt	$139,901.00	white goods pad & skid steer
Stanly	$58,226.73	white goods building
Surry	$33,015.66	skid steer
Transylvania	$100,000.00	white goods pad

As Graph 1 demonstrated, the total of the amounts requested has decreased gradually and steadily in recent grant periods. As the next graph depicts, the amount of available funds has fallen significantly since the early part of the decade. The blue bars indicate the amount of funds the white goods program receives as its share of the tax revenue and is a measure of the amount of sales of new white goods in North Carolina. The red bars indicate the revenues the program receives from counties that forfeit their share of the advance disposal fee due to their ineligible status. Counties become ineligible when they fail to submit their AFIRs to the Local Government Commission by March 1st or by exceeding the threshold amount in their AFIRs. Forfeited income remains the secondary source of the white goods program's revenues. Funds are received into the white goods account from the Department of Revenue forty-five days after the end of the fiscal quarter.

Graph 2



Graph 3



Graph 3 above shows that in recent years the number of cost overrun grants and the amounts of the grants requested by counties has decreased while the number of counties requesting capital improvement grants has increased. The white goods program has actively promoted counties to upgrade their infrastructure while scrap prices were high to improve efficiency and management. As the value of scrap metal declines it can be expected that cost overrun grants will increase as counties struggle to meet daily operating expenses. General economic conditions are the determining factor in the fluctuations regarding revenues and payments.

Program Results

Grant and tax funding made it possible to clean up illegal dumpsites. Previously, many counties gave white goods a low priority and under-funded their management. The white goods account makes it possible for counties to obtain the specialized equipment or develop collection and loading areas needed to improve white goods management.

In FY 07-08, 33 county collection sites took in 20,145 tons, or an estimated 503,625 individual appliances (assuming 25 appliances per ton), or about 0.06 appliances per person in North Carolina. This compares to the 25,749 tons, or 644,000 appliances, collected in FY 91-92 by all 100 counties. Without the program, large numbers of appliances would have likely been dumped or stockpiled.

White Goods Management by County Governments

The banning of white goods from landfills in 1989 has encouraged recycling and better management. Comprehensive white goods management laws enacted in 1993 included an Advanced Disposal Fee [tax]. In 1998, Session Law 24 extended the fee for three years, but reduced it from $10 to $3. In 2000, the sunset on the fee was removed by Session Law 109.

A major accomplishment of the program is a drastic reduction in illegal dumping of white goods. The critical factor was requiring local governments to provide collection sites at no cost to citizens. Counties can use tax proceeds to clean illegal dumping sites, based on the percentage of white goods at the site.

CFC Collection

An accomplishment occurred when counties began to implement proper management practices to capture and recycle chloroflourocarbon refrigerants (CFCs). These practices result in a decrease of the amounts of ozone-depleting CFCs released into the environment, while at the same time providing a new revenue source for counties through the sale of reclaimed CFCs.

The accidental and intentional venting of CFCs due to poor management practices may be more widespread than previously thought. Even though gas venting is unlawful and markets exist for reclaimed CFCs, there are indications that some counties and metal recyclers contracted by counties, accidentally and intentionally vent CFCs on a routine basis into the atmosphere. State and federal environmental agencies have been made aware of the practice of CFCs being illegally vented from appliances by this Section.

Proper extraction of CFCs from appliances is considered to be time-consuming, requires trained personnel, specialized equipment and is too often given low priority among solid waste programs. The white goods program is actively encouraging and promoting counties to reclaim more refrigerant gasses from appliances. This is being done by emphasizing that the program can provide funding for the purchase of equipment, the training of personnel and helping counties find markets for reclaimed CFCs.

An effect of the high price of scrap metal on white goods collection has been that citizens are increasingly bypassing county scrap metal collection sites and taking unwanted appliances and other scrap metal directly to recyclers for cash. This has the effect of reducing revenues for counties by some percentage. The activity also increases the likelihood that CFCs are being illegally vented either intentionally or accidentally. (Intentionally because some recyclers will not accept appliances with refrigerant gasses still present and accidentally because, in many instances, citizens are unable to properly manage white goods in a manner so as to prevent accidental release.)

Extension of Funds to Expand Programs

A challenge that the program has faced has been encouragement of counties that have accessed the program only to a limited degree in the past to request funds from the program for infrastructure improvement. Many counties are reluctant or uninformed about the white goods program's ability to provide funds for infrastructure and equipment. Insistence and information provided by field personnel has a notable impact on counties requesting funds for improvement of white goods facilities.

Counties who are or will be experiencing moderate to high growth rates in the coming years would benefit greatly from upgrades in their facilities in anticipation of the growth in their populations. Improved infrastructure for white goods means that it costs less for counties to manage their white goods, decreases the environmental impact of white goods, and improves the returns the counties receive for the value of their white goods as scrap metal. This has the effect of making the counties less dependent on cost overrun grants to meet operational costs and eases constraints on limited local funding.

Utilization of Funds

Though the white goods program has had many accomplishments, some problems remain. Some counties ignore the white goods law by not allocating white goods tax distributions to their white goods programs. This means that some county white goods programs are underfunded.

Many local governments are privatizing their white goods management. Privatization does not necessarily mean that programs are more efficient. In many instances, privatized white goods management is incorporated into a more comprehensive solid waste contract between a local government and a private firm, making it more difficult to measure program efficiency.

Forfeited Funds

These are counties that will not receive tax distributions because undesignated balances exceed their threshold amounts.

Counties That Will Become Ineligible for Advance Disposal Fees in March 2009
(Based on FY 07-08 AFIR Reports)

Avery	Bladen	Cabarrus	Craven
Forsyth	Franklin	Henderson	Iredell
Montgomery	Onslow	Randolph	

Counties that do not submit their AFIR by March 1, 2009 are ineligible to receive tax proceeds.

White Goods Management Costs

Counties can use the white goods tax proceeds disbursed quarterly by the NCDOR for daily expenses incurred to recycle white goods. Funds can also be used for one-time expenses, such as purchasing specialized equipment and making site improvements for better management. A few county programs are not self-sustaining and require subsidies. Expenses for these programs include fuel, labor and the cost of associated items. Low or high program costs are not necessarily good indicators of program efficiency. This means that counties with minimal costs are not necessarily more efficient than

Highest Operating Costs Reported

County	Cost per ton	Cost per appliance*
Washington	$640.43	$25.62
Chatham	$511.15	$20.45
Cumberland	$259.37	$10.37
Rutherford	$241.43	$9.66
Haywood	$226.62	$9.06
Johnston	$206.23	$8.25
Randolph	$182.82	$7.31
Allegheny	$147.52	$5.90
Lenoir	$140.09	$5.60
Stokes	$137.52	$5.50

*Estimate assumes an average appliance weight of 80 pounds.

Lowest Operating Costs Reported

County	Cost per ton	Cost per appliance*
Iredell	$4.03	$0.16
Swain	$9.39	$0.38
Franklin	$14.67	$0.59
Clay	$19.55	$0.78
Pasquotank	$41.74	$1.67
Avery	$44.69	$1.79
Henderson	$45.54	$1.82
Craven	$46.36	$1.85
Transylvania	$46.87	$1.87
Cabarrus	$47.22	$1.89

*Estimate assumes an average appliance weight of 80 pounds.

counties with high costs. Some counties with low program costs are only marginally in compliance with the law's intent.

The 33 reporting counties reportedly spent $2,340,102.00 in FY 07-08. Of this total $1,873,545.00 was for daily operations, $461,757.00 for capital improvements, and $4,800.00 went to cleanup illegal disposal sites.

Counties with high per unit costs usually have extensive intra-county collections, a cost allocation plan, lack a local market, or have a combination of these factors. Counties with little or no disposal costs tend

to have minimal programs, poor record keeping, and lack access to a local market or a combination of these factors. Due to the high value of scrap metal, many counties have metals recyclers willing to provide free pickup from county collection sites and/or provide CFC recovery in exchange for access to the scrap metal. In recent years, scrap metal prices are at historic highs, yet some counties continue to pay private contractors to collect and haul scrap metals with little or no remuneration to the county. This imposes financial pressures on the white goods program, since several of these counties must apply for taxpayer- funded cost overrun grants to finance their programs.

Outsourcing loading and transport to the recycler can reduce some costs. Other counties use in-house labor to sort and segregate metals, recover CFCs or extract motors or oil. In general, operating costs by counties do not seem restricted by geography or population. Instead, analysis suggests that a correlation to distance to markets, extent of intra-county collections, extent of record keeping, cost allocation plans and agreements with private contractors among counties have a greater effect on county costs.

CHAPTER 5 - FISCAL YEAR 2007-08
SOLID WASTE MANAGEMENT TRUST FUND
ANNUAL REPORT

This report details the activities and expenditures of the Solid Waste Management Trust Fund for FY 08 (July 1, 2007 - June 30, 2008). The Trust Fund is administered by the Division of Pollution Prevention and Environmental Assistance (DPPEA) in the Department of Environment and Natural Resources. The Trust Fund was created by the Solid Waste Management Act of 1989 (SB 111). It is funded primarily by a portion of the revenues from advanced disposal fees on the sale of new tires and white goods (appliances), as well as a tax on virgin newsprint. Additional revenues can come from appropriations and contributions. The purpose of the Trust Fund is to support a range of solid waste management activities including: technical assistance to local governments, businesses, and other entities on solid waste issues; public educational programs; research and demonstration projects; and recycling market development (G.S. 130A- 309.12).

As noted in the table below, the Solid Waste Management Trust Fund received $1,437,554 in revenues in FY 08. When added to the beginning balance on July 1, 2007 of $1,376,604, a total of $2,814,158 was managed in the Trust Fund for FY 08. Actual expenditures were $1,392,409, leaving a fund balance at the end of FY 08 of $1,421,749. However, a total of $981,004 of that balance was encumbered for existing grant contracts that had been awarded and for which funding had not been fully disbursed (grant contracts are paid on a reimbursement basis). The unencumbered balance at the end of FY 08 was $440,745. An additional set of grant contracts were in the process of being encumbered at the end of the fiscal year, which further reduced the available balance entering FY 09.

FY 08 Trust Fund Expenditures and Revenues

	Total FY 08
Beginning Balance	$ 1,376,604
+ Revenue	$ 1,437,554
- Expenditures	$ 1,392,409
Ending Balance	$ 1,421,749
Encumbrances	$ 981,004
Unencumbered funds on 6/30/08	$ 440,745

Breakdown of FY 08 Revenue Sources

Revenue Source	Total FY 08
Tire Tax	$ 1,010,682
White Goods ADF	$ 390,315
Newsprint Tax	$ 7
Appropriations	$ 0
Contributions and Misc.	$ 36,550
Total Revenues	$ 1,437,554

TRUST FUND REVENUE SOURCES - FY 08

As noted in the table above, Trust Fund revenues in FY 08 came from four of the five possible sources identified in the General Statutes. Activity from each revenue source is described below:

2% Tire tax – Trust Fund revenues from the tax on the sale of new tires accounted for $1,010,682 in FY 08, an increase of 51 percent from FY 07. Tire revenue accounted for close to 70 percent of total Trust Fund revenues for FY 08. As discussed in Attachment A, the rise in tire revenues was due to a statutory change delegating 8 percent of the tire tax to the Trust Fund instead of 5 percent in previous years.

White Goods Tax – Proceeds from the advanced disposal fee (ADF) on white goods accounted for $390,315 or about 27 percent of total revenues for FY 08. White goods proceeds were down almost 2 percent from FY 07.

Virgin Newsprint Tax – North Carolina newspaper publishers who fail to meet state-required purchasing goals for recycled content newsprint must pay a $15.00 per ton tax on the virgin newsprint they consume. The law allows wide exemptions for companies who are unable to purchase recycled content newsprint due to availability or pricing constraints, or who are actively involved in the recovery of newspaper for recycling. During FY 08, $6.50 (rounded to $7 in the table above) was received from the virgin newsprint tax. Compliance with the law has been consistent - in twelve years, the annual revenue from the newsprint tax has never been higher than $3,000.

General Appropriations - When the Trust Fund was first established in 1989, a one-time appropriation of $300,000 was allocated to provide an initial fund balance. Since that time, however, there have been no further appropriations to the Trust Fund.

Contributions to the Trust Fund and Miscellaneous Revenues – In FY 08, the Division of Pollution Prevention and Environmental Assistance continued its cost-sharing partnership with local governments and private sector on recycling education and promotion. Local governments contributed $29,546 and

private sector and institutional sources donated $7,000 toward the outreach campaigns in FY 08. The list of outreach program partners is provided in Attachment A to this report. More information on the recycling education campaigns is provided below.

TRUST FUND EXPENDITURES - FY 08

The majority of Trust Fund expenditures in FY 08 went to grants and to the state's recycling outreach efforts. Trust Fund resources were also used to continue delivery of technical assistance to North Carolina communities, recycling businesses, and waste generators. These activities are among the explicit purposes noted for the Trust Fund in G.S. 130A- 309.12, and are described in more detail below.

FY 08 Community Waste Reduction and Recycling Grants

DPPEA offers local governments and non-profit agencies an annual general grant cycle to fund recycling initiatives and program expansions. The Community Waste Reduction and Recycling Grants (CWRARGs) for FY08 were initiated by a Request for Proposals released in November 2007 with a due date for proposals in February of 2008.

DPPEA received and evaluated a total of 54 proposals requesting $1,039,023 in funding, and selected 25 for a total of $263,621 in grant awards. Details on the grantees and their projects are provided under Attachment B to this report.

FY 08 Business Recycling Grants

DPPEA conducts an annual grant cycle open to for-profit and non-profit recycling businesses to help expand the state's available collection, processing, and end-use capacity. The Business Recycling Grant cycle for FY 08 was initiated by the November 2007 release of a Request-for-Proposal, with proposals due by February 1, 2008. The grant cycle attracted 41 proposals requesting a total of $1,181,957. Twenty of these proposals were awarded grants for $310,000 in overall funding. Details on the grantees and their projects are described in Attachment C to this report.

FY 08 ABC Recycling Grants

In anticipation of the requirements for ABC permit-holders to recycle beverage containers as of January 1, 2008, DPPEA conducted a specific grant cycle to build collection and processing capacity for serving permit-holders around the state. Fourteen private and local government entities responded to the grant cycle's Request for Proposal, requesting $224,086 in funding. Thirteen proposals were selected for a total award of $182,242. Descriptions of selected projects are included in Attachment D to this report.

FY 08 Curbside Recycling Grants

New advances in collection techniques, material markets, and processing capacity have allowed local governments to modernize their curbside recycling programs. To encourage this trend, DPPEA conducted a specific curbside grant cycle in FY08. Fourteen local governments submitted proposals requesting $297,790 in funding and 12 projects were chosen totaling $212,945 in grant awards. Details on the selected proposals are available in Attachment E to this report.

Recycling Guys and RE3 Outreach Campaigns

DPPEA expanded its statewide education efforts in FY 08, using the Recycle Guys and RE3 campaigns to help boost public participation in recycling and to provide educational resources to public and private recycling programs around the state. In FY 08, DPPEA's outreach efforts included:

- Continuation of the contract with Time Warner cable to broadcast RE3 and Recycle Guys television commercials. Time Warner's system covers the most populous areas of the state and using cable allows demographic targeting through specific channels.
- Continued use of new media outlets such as the internet sites Youtube and MySpace, as well as radio advertising and streaming of commercials on radio Websites.
- Production and distribution of supplemental materials that help expand the presence and reach of the campaigns. Materials included pencils, tattoos, posters, stickers, activity books, and bottle openers that communities and recycling educators use to promote recycling behavior.
- Partnerships with local recycling programs and three minor league baseball teams to hold a "recycling night" at each ballpark and to motivate citizen participation through ticket giveaways.
- Updating of the Recycle Guys Website with a comic-book theme and "kid-friendly" games and videos.
- Continued evaluation of the campaigns to make sure media efforts are targeted at the correct demographics to increase recycling participation.

Technical Assistance Activities

The General Statutes direct DPPEA to use the Trust Fund to promote waste reduction and recycling generally, and specifically to provide technical assistance to local governments and to build recycling markets. The following section lists a number of activities that DPPEA pursued in FY 08 to accomplish these requirements.

Waste Reduction Partners Program

The Waste Reduction Partners (WRP) is a highly successful program using retired engineers and business professionals to provide environmental technical assistance to companies and local governments in western North Carolina. DPPEA continued its annual funding of WRP with $25,000 to support industrial solid waste audits and other recycling activities. With this funding and other matching money, WRP helped western North Carolina businesses and other entities reduce or recycle 21,061 tons of solid waste from landfills in FY08, a diverted cost of less than $2 per ton (by comparison, the most efficient curbside programs cost around $100 - $120/ton). The estimated solid waste reduction savings for businesses served by Waste Reduction Partners in FY 08 totaled $1,179,444, which translates into a leverage of savings to invested funding of 47 to 1.

In FY08, Waste Reduction Partner also completed a wood waste biomass survey in Western NC. The study showed that over 343,000 tons per year of wood waste is available for productive uses within 100 mile radius from Asheville. The study is available on the WRP website at www.landofsky.org/WRP.

In addition, DPPEA made a commitment in FY08 to provide additional funding for an expansion of the WRP program to central and eastern North Carolina, based out of the Triangle J Council of Governments.

Staff Support

To accomplish the technical assistance, public education, and recycling market development requirements in the General Statutes, the Trust Fund was used in FY 08 to support staff positions in the Division of Pollution Prevention and Environmental Assistance. A total of $439,825 was expended to pay for salaries, benefits and some limited operational support. These positions are described below:

Recycling Market Development Specialist - This position provides marketing assistance to local governments and others involved in recyclable materials collection. As a part of the Recycling Business Assistance Center in DPPEA, this person is responsible for strengthening recycling capacity for secondary materials collected throughout the state. Among other duties, it manages the recycling markets directory required by state statute.

Recycling Market Development Specialist - This position is shared part-time with the NC Department of Commerce and is responsible for working with local and state economic developers to recruit recycling businesses to North Carolina.

Recycling Market Development Specialist - This position focuses on building the recycling infrastructure for the diversion of construction and demolition debris and wood waste, which together constitute one third of the state's entire waste stream. In addition to managing grants and conducting other technical assistance, this position also produces the *Recycling Works* newsletter, which keeps recycling companies and community recycling programs abreast of market developments, material prices, and news about grants and available assistance.

Environmental Specialist - In addition to working with local recycling coordinators, this position is responsible for developing educational materials and programs on solid waste issues for audiences ranging from school children to adult populations. In particular, this position implements the multi-media statewide Recycle Guys and RE3 campaigns designed to boost recycling participation rates in North Carolina and to make community recycling efforts more efficient.

Environmental Specialist - This position is responsible for providing technical assistance to local governments on their waste reduction programs, including solid waste planning and full cost accounting (both statutory requirements for local governments). The position also manages recycling program data from state-mandated local waste reduction reports, which in turn allows completion of the State Solid Waste Management Annual Report.

Environmental Specialist – This position manages the WasteTrader waste exchange service, provides direct assistance to commercial and industrial waste generators, helps to manage grants and the local reporting process, and is responsible for many training and outreach activities to local recycling programs.

Organics Recycling Specialist -This position provides technical assistance to local governments, recycling businesses, waste generators, and the general public on the reduction and composting of organic waste streams, including yard wastes, which are banned from disposal by state statute.

Graduate Interns
To encourage professional development and complete technical assistance projects, DPPEA hires student interns. Student projects in FY 08 focused on continuing the development of the RE3 and Recycle Guys outreach campaigns, producing information for a statutory study on fluorescent light recycling, and providing technical assistance to local government recycling programs, in particular focused on modernizing municipal curbside recycling services.

Product Stewardship Initiatives
"Product Stewardship" is a growing movement by state and local governments to increase manufacturer and retailer responsibility for the environmental impacts of their products, including the diversion of those products from disposal. Expanding responsibility for end-of-life products is expected to reduce cost and tax burdens on state and local governments. In FY 08, North Carolina participated in product stewardship initiatives by supporting the activities of the Product Stewardship Institute (PSI), including the development of a national agreement with the paint industry on paint disposal. DPPEA participated in additional PSI projects addressing mercury thermostats, fluorescent lights, and excess phone books. DPPEA also continued its participation with the Carpet America Recovery Effort (CARE), a national product stewardship program for the carpet industry.

Workshops and Training
DPPEA used Trust Fund to support a major state recycling conference in March 2008. In particular, DPPEA provided scholarships to local recycling coordinators who would not normally attend the conference, which helped to increase their professional knowledge and skills.

Temporary Assistance
As in past years, DPPEA used temporary labor to help enter data from over 600 local government solid waste management annual reports. These reports are required by North Carolina statutes and they provide information necessary to complete the State Annual Solid Waste Report.

PLANNED EXPENDITURES AND CHANGES TO TRUST FUND REVENUES FOR FY 08
In FY 08, the Solid Waste Management Trust Fund will begin to receive distributions from the North Carolina disposal tax. The Trust Fund is designated to receive 12.5 percent of the disposal tax proceeds, which are to be used for recycling grants for local governments and state agencies.

With the disposal tax funding, DPPEA plans to substantially increase local government grants, with a specific focus on enhancing existing curbside recycling programs. DPPEA will also conduct a grant cycle designed to fund new and expanded recycling efforts by state agencies – all departments, universities, and community colleges will be eligible to apply for funding. In addition, DPPEA will continue its Recycling Business Grant program and invest in increasing the reach of the Recycle Guys and RE3 campaigns. The Trust Fund will also be used to support the Waste Reduction Partners program and to support general recycling technical assistance efforts. Finally, North Carolina will also continue to participate in national coalitions seeking to promote product stewardship.

Questions regarding the North Carolina Solid Waste Management Trust Fund may be directed to Scott Mouw, Chief, Community and Business Assistance Section, Division of Pollution Prevention and Environmental Assistance, at 919-715-6512.

ATTACHMENT A: TRUST FUND REVENUE SOURCES

The North Carolina Solid Waste Trust Fund received 97 percent of its revenues in FY 08 from two sources: the statewide fees on the purchase of new tires and white goods. The distribution arrangement of each of these fees is described below:

Scrap Tire Tax - During this reporting period (July 1, 2007 - June 30, 2008), a two percent fee was levied on the purchase of new tires in North Carolina. The tire tax allocation is as follows:

- 72% of revenues are distributed to the counties on a per capita basis to pay for the proper management of discarded tires.
- 20% of revenues are credited to the Scrap Tire Disposal Account (administered by the Solid Waste Section) for local government grants and nuisance tire site cleanup.
- 8% of revenues are credited to the Solid Waste Management Trust Fund.

White Goods Tax - During this reporting period (July 1, 2007 - June 30, 2008), a $3 dollar fee was levied on the purchase on all appliances. The white goods tax allocation is as follows:

- 72% of revenues are distributed to the counties on a per capita basis to pay for the proper management of discarded white goods.
- 20% of revenues are credited to the White Goods Management Account (administered by the Solid Waste Section) for grants to local governments for managing discarded white goods.
- 8% of revenues are credited to the Solid Waste Management Trust Fund.

FUNDING PARTNERS FOR THE FY 07 RECYCLE GUYS and RE3 CAMPAIGNS

The Solid Waste Trust Fund received an additional small percentage of its revenues from partners supporting and cost-sharing the Recycle Guys and RE3 educational campaign, as detailed below.

Partner Name	Amount Given
Brunswick County	$1,000
Catawba County	$1,250
Chatham County	$1,000
City of Cary	$5,000
City of Greenville	$250
City of Raleigh	$5,000
Clayton	$950
Container Recycling Alliance	$1,500
Dare County	$264
Duke Energy	$2,500
Durham/Wake Counties Research and Production Service District	$1,000
Iredell County	$582
Johnston County	$5,000
Lee County	$1,000
Mecklenburg County	$6,500
Orange County	$1,000
Pasquotank County	$500
UNC Greensboro	$500
Waste Management Recycle America	$1,500
Wayne County	$250
TOTAL	**$36,546**

ATTACHMENT B: 2007 COMMUNITY WASTE REDUCTION AND RECYCLING GRANTS

GRANTEE	AMOUNT	GRANT DESCRIPTION
Town of Columbus	$7,000.00	The Town of Columbus will develop a recycling center equipped with 3, 30-yd containers and a 20 yd tub. It will be open to citizens and commercial users.
Franklin County	$6,000.00	Franklin County will expand its electronics recycling program by adding a forklift and enlarging its collection area by upgrading a building for collection.
Clay County	$6,965.00	Clay County will implement a school recycling program.
NC Amateur Sports	$5,000.00	NC Amateur Sports will implement recycling at events in North Carolina.
Watauga County	$14,937.00	Watauga County will increase recycling by providing recycling containers to residents, restaurants and recreational facilities.
Madison County	$10,000.00	Madison County Solid Waste will purchase a baler to expand its cardboard and mixed paper collection program and work to increase public participation in the recycling program.
Jackson County	$9,150.00	Jackson County will provide recycling collection to businesses at a drop-off site.
Camden County	$17,000.00	Camden County will purchase and put into use new roll-off containers to commingle recycled materials and improve program efficiency.
Edgecombe County	$4,000.00	Edgecombe County will construct a shelter to begin the collection of electronics and oil filters.
Currituck County	$12,000.00	Currituck County will install new roll-off containers to improve glass recycling at its convenience centers.
Pitt County	$5,783.00	Pitt County will buy bins and carts to begin recycling at six county schools.
Wayne County	$12,500.00	Wayne County will purchase a Haz Mat building to initiate a permanent household hazardous waste program.
City of Rocky Mount	$21,786.00	Rocky Mount will implement multi-family recycling, ABC recycling, school recycling and recycling at city buildings.
City of Fayetteville	$14,064.00	Fayetteville will implement an education program for curbside recycling.
Macon County	$15,090.00	Macon County will implement an event recycling program and provide educational material.
Cumberland County	$11,636.00	Cumberland County will purchase cardboard recycling dumpsters for its school recycling program.
Robeson County	$6,000.00	Robeson County will install two swap shops.
Town of Shelby	$4,930.00	The Town of Shelby will provide recycling containers to local schools.
Mitchell County	$10,000.00	Mitchell County will expand its recycling program by adding a recycling trailer and four self dumping hoppers to the permanent recycling drop-off sites.
McDowell County	$15,580.00	McDowell County will implement a school recycling program.
City of Greensboro	$18,000.00	The City of Greensboro will purchase recycling bins and tilt trucks to implement a recycling program at the Coliseum, and procure and install backlight panels to promote recycling.
Town of Kernersville	$9,000.00	The Town of Kernersville will purchase 8 yard dumpsters to install at businesses for cardboard recycling throughout the town.
Onslow County	$5,200.00	Onslow County will purchase two trailers to be placed at two county convenience centers for electronics recycling.
Cabarrus County	$7,000.00	Cabarrus County will purchase recycling bins to install at local schools for a school recycling program.
Dare County	$15,000.00	Dare County will purchase a skid steer for use at the recycling facility to handle recyclables, including increased glass from bar and restaurant recycling programs.

ATTACHMENT C: 2007 RECYCLING BUSINESS GRANT PROJECTS

GRANTEE	AMOUNT	GRANT DESCRIPTION
Salvage America	$16,000.00	Salvage America Inc. will expand its material diversion program through the purchase of a tractor or similar equipment to transfer materials to market.
Wayne Opportunity Center	$18,000.00	Wayne Opportunity Center to purchase and install a new conveyor to feed a baler and a fork truck to increase production.
Think Green Recycling Service of Mooresville	$10,000.00	Think Green will purchase a collection vehicle to increase in the number of businesses and residences that can be provided recycling services
Waste Industries, LLC.	$23,000.00	WI will purchase carts and containers to assist in providing recycling sevices to ABC customers around the State.
Resource Reformers, LLC	$18,000.00	Resource Reformers, LLC will build a fully-automated oil filter recycling processor for the purpose of processing and separating all components of the oil filter for recycling.
Reflective Recycling	$16,000.00	Reflective Recycling, Inc. will purchase a truck and custom trailer to increase beverage container recycling from bars and restaurants with ABC permits.
Potters Industries	$5,000.00	Potters Industries will purchase a recycled glass color-sorting processor to reclaim clear and colored glass for the purpose of creating glass beads used in highway safety products and the metal finishing industry.
Shimar Recycling	$18,000.00	Shimar will purchase a truck and 95-gallon recycling carts to collect recyclables.
WM Recycle America - Plastics	$12,000.00	WM - Recycle America will purchase and install a secondary screening system and conveyor on their plastics sort line to remove glass fines from residues, thereby reducing tonnage going to landfill.
Tidy Site, LLC	$10,000.00	Tidy Site will purchase a compact skid steer/loader to better facilitate and expand the on-site sorting and handling capabilities of residential construction debris.
Wesbell Technologies	$10,000.00	Wesbell Technology will purchase, install, and put into use a magnetic separator to increase material diversion and efficiency.
Tri-County Environmental	$18,000.00	Tri-County Environmental will purchase a rolloff truck to increase the collection of food waste for its composting operation.
Green Coast Recycling, LLC	$21,000.00	Green Coast will expand recycling operations by purchasing an additional collection truck and collection containers to service customers in the New Hanover county area.
New Life Plastics Recycling	$10,000.00	New Life Plastic Recycling, Inc. will purchase and install equipment to expand its recycling of polyethylene and polypropylene regrind.
Synergy Recycling	$10,000.00	Synergy Recycling will purchase five 48ft or 53 ft trailers to service more rural community electronics collection programs.
San-Kawa, LLC	$22,000.00	San-Kawa will purchase glass crushing equipment to process post-consumer glass into a raw material for glass manufacturing
Foothills Sanitation & Recycling	$21,000.00	Foothills will install bunkers and a ramp loading dock to help store and market glass collected from ABC and curbside customers.
Carolina Waste Disposal, Inc.	$18,000.00	CWD will purchase a dump trailer, Bobcat, and carts to collect, process and market material collected from ABC and curbside customers.
Hatteras Recycle, LLC.	$18,000.00	Hatteras Recycle will purchase a truck, containers and carts to expand the curbside and other recycling service to customers on Hatteras Island - expanding into the village of Avon.
Simply Green Recycling Service	$16,000.00	Simply Green will purchase a collection vehicle resulting in increased collection efficiencies and a corresponding increase in residential and business customers

ATTACHMENT D: 2008 ABC RECYCLING GRANT PROJECTS

GRANTEE	AMOUNT	GRANT DESCRIPTION
City of Raleigh	$10,800.00	The City of Raleigh will purchase containers to provide to ABC permit-holders to implement collection service in downtown Raleigh.
Curbside Management	$20,000.00	Curbside Management will buy a truck and 40 gallon rollout containers to increase its ABC permit-holder recycling collection service.
Pickett Up Recycling	$9,600.00	Pickett Up Recycling will purchase a trailer and containers to initiate a recycling collection service for ABC permit-holders in Charlotte area.
City of Wilmington	$14,329.00	The City of Wilmington will buy a motorized cart and recycling containers to begin a collection service for ABC permit-holders in the downtown business district.
City of Greensboro	$9,300.00	The City of Greensboro will purchase containers to start up a recycling collection service for ABC permit-holders in the central business district.
FCR, LLC	$7,200.00	FCR will expand the size of its glass bunkers to receive additional ABC permit-holder material.
City of Washington	$6,750.00	The City of Washington will purchase rolling carts to start a recycling collection service for ABC permit-holders inside the city limits.
MAR's Recycling	$18,000.00	MAR's Recycling will buy a truck and containers to expand its recycling collection service for ABC permit-holders.
Coastal Enterprises	$20,000.00	Coastal Enterprises will purchase a truck and containers to start a recycling collection service for ABC permit-holders in Onslow County.
City of Conover	$14,071.00	The City of Conover will purchase carts and a roll-off container to provide both on-site and drop-off collection services for ABC permit-holders in the city limits.
C. Todd's Recycling	$14,192.00	C. Todd's Recycling will purchase and put into use a hydraulic dump trailer and hydraulic cart dumper to expand its collection service to ABC permit-holders.
Best Disposal	$18,000.00	Best Disposal will purchase carts to provide to ABC permit-holders for its recycling collection service.
Orange Recycling	$20,000.00	Orange Recycling will buy a truck to expand its recycling collection service to ABC permit-holders in the Triangle region.

ATTACHMENT E: 2008 CURBSIDE RECYCLING GRANT PROJECTS

GRANTEE	AMOUNT	GRANT DESCRIPTION
Town of Tryon	$6,227.27	The Town of Tryon will increase recycling through the purchase of 18-gallon curbside recycling bins.
Rocky Mount	$25,000.00	The City of Rocky Mount will purchase a new recycling collection vehicle.
Town of Mooresville	$20,000.00	The Town of Mooresville will lease carts and conduct educational activities to start a curbside recycling program.
Town of Winfall	$21,818.00	The Town of Winfall will initiate a curbside recycling program using carts and will conduct education to encourage participation.
City of Statesville	$18,000.00	The City of Statesville will purchase additional curbside bins, recycling carts for schools, and conduct public outreach activities.
Town of Archdale	$9,900.00	The Town of Archdale will distribute literature and magnets, conduct a random reward program, and publish newspaper ads in support of its revamped curbside program.
City of Marion	$18,000.00	The City of Marion will purchase a truck to improve the efficiencies of its curbside recycling program.
City of Wilmington	$25,000.00	The City of Wilmington will purchase carts to upgrade recycling services to curbside customers.
Jones County	$18,000.00	Jones County will purchase recycling trailers and make improvements to the recycling program.
City of Washington	$16,000.00	The City of Washington will buy roll-carts, bins and hydraulic flippers to improve the curbside program.
Kernersville	$10,000.00	The Town of Kernersville will increase recycling through a cart distribution.
Town of Hertford	$25,000.00	The Town of Hertford will begin a cart-based curbside service, supported by an outreach and educational program.

CHAPTER 6 - DEPARTMENT OF ADMINISTRATION
Environmentally Preferred Purchasing

The Department of Administration continues to promote the purchase and use of sustainable and efficient supplies and products. As the Department progresses with this effort, more of these products are being added to statewide term contracts, agency specific term contracts, as well as awarded through open market bids. For more information visit the Purchase and Contract Web site: http://www.ncpandc.gov/

Solicitations advertised by the Division to Comply with the Session Laws 1993 {G.S. 130A - 309.14(al)}

Presently, the bids advertised in the Division of Purchase and Contract contain a Recycling and Source Reduction paragraph in item #10 of Instructions to Bidders. When developing bid invitation language, requirements and specifications, purchasers are continuing to look at alternative methods and products that result in waste reduction if their procurement is both practicable and cost-effective.

Recycling and Source Reduction information provided by the contractors on bids received during the 2007 to 2008 fiscal year indicate the sustainable features or criteria of those products. Table 1 lists the amounts and percentages spent categorized by primary sustainable features of the intended use, manufacture or packaging of the awarded products. Table 2 lists the purchase awards by the type of bid for those commodities.

Table 1

Primary Sustainable Feature of Awarded Purchases	Award Amounts by Sustainable Criteria[1]	Percentage Bids by Sustainable Criteria[1]
Recyclable	$247,625,522	35%
Recycled and Recyclable Content Packaging	$150,903,074	21.3%
Recycled and Recyclable Content - Metals	$19,665,560	2.8%
Recyclable Content other than packaging and metals	$26,889,643	3.8%
Energy Use Efficient	$401,338	0.1%
Cleaner Fuels Usage	$10,033,449	1.4%
Water Use Efficient	$802,676	0.1%
Less Toxic	$401,338	0.1%
Reusable or Refillable or More Durable	$29,042,821	4.1%
Refurbishable	$44,548,514	6.3%
Foods & Agricultural Products	$33,712,389	4.8%
Chemicals, Minerals & Natural Materials	$9,917,061	1.4%
Not Applicable – Typically Contractual Services	$200,668,981	28.3%
Purchases Without Documented Sustainable Comments[2]	$33,712,389	4.8%

[1] Individual awards may support multiple sustainable criteria.
[2] Awards may include non-reusable medical products.

Table 2

Commodity Purchase Awards by Bid Type	Number Awards by Bid Type	Percentage Awards by Bid Type
Agency RFP	215	12.2%
Contractual Services	24	1.4%
Convenience Contracts	287	16.3%
Open Market	751	42.5%
Quotes	165	9.3%
Term Contracts	38	2.2%
Waivers	285	16.1%
Total	1765	100.0%

NC E-Procurement @ Your Service

NC E-Procurement @ Your Service, now in its seventh year of operation, continues to support the goal of "One North Carolina". As of December 2008, the enterprise-wide system has over 61,000 registered vendors, and over 15,000 users representing 228 entities across the State. This includes state agencies, hospitals and institutions, community colleges, K-12 public schools, universities and local governments. NC E-Procurement @ Your Service continues to contribute to a sustainable environment through significant reductions in hard copy document reproduction (paper, printers and supplies) through the use of electronic business transactions and electronic documents. NC E-Procurement also continues to support State priorities for environmentally preferable products. Over 15,000 catalog items on 40 different catalogs are clearly marked as “Recycled."

Purchasing Compliance Reviews

North Carolina Administrative Code (01 NCAC 05B .1605) mandates that the Division of Purchase and Contract to conduct compliance reviews on purchasing practices of all the state agencies (state agencies, institutions, hospitals, institutions, community colleges, and universities. All compliance reviews, except universities, are conducted utilizing data from NC E-Procurement @ Your Service. Electronic data reduces the necessity of conducting all phases of the analysis on-site; thereby increasing efficiency, as well as reducing travel costs, fuel emissions, and operating expenses.

IPS (Interactive Purchasing System) & Vendor Link NC

The Division of Purchase and Contract continues to promote opportunities for vendors to do business with the state through electronic advertisement of goods, services and design/construction in IPS. The entities using this system consist of state agencies, institutions, universities, community colleges, K-12 public schools, and local governments.

Vendor Link allows vendors to register to receive electronic notification of solicitations. Vendor Link had 21,782 registered vendors as of June 30, 2007. The system continues to grow with the addition of users increasing from 150 entities with 527 users as of June 30, 2008. This is an increased user base of 1% for the entities and users serviced, who posted 5,725 solicitations.

OPEN MARKET AWARDS

- **Low Flow Shower Heads** – 46 plumbing fixtures were purchased for the Department of Corrections with reduced flow rates to 2.5 gallon per minute to conserve potable water.

- **2007 Pre-Owned Vehicles** - 36 total used cars and pickups with extended power train warranties were purchased for the Department of Crime Control and Public Safety. Used vehicles blend into situations to conduct surveillance and undercover operations.

- **Used Seed Trays** - 10,000 trays for the growth of seedling plants were purchased for the Department of Natural Resources for replanting a 50 square mile area of federal game lands in rural eastern North Carolina burned by wildfires in June of 2008. Used trays were purchase that allowed for a 52% cost reduction.

- **Recycled Plastic Lumber** – Engraved sign stock, co-extruded from a minimum of 40% recycled HDPE (both post industrial and post consumer) was purchased by the Department of Environmental and Natural Resources for the Cliffs of the Neuse State Park. As an alternative to standard treated lumber, redwood and western cedar, the recycled plastic lumber conserves natural resources, requires no maintenance or treatment for pests or rot, and poses fewer environmental risks than traditional products. The use of the recycled materials reduces our landfill space and the need to extract and process virgin wood. Products require reduced maintenance (sealers or paints) and do not suffer from any of the traditional issues with wood, such as cracking, splitting, or warping.

- **Solar Panels** – An array of solar panels with a 3,800 watt generating capacity was purchased as a technology demonstrator and teaching aid for the electrical and electronics technology programs on the Rockingham Community College campus. Each of the seventeen panels consists of 50 polycrystalline silicon cells connected in a series with an approximate 5 foot by 2-1/2 foot panel. The solar unit includes the electronics for connection to the power grid which provides the ability to sell excess power generated to the power company.

NEW OR SIGNIFICANTLY IMPROVED STATEWIDE TERM CONTRACTS

The Division of Purchase and Contract has established new or significantly improved statewide term contracts for the following commodities.

- **Agricultural Tractors, 020A - New term contract** requires tractors be provided with a standard compression ignition diesel type, liquid cooled engine designed for operation on commercial diesel fuel and B20 or greater bio-diesel. The bio-diesel is derived from vegetable or plant matter.

- **E-85 Flex Fuel, 405R** - **New term contract** replaces previous agency specific contract to allow statewide distribution of E85. E-85 blended fuel contains 15% unleaded gasoline and 85% ethanol derived from corn production. This alternative fuel is provided in transport quantities of 6000 gallons or more. Of the approximately 224,942 gallons purchased, 191,200 gallons were produced from ethanol instead of crude oil.

- **2008 Model Year Trucks, Vans, Utility Vehicles, Crossovers-Conventional Fuels and AFVs, TC # 070G –** All diesel fueled trucks and vehicles are required to additionally operate using B20 bio-diesel fuel. Gasoline fueled vehicles were also bid with flex fuel as an alternative category. Awarded flex fuel vehicles comply with the intent of Senate Bill 2051. Vehicles noted as Flex Fuel or E85 can use both pure gasoline and E85 fuel. A hybrid "carry all" SUV was a new type awarded for the new contract. Lightweight crossovers (4 and 6 cylinder) and manual transmission compact pickups were also awarded to potentially achieve greater fuel efficiency.

- **Disinfectants, Janitorial Cleaners, Environmental Cleaners, and Odor Counteractants, 435A –**. The additions of three common use janitorial products which are certified to the GS-37 (Green Seal), Certified Environmental Standard were awarded to products that have limited toxicity. Premoistened towelettes are available to provide an alternative for chemicals from being aerosoled or dispensed in the indoor air. Disinfectants included contain various active ingredients and end use concentrations to allow proper selection for limiting contact and exposure to amounts required to be efficacious for specific pathogens targeted. All disinfectants are EPA registered for efficacy of pathogens identified by the NC Statewide Program for Infection Control and Epidemiology within health care related facilities. Chemical dilution control equipment for designated products is supported to improve sanitation quality, deliver accurate recommended product dilution and control costs. Contractors are required to provide the product use training and MSDS sheets.

- **All Trucks and Off-Road Equipment purchased for the Department of Transportation, Individual Agency Specific Contracts** – All equipment offered is required to employ engines meeting the current North Carolina and Federal EPA and regulations indicated by the EPA Clean Air Act for reduced emissions at the time of delivery.

STATEWIDE TERM CONTRACTS

As existing term contracts are re-bid and new term contracts are developed, the Division of Purchase and Contract continues to improve the contracts by offering a wide range of sustainable or environmentally friendly products. Examples of the improved sustainable features of these term contracts are listed below.

- **Air Conditioners, Room, 031A** - Items available through this contract were awarded based on the lowest energy efficiency cost, meeting specifications. The majority of the items awarded are Energy Star Compliant, containing recycled materials and packaging.

- **Domestic Appliances, 045A** - All refrigerators, washers and dishwashers are "Energy Star" qualified. This is a fairly stringent measurement of energy efficiency, which is monitored by the Department of Energy. The payoff is a more efficient appliance, which use less energy over the lifetime of the product.

- **Automotive, Industrial Parts and Supplies, 060A** - Some products have recycled materials with 10%-20% post consumer content.

- **Batteries, Storage, 060B** - Battery casings are made from recycled material (96%). Batteries are

exchanged as a core and picked up by the vendor. In addition the contractor will pick up and properly dispose of junk batteries on quantities less than 20. Core (junk) batteries are considered to be an environmental hazard and are otherwise expensive to properly remove.

- **Tire, Automotive, Recapping and Repairing, 060E** - The retread tire provided should be a premium retread that will provide optimum tire mileage/service and safety. Recycling of tires through retreading and repairing reduces the new purchases and disposal of tire casings.

- **Passenger Cars, 070A; Law Enforcement Vehicles, 070B** - Passenger car awards included an alternate fuel vehicle (AFV) and two models of gasoline /electric hybrid vehicles. Limited availability restricted award of the AFVs for the passenger cars, especially the Law Enforcement and Trucks/Vans/Utility Vehicles. According to the Steel Recycling Institute, 67.7% of a vehicle is steel or iron. Of that steel or iron, 26.6% is post consumer material. Therefore, 18% of a vehicle is made from post consumer recycled material.

- **Neighborhood Electric Vehicles, 070N** - Neighborhood Electric Vehicles (NEV) are battery operated vehicles that are "street legal" for use on roads with a posted speed limit of 35 MPH or less. There are 6 different NEV models available from this contract from two suppliers offering GEM and E-Ride vehicles. The contract vehicles are offered with a price range of $10,887 to $18,713 and include an extended warranty. Because these vehicles do not consume hydrocarbon fuel they produce zero direct emissions. It is estimated that NEVs cost 3 to 5 cents per mile to operate. These vehicles are considered good additions to agency fleets to help meet petroleum reduction goals

- **Remanufactured Toner Cartridges, 207A** - Currently common use Hewlett Packard and Lexmark cartridges are remanufactured to equivalency with the original OEM performance. Fewer cartridges are added to the waste stream. Product specifications are being transitioned from mandated construction requirements to product and vendor performance requirements. This is expected to allow a wider variety of brands and models to be covered as requested by the contract users.

- **Coolers, Water, Electric, 225A** - Packaging, refrigerant and metal components are recyclable.

- **Ballasts, 285B** - Electronic ballasts are more energy efficient, support variable illumination on demand and reduce electro magnetic radiation. A link is provided to Federal Energy Management Program (FEMP) that illustrates a return on investment for retrofitting with more energy efficient lamps and ballasts. Ballasts contain no PCB's and can be disposed of in the trash. Reduced product shape and size also minimizes packaging and metal enclosure requirements.

- **Carpet, 360A** - Recycled content required is either (1) minimum 5% postconsumer content except that vinyl-backed and other similar hardbacked products contain 20% by weight of postconsumer recycled content, (2) minimum 15% by weight of recovered materials (both preconsumer and postconsumer), or (3) minimum of 25% by weight of recyclable content.

- **Paper, Computer and Labels, 395B** - Computer paper contains 50% recycled with 30% post consumer content.

- **Oils, Lubricants, Greases, and Antifreeze, 405H** – The following synthetic, bio-degradable, and recycled lubricants were supplied under this contract: Synthetic Gear Lubricant (20,120 Pounds), Bio-Degradable Hydraulic Oil (1810 Gallons), Synthetic and Re-Refined Motor Oils (4519 Gallons), Synthetic Transmission Oil (30 Gallons), Synthetic Automatic Transmission Fluid (4710 Gallons), Recycled Antifreeze, Bio-Degradable Bar & Chain Oil, and Bio-Degradable Two-Cycle Motor Oil. Synthetic oils and transmission fluids have increased service life to reduce consumption and decrease maintenance cycles. The State Surplus Property disposes of waste oil and antifreeze under contract.

- **Bio-Diesel Fuel, 405L** - B20 blended fuel contains 80% diesel fuel and 20% virgin soy or reprocessed vegetable oil. Of 172,843 gallons purchased, 34,569 gallons consist of mono-alkyl esters of long chain fatty acids. Also, there is about 44,732,100 gallons of bio-diesel in blanket PO's with NCDOT which includes approximately 8,946,420 gallons of mono-alkyl esters. This results in a reduction of crude oil consumption.

- **Gasohol, 405M** - E-10 blended fuel contains 90% unleaded gasoline and 10% ethanol. Approximately 7,406,081 gallons were purchased with 740,608 gallons from ethanol.

- **Pipeline Natural Gas, 405N** - Natural Gas is a clean burning fuel. Over $6,000,000.00 worth was purchased last year.

- **Ultra-lo Sulfur Diesel Transport, 405P** - This new term contract has replaced the 405B lo sulfur diesel. 405P offers 15 ppm of sulfur content compared to 500 ppm sulfur content on the previous lo sulfur diesel contract. Transport loads are over 6,000 gallons per delivery, and are typically used heavily by DPI and DOT. Approximately 39,122,671 gallons were purchased. This will help to provide compliance with clean air mandates.

- **Ultra-lo Sulfur Diesel Tankwagon, 405Q** - Identical to the 405P contract except in form of delivery, this offers 15 ppm sulfur content compared to 500 ppm sulfur content on the previous contract. Tankwagon loads are less than 6,000 gallons down to a minimum of 500 gallons. Approximately 891,754 gallons were purchased. This will help to provide compliance with clean air mandates.

- **Furniture, Metal, Folding Chairs, Tables, Storage Units, Wood Library Furniture, 420** - **Furniture, Desks (Wood), Credenzas, Conference Tables, Etc. & Bookcases, Furniture, 425B & C** - Contractors support sustainability through different practices. Mechanical parts can be recycled or replaced, thereby extending service of item. Packaging is recyclable. Products may be ground up into particleboard. Packaging may contain up to 40% post consumer waste and is reusable. Wood, plastic and metal contain recycled post consumer content and are recyclable.

- **Bedding Mattress Term Contract, 420E** - Mattresses comprised of innersprings (similar to the type used primarily in the residential and hospitality bedding industries) now require successful evaluation to the 16 CFR Part 1633, the Consumer Product Safety Commission's new mattress flammability testing standard, "Standard for the Flammability (Open Flame) of Mattress Sets". Successful evaluation of products offered continue to require the 16 CFR Part 1632, Standard for the Flammability of Mattresses and Mattress Pads (directed toward cigarette ignition of mattresses). The revised specifications promote increased safety and durability to extend product life.

- **Furniture, Chairs, Ergonomic, 425E** – Fabric and chair cushions may contain up to 100% post consumer recycled content. Packaging contains post consumer waste, is reusable and recyclable after use.

- **Lateral and Vertical Filing Cabinets, 425F & 425G** - Cabinets contain from 10% to 30% recycled content. Corrugated boxes have a minimum of 50% post consumer waste and are recyclable. Contractor will purchase back files at end of their use.

- **Storage, Combination Storage/Wardrobe and Wardrobe Cabinets, 425H** - Cabinets have a minimum of 10% recycled metals. Packaging contains post consumer waste, is reusable and recyclable after use.

- **Industrial, Medical and Specialty Gases, 430A** - Are delivered statewide in reusable cylinders and are exchanged when replacement cylinders are needed.

- **Maintenance, Repair & Operation Supplies, 445B –** Items which were offered under the following contracts are now covered under this contract: Lamps, Large & Specialty (285A), Material Handling Carts/Trucks (560A), Low-Flow Plumbing Fixtures (670A), and Safety Equipment, Eye/Face Protectors (345A). Lamps may contain up to 65% recycled content including glass and mercury delivered in packaging that may contain 73% recycled content. Some of the lamps are low mercury (TCLP compliant), non-hazardous. Low-flow plumbing fixtures are offered to reduce consumption.

- **External Defibrillators, 465B** - Defibrillators can be refurbished and packaging materials can be recycled.

- **Incontinent Care Products, Disposable, 475C** - Disposable washcloths (wipes) contain a minimum 50% of fully biodegradable paper (cellulose fibers).

- **Indoor And Outdoor Waste Receptacles, Food Prep Containers, Pails, and Related Items, 485F** - Most plastic products contain 15% post consumer recycled content. Packaging contains 10% post consumer recycled content. Some containers are sold to customers to assist with sustainability management. For example, the aluminum can recycle bins support recycling procedures

recommended to users. Metal parts contain recycled content.

- **Brooms, Mops, Brushes, and Other Cleaning Implements, 485G** - Products may contain up to 60% post consumer recycled content. Packaging may contain up to 40% post consumer recycled waste. All cotton mops are made of cotton waste. Shipping boxes are recyclable. Broom handles can be used as wooden dowels for multiple purposes, such as garden stakes, hanging banners in classroom, etc. Forty-five percent of broom material is biodegradable.

- **LED Vehicle Traffic Signal Modules, 550A** - Traffic signals employing the high efficiency light emitting diode (LED) technology consume 90% less energy than conventional signals, while providing greater reliability, longer life, and low-maintenance performance. Signals are certified for ENERGY STAR for reduced energy consumption.

- **Musical Instruments and Accessories, 580B** - New designs use recyclable plastics. Band instruments may be traded in to be reconditioned and re-sold. Donations of trade-in instruments to the Links Program for the needy promote music education. Plastic and brass parts may be recycled for future part replacement. Cardboard and pallets are recyclable.

- **Calculators, 600A** - Packaging material may be recycled.

- **Dictation/Transcription Equipment, 600C** - New digital recorders employ internal electronic storage media for constant reuse without cassette tapes. Voice recordings may be easily downloaded for dictation transcription, copied to disc (CD or DVD) and transmitted to distant or remote locations. Only proofed or edited recordings are archived to (CD or DVD). Archived recordings enhance offline lectures and training events. Electronic storage media has a long lifetime before replacement. Contract also offers voice to text digital transcription software that serves the traditional state users or nonprofits for the physically impaired.

- **Office Supplies, 615A** - Contractors are required to the extent feasible and practical, to offer recycled products, including packaging, especially those having post-consumer waste content. Wherever possible and practical, such products should be identified as such.

- **Napkins, Bathroom Tissue, and Paper Towels**, **640A** – Napkins are biodegradable, with either 95% recycled with 5% post consumer elemental chlorine-free or 100% recycled and chlorine-free. Bathroom Tissue is biodegradable, 100% recycled with 20% post consumer and chlorine-free. Paper Towels are biodegradable, 95% recycled with 40% post consumer content and elemental chlorine-free.

- **Office Paper, 645A** - Various products **c**ontain both 100% and 50% post consumer and chlorine free copy paper. Other recycled and virgin paper products including envelopes are supported.

- **Cameras, Digital & Film, 655A** - The metal camera bodies, plastic parts and packaging materials can be recycled. Contract also includes the digital cameras and electronic storage media that promote reduction, reuse, and recycling and reduced environmental impact. Soft copy images can be easily transmitted to distant locations. Chemicals used in manufacturing and processing of the film are eliminated. Typically only proofed images are printed. Electronic storage media has a long lifetime before replacement. Even when the images are printed, the user can decide if high cost paper and toner are required. Disposal of the images on paper has less environmental impact than the toxic metals contained in film.

- **Bags, Plastic, Trash, 655B** - Liners contain a minimum of 10% post-consumer or 10% pre-consumer reprocessed copolymer. All the liners awarded were thoroughly evaluated for strength and performance.

- **Laminators & Laminating Film, 665A** - Some of the film contains 5% post consumer content. Packaging contains 25%-80% post consumer content.

- **Ammunition, 680A** - Brass shell casings can be saved and recycled and others can be reloaded.

- **Wiping Cloths, 735A** - All items are second-hand textiles. Vendors resell waste instead of sending to landfills. All recycled textile rags can be sold to make paper products. All rags can be re-laundered.

- **Ice Machines and Dispensers, 740A** - Products are evaluated based upon initial bid, cost of energy and cost of water to provide the required ice harvest rate per day. Packaging, refrigerant and metal components may contain recycled content and are recyclable.

- **Vending Machines And Money Changers, 740B** - Packaging, refrigerant and metal components may contain recycled content and are recyclable.

- **Excavators-20 Metric Ton-143HP**, 760C – The engine must meet the current North Carolina and Federal EPA and regulations indicated by the EPA Clean Air Act for reduced emissions.

- **Markerboards, Tackboards and Accessories, 785A** - Metal and wood components contain recycled materials.

- **Paper, Drawing and Construction, Newsprint, 785B** - Various products as indicated typically contain 25% to 100% recycled paper fiber.

- **Television/Video Equipment, 840A** - Most video products are certified “Energy Star” to denote efficient energy use.

- **Tires – Pursuit, Passenger, Radial Light Duty Trucks, Commercial Radial Light Trucks, Commercial Medium Radial Truck, Off-road Radial and Commercial Medium Radial Truck-Low Platform Trailer Tires, 863A** - Tires depending on manufacturer may contain from 1.55% to 2.5% of recycled materials based on the product attributes, speed rating and performance criteria.

- **Teaching Equipment, Electricity/Electronics Courses, 924A** - Office paper, cardboard and metal enclosures have recycled content. Documentation provided in soft copy instead of hard copy printed materials.

- **Electronic Equipment Recycling Services, 926A** - Assists agencies and local governments with CRT disposal and in diverting surplus or discarded electronic products from landfill disposal.

Items Aiding Waste Reduction Purchased By State Agencies Through Term Contracts and Open Market Purchases

The following items purchased by State agencies meet the criteria for aiding waste reduction by being reusable, refillable, repairable, more durable, and/or less toxic than their traditional counterparts:

Reusable
Digital Cameras (reduces need for film and chemicals)
Refrigerant Recovery System (filters reusable refrigerant)
Musical Instruments
Rechargeable Dry Cell Batteries
Recycled Carpet
Recycled Paper
Recycled Content Furniture (not traditional wood)
Printers
Solvent Degreaser (reuses solvent)
Tire Recapping & Repairing Service
Uniforms, Vacuum Bags, Wiping Cloths

More Durable
Above-Ground Vaulted Fuel Storage Tanks
Classroom Furniture, Electronic Lamps & Ballasts
Vacuum Cleaners, Floor Polish, Grader Blades
Grader Slope Attachment, Kindergarten Furniture
Paint Brushes, Plastic Lumber, Mattresses
Plastic Tableware, Staplers
Vertical File Cabinets, Wood Case goods
Wood library furniture

Energy Star – Reduced Energy Consumption
Audio Visual System,
Changeable Message Signs – Solar Powered
Domestic Appliances
Lighting Fixtures,
Room Air Conditioners,
Sonography Equipment
Television & Video Equipment, Lamps
Traffic Signals – LED,
Ultrasound Scanner
Ultrasound Training Simulator Equipment
Warning Lights - Vehicles Safety
Water Coolers

Flow Plumbing Fixtures for Reduced Water Consumption – 0.5 GPM lavatory facet nozzles and 1.5 GPM showerheads support the Governor's water conservation initiative during severe water restrictions throughout the state.

Used - Automobiles and trucks

Refillable
Ammunition - Cartridge Refills
Batteries - Vehicle & Storage
Drums – Steel, Fire Extinguishers
Cylinders for Welding, Medical & Specialty Gases
Fuel Tanks,
Self-Contained Breathing Apparatus

Repairable
Defibrillators, Musical Instruments
Tire Recapping & Repairing Service

Refurbished/Rebuilt
Aircraft Engines, Ferry Engine Repair Parts
Medical Diagnostic Equipment & Instrumentation
Remanufactured Toner Cartridges for Laser
Scientific Equipment, Sewing Machines

Less Toxic
Alternative Fuel Vehicles, Correction Fluid
Dry Cell Batteries, Electronic Lamps & Ballasts, Fertilizers/Farm Chemicals, Inks for printing (using non-petroleum based inks) Instructional Art Materials, Markerboard Markers, Mattresses, Scientific Products (eliminating Freon), Refrigeration and A/C Equipment

Longer Lasting
Floor Maintenance Machine Batteries, Library Furniture, Aluminum Nuts and Bolts – non-rusting alloys, Fluorescent electronic ballasts permit longer lamp life

Recyclable
Commodity Packaging, Commodity Metal enclosures & parts, Plastics, Steel & Reinforced Concrete Pipe, Chain Link Fencing, Electrical Wire, Treated Lumber, Motor Oil – refined, HVAC & Refrigeration Equipment - Refrigerants

Washable - HVAC Filters Wiping Cloths

CHAPTER 7 – State Agency Purchasing

North Carolina Department of Environment and Natural Resources
Division of Pollution Prevention and Environmental Assistance
1639 Mail Service Center
Raleigh, North Carolina 27699-1639

Phone: (919) 715-6500 or (800) 763-0163
Fax: (919) 715-6794
E-mail: Rachel.Eckert@ncmail.net
Web site: www.p2pays.org

The Division of Pollution Prevention and Environmental Assistance provides free, non-regulatory technical assistance and training on methods to eliminate, reduce or recycle wastes before they become pollutants or require disposal. Contact DPPEA for more information about this document or waste reduction.

NORTH CAROLINA

State Agency Purchases of Recycled Products and Source Reduction, Recycling, and Composting Efforts

July 1, 2007 – June 30, 2008

Fourteenth Annual Report

ACKNOWLEDGMENTS

Published by the N.C. Division of Pollution Prevention and Environmental Assistance

Gary Hunt, Director
Scott Mouw, Chief, Community and Business Assistance Section
Rachel Eckert, Recycling and Environmental Purchasing Coordinator

DPPEA would like to thank the agencies that diligently submit their reports to our office each year. Your hard work and dedication is very appreciated.

North Carolina Department of Environment and Natural Resources
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0 copies of this public document were printed in an effort to conserve resources. The report can be viewed online at http://www.p2pays.org/epp/stagencies.asp. Hard copies are available upon request.

January 2009

Introduction

State agencies are directed to use products containing recycled materials by state law - N.C. General Statute 143-58.2(a), and by Executive Order. Executive Order 156 was signed in 1999 in support of N.C. Project Green, the state environmental sustainability initiative, and was an updating and strengthening of the original Executive Order, signed in 1993.[1] Purchasing recycled content and other environmentally preferable products improves recycling markets, reduces environmental impacts from waste, and saves energy and natural resources.

Many state agencies and local school districts help achieve these goals through thoughtful purchasing decisions and the use of recycled content products. These efforts are particularly critical right now, for economic as well as environmental reasons. Over 14,000 people are employed in the recycling industry in the state, and with our country's current economic crisis, the recycling industry has been impacted. The price of recycled commodities is suffering, but purchasing products made out of these materials has the potential to boast the value of recycled materials and help our recycling economies continue to succeed.

NC state government has continued to make progress toward environmental sustainability by offering recycled content and environmentally preferable products at affordable prices on state contract. Currently, over 25 products are available on term contract that exhibit some sort of environmentally preferable attribute, including recycled content, reduced packaging, and energy efficiency. Some recent additions include green cleaners and two convenience contracts for recycling electronics and fluorescent lights. State agencies and other entities that can buy from state term contracts (such as local governments) have an array of high quality, cost-effective recycled products available on term contract for purchase. The list of products can be seen at **www.doa.state.nc.us/PandC/recycled.htm**.

This document summarizes the efforts of state agencies to purchase recycled products. It fulfills the reporting mandate of N.C. General Statute 143-58.2(f) for fiscal year 2008. This year there was a slight decrease in reporting agencies, the majority of which were local school entities. All reporting was conducted online, saving paper and postage.

Figure 1. 2008 Reporting Summary	
Departments	21
UNC Institutions	12
Community Colleges	42
Local Public School Units	66
Total (220)	141
Percent Reporting	**64%**

Figure 2. Department of Corrections % recycled content and expenditures	
Office Paper	76% RC
Tissue and Towel	95% RC
Miscellanous Paper	80% RC
Total Paper	83% RC
NonPaper Expenditures recycled content products	$41.7 million
Toner	$11 million
Trash/Recyling Cans	$140,000
Carpet	$5.6 million
Plastic Lumber	$25 million
Office Supplies	$70.1 million
Plumber	$24.6 million
Recapped Tires	$2.7 million

Fluctuations in data have stabilized somewhat, with small variations annually. As was true last year, numbers were greatly skewed due to the considerable purchasing activities of the Department of Corrections. DOC is responsible for buying large quantities of products. When its data is removed from the equation, comparisons varied relatively predictably, with some decreases, most likely due to spending constrictions and a decreased budget. For the purpose of drawing comparisons between the other agencies, DOC commodity data was extrapolated and is highlighted in Figure 2, revealing a remarkable increase in recycled content paper purchases. DOC's total recycled content purchases increased 39 percent from last year, mostly in the category of paper. Data from a few nonpaper categories, such as rerefined motor oil, office supplies, and recapped tires, were not included this year. DOC expenditures made up 79 percent of all nonpaper products and 95 percent of all paper purchases reported.

[1] Full text of No. 156 is available online at www.p2pays.org/epp/reports.asp.

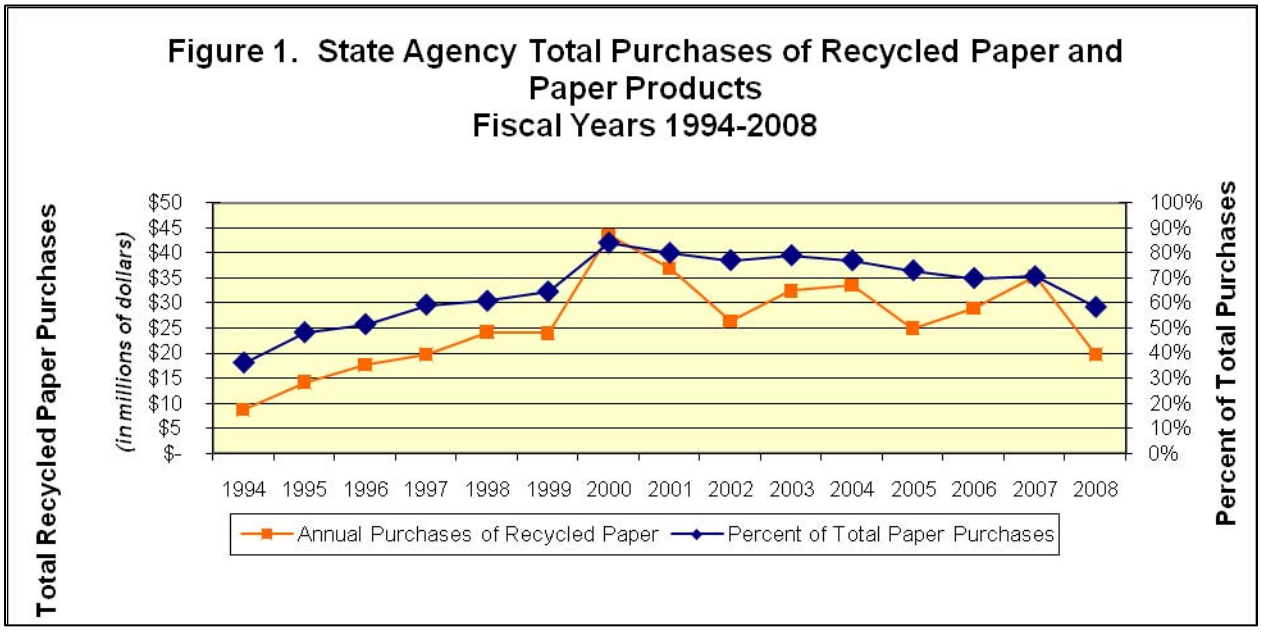
Purchases of Recycled Products

Paper and Paper Products. This is the seventh year in which agencies failed to meet the goal set forth by Executive Order 156; that, as of FY 2000-01, 100 percent of the total dollar value of expenditures for paper and paper products be toward purchases of paper and paper products with recycled content.

The percentage of recycled content paper purchases reached an all-time high of 84 percent in 2000, and has since fluctuated in the 70s. **This year, agencies achieved an 82 percent for recycled content paper purchases, achieving a new level of success.** Still, virgin paper continues to be available on state contract at a lower price, which is a notable obstacle in reaching statewide goals. Seeking more vendors of recycled content paper and implementing waste reduction techniques, such as double-sided printing and reusing one-sided pages, could help neutralize this cost.

Below, **Chart 1** illustrates the trend in overall dollar amounts and percentages of recycled paper purchases over the past 15 fiscal years, including this year's decrease in all categories of paper expenditures. Recycled content paper purchases totaled $19.7 million, which represents 58 percent of all paper purchases, a little more than 10 percent less than last year. The data indicates a need to enhance efforts to achieve the 100 percent goal across all agencies, which is incorporated in the ***Recommendations*** section below.

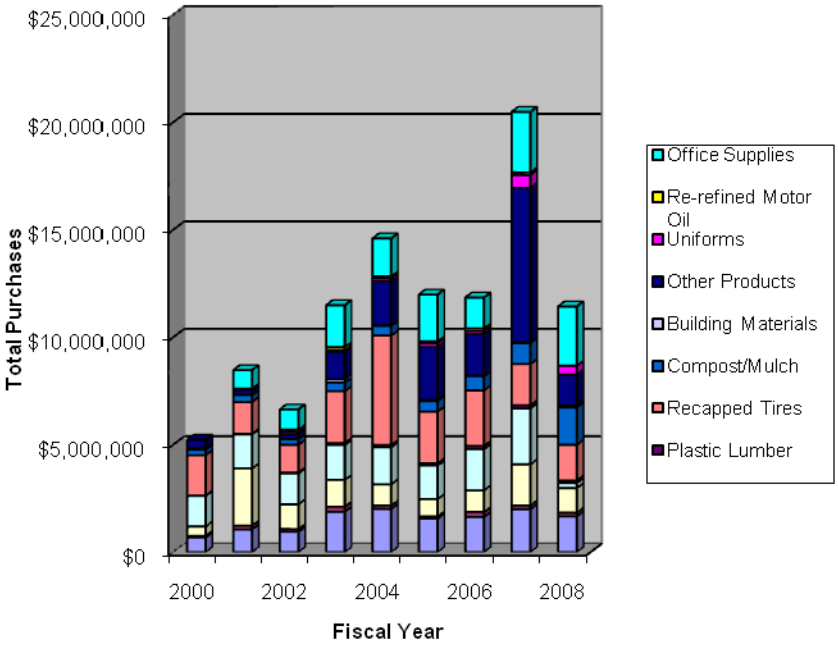
- Half the paper purchases were spent on office paper, achieving a 55% rate for recycled content office paper.
- 17 agencies reached 100% goal for all paper purchases, which has been relatively consistent over the past 10 years.
- More than 1/3 of the agencies achieved a stellar 90% or higher rate of recycled content purchases for paper.
- Only 19% of reporting agencies purchased all office paper with recycled content.
- Half of the agencies purchased all recycled content towel and tissue products, achieving an overall recycled content purchase rate of 83%.
- $10.7 million was spent on outside print orders, decreasing more than 1/4 from last year, 60% of which was recycled content.



Policy and Administrative Support. While agencies are not required to develop an internal policy by the General Statutes or Executive Order, it could be the first step to improving our state's effectiveness in recycled content product purchases. A mere 48 percent report having a buy recycled policy or goal in place, which is consistent with the last four years. Agencies are specifically charged with the responsibility of purchasing recycled content products, as well as designating a lead coordinator, which less than half have reported accomplishing. Agencies are also reporting that fewer administrators are communicating the importance of green purchasing. These are key components to a successful recycled content procurement program, and should be examined as a way to considerably increase participation.

Non-Paper Products. Agencies reported spending $11.4 million on non-paper recycled content products in fiscal year 2008, half of last year's expenditures, following this year's trend of decreased overall spending. Non-paper recycled product spending is expected to increase continually as purchasers become further educated about the products they buy, and as the array of recycled products become more readily available.

Chart 2. State Agency Purchases of Non-Paper Recycled Products
Fiscal Year 2000-2008



Total expenditures of the recycled non-paper products reflect a drop from FY 07's very high figure but are very consistent with previous years, as illustrated in **Chart 2**. The size of the colored categories represent the total dollars of purchases in that category and the height in that fiscal year represents total purchases of non-paper recycled products. Reports revealed minor fluctuations in most categories; exceptions include building materials and 'other'. The "other" category includes furniture, animal bedding, outdoor equipment, and housekeeping supplies. Decreased purchases for construction can be attributed to the state-wide budget crisis.

Other Environmental Purchasing Efforts. Some state agencies have excelled beyond buying recycled, and have begun to tackle more sustainable purchasing issues like environmentally preferable purchasing. Environmentally preferable purchasing, or green purchasing, includes a host of attributes that can be considered to decrease the impact of products on the environment. Carteret Community College just started a sustainability program, which will include environmentally preferable purchasing efforts. Cumberland County Schools purchased its first hybrid car, and intends to budget hybrids for future vehicular purchases. Several agencies have reported procuring energy efficient lighting figures, including florescent bulbs and low-mercury fluorescent tubes.

Other environmentally preferable purchasing successes in state government this year include continued dialogue between some of the DOA Purchase and Contract engineers and DPPEA to revise product specifications where possible. Most notably, agencies are working together to make it easier to identify green products via a change in the commodity codes, which are procurement numbers that represent a product or service.

Conclusion

The purchase of recycled content products is a well-established practice in state government, supported by statutory and executive order requirements, as well as the possibility of using government purchasing power to establish state term contracts that offer high quality, affordable recycled content choices for purchasers. Still, progress must be made to bring agencies to full compliance with the 100 percent recycled content paper goal.

Several key agencies could, with a few significant purchasing decisions, substantially increase the overall performance of state government in recycled paper purchasing. Converting the current $125.3 million in virgin paper purchases to recycled paper will allow North Carolina state government to contribute largely to the strength of recycling markets. As a major player in the collection of paper for recycling, state government stands to benefit directly from improved markets. The use of recycled products will also help North Carolina achieve its environmental goals by reducing natural resource, energy and water usage, and preventing air and water pollution.

The following recommendations may help state government meet goals set forth both in EO 156 and General Statutes, and increase overall recycled content purchases. In regard to previous recommendations, DPPEA worked on reinvigorating NC Project Green via a revitalization of the website and communication with former participants. More particularly, training sessions were conducted for a few purchasing organizations, including department purchasers and local school unit procurement professionals. DPPEA made continual efforts in the Carolina Recycling Association's Collegiate Conference and other meetings, where higher education schools met to discuss recycling, purchasing, and sustainability efforts.

Recommendations

I. **Because of the consistency of agency performance in the last 10 years and the alternative possible use of staff resources to conduct active environmentally preferable purchasing technical assistance, the statutory reporting requirement for recycled content purchasing should be rescinded.** As discussed in the introduction of this report, continued goals for purchasing recycled content and other green products is important to our local economy and the success of our recycling businesses. Unfortunately, reporting on this data is very difficult because these products do not have special commodity codes identifying that they are 'green' products. DOA's Purchase and Contracts Division has the best access to what agencies are buying on state contract, and they report that data each year to be included in this State Solid Waste Management Annual Report. That continued effort will help the state keep a handle on recycled content purchases, while DPPEA maintains outreach and education efforts and assists DOA with populating state contracts with more green products.

II. **NC Procurement Professionals should communicate their interest in procuring green products to DOA's Purchase and Contracts Division.** Educational sessions reveal that government-purchasing professionals are interested in increased green product choices available on contract. While some university purchasing offices have management support and are interested in developing specifications and policies, most can not dedicate time to designing internal green policies or searching for environmentally preferable purchasing contract language and would be interested in utilizing pre-negotiated state contracts. They also need assistance justifying price differentials for more durable and healthier products.
    - Evaluate products in terms of broad environmental impacts including: durability, energy efficiency, performance, recycled content and recyclability, toxicity, biodegradability, local manufacturers, and packaging.
    - Engage P&C regarding products and contractual services that take into account environmental impacts.

Agencies that Purchased 100 Percent Recycled Paper in FY 08

Alexander County Schools
Asheboro City Schools
Auditor, Office of State
Central Carolina Community College
Currituck County Board of Education
Davidson County Schools
Fayetteville Tech Community College
Madison County Schools
NC School of the Arts
Pamlico County Schools
Perquimans County Schools
Randolph Community College
Stokes County Schools
Surry Community College
UNC Greensboro
Wilson Community College
Yadkin County Schools

Agencies that Failed to Report Data for FY 08

Alamance Community College
Alleghany County Board of Education
Avery County Schools
Beaufort County Schools
Bertie County Schools
Bladen Community College
Cabarrus County Schools
Caldwell County Schools
Carteret County Schools
Catawba County Schools
Cherokee County Schools
Clay County Board of Education
Clinton City Schools
Coastal Carolina Community College
Columbus County Schools
Craven County Schools
Dare County Schools
Durham Technical Community College
Edgecombe County Schools
Elkin City Schools
Employment Security Commission
Environment and Natural Resources, Dept. of
Fayetteville State University
Franklin County Schools
Gaston College
General Assembly
Guilford County Schools
Halifax County Schools
Harnett County Schools
Henderson County Public Schools
Hertford County Schools
Hickory Public Schools
Hoke County Board of Education
Hyde County Board of Education
Jackson County Public Schools
Johnston County Schools
Kings Mountain District Schools
Lenoir County Public Schools
Lieutenant Governor's Office
Lincoln County Schools
Mayland Community College
McDowell County Schools
McDowell Technical Community College
Mitchell County Schools
Mooresville Graded School District
NC Real Estate Commission
NC School of Science & Mathematics
NC State University
Office of Information Technology Services
Orange County Schools
Pasquotank County Schools
Pembroke State University
Pender County Schools
Pitt County Schools
Roanoke-Chowan Community College
Robeson Community College
Robeson County Public Schools
Rockingham County Schools
Rowan-Cabbarus Community College
Shelby City Schools
South Piedmont Community College
Southeastern Community College
Stanly Community College
Swain County Schools
Thomasville City Schools
UNC Hospitals
Union County Public Schools
Warren County Schools
Washington County Board of Education
Wayne County Public Schools
Western Piedmont Community College
Whiteville City Schools
Wilkes Community College
Wilkes County Schools
Yancey County Schools

State Agency Source Reduction, Recycling, and Composting Efforts

State agencies are directed to recycle by state law - N.C. General Statute 143 and by Executive Order 156. The Division of Pollution Prevention and Environmental Assistance suspended reporting for a few years, but in 2005 started a new baseline for state recycling trends and participation has increased annually. Sixty-one agencies reported data, which constitutes over sixty percent of the required reporting entities. Universities and community colleges are heavily represented, accounting for 50 reports.

Agency departments pose a difficult challenge in reporting because they often have several regional offices to gather data from, and many work in leased facilities or share buildings with non-state businesses. Departments make up 25 percent of the required reports. More than twice as many state employees work in regional offices across the state than in the Capital area. In FY08, eleven agency departments reported, but 3 of them filed very incomplete reports without any tonnages or cost data. The Department of Transportation filed a complete report, and a complete summary of its solid waste and recycling program is included in this State Solid Waste Management Annual Report.

The majority of agency offices located in the Raleigh-area are included under one contract for recycling and solid waste collection, managed by the Department of Administration's Facilities Management Division. Facilities Management gathers data from the collection companies and completes this report for agencies in the capital region.

Recycling Performance. In fiscal year 2008, state agencies collectively diverted 1,269,951 tons from disposal in landfills and incinerators. Respondents reported recycling 14,205 tons of paper, 4,351 tons of metals, 71 tons of glass, 96 tons of plastic, 26,219 of commingled containers, 22,212 tons of organics, and 1,202,525 tons of 'other' materials. The 'other' category consists of materials such as lead-acid batteries, textiles/fabrics, motor oil, tires, and asphalt. The commingled containers category was added last year because expanding markets across the state are able to handle mixed materials. This development is a great improvement, as simple programs have the highest participation rate.

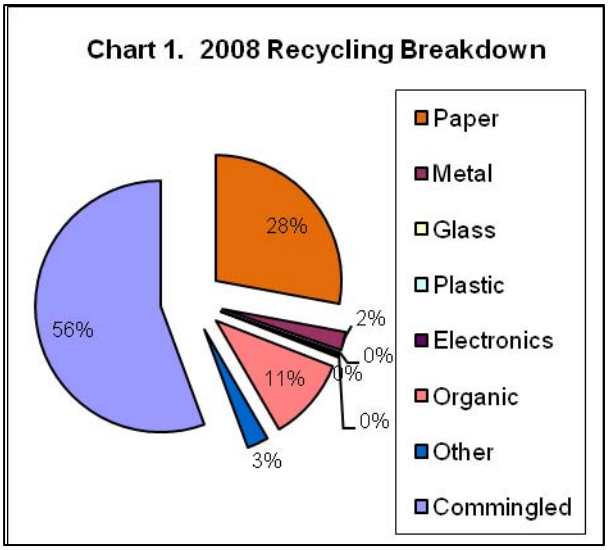


Figure 1 demonstrates this data, excluding the Department of Transportation's data. In order to draw some conclusions and demonstrate a few comparisons in this year's report, DOT's data is not included in the charts and overall recycling rate for the state. If included, DOT recycling tonnages would amount to 96 percent of all recycling data reported. DOT's data and activities are reported in a separate section in this State Solid Waste Annual Report which demonstrates a remarkable 97 percent recycling rate.

Figure 1. Recycling Tonnages for the Department of Transportation

Material	Tons
Paper	13,160
Metal	1,122
Glass	58
Plastic	81
Commingled	26,219
Electronics	150
Organics	5,049
Other	1,295
Total Tons Recycled	47,133
Recycling Rate	52%

Based on FY 2008 data, the agency recycling rate for all wastes managed during the year was 52 percent. This is a 9 percent increase from the 2007 report. Paper, metal, and tonnages fell while glass, plastic, organics, and 'other' tonnages increased. Commingled tonnages increased significantly while electronics tonnages decreased to a small fraction of last year's reporting data. Electronics recycling tonnages were probably high last year because some agencies were storing surplus equipment, not sure what to do with it. Last year, a convenience contract was initiated and agencies were educated about recycling options for electronics.

This data is extremely variable, and drawing comparisons is difficult because reporting behaviors are not consistent year to year. Eight more agencies reported this year, and the data represented comes from varying agencies each year, so reporting is inconsistent. Also, eight agencies reported recycling tonnages but did not include solid waste tonnages.

Data was collected for electronics recycling for the fourth year in a row. Encouragingly, the majority of agencies has a process in place to manage excess electronics, and in FY 2008 collected 273 tons of electronics. This does not include data from DOA or the State Surplus Office. Most agencies report using the statewide electronics-recycling contract (www.doa.state.nc.us/PandC/926a.htm) to compliment recycling through state surplus. A handful of agencies reported working with other vendors, all of which are listed in our online directory at www.p2pays.org/dmrm. A few claim to work in conjunction with their local government to dispose of electronics and one or two donated to local schools. Agencies and local governments are becoming keenly aware of the need to recycle electronic materials, bearing in mind their contribution of hazardous substances to landfills and the opportunity to reclaim valuable resources from electronic products.

Solid Waste and Program Costs. State agencies (including DOT) landfilled approximately 85,056 tons of solid waste in FY 2008, at a cost of about $12.2 million in collection and disposal fees. The average estimated cost was of $240 per ton. This falls short of the 134,599 tons reported in 1999 costing $11.75 million, and represents an 18 percent decrease from last year. Some of the large waste producers did not report this year, and some agencies, such as Central Piedmont Community College, experienced a substantial decrease in solid waste tonnages. The overall disposal costs went up by over $4.6 million dollars from last year, and the cost per ton increased by about $75. This number is extremely fickle depending on how complete and accurate the agency reports are.

Calculating the total cost of solid waste and recycling programs is difficult, and respondents may need training to review this computation. Additional calculations have been included to more accurately compute the expense of recycling programs. In order to determine the true cost or cost avoided, agencies must submit complete reports. The reliability of this data also depends on how in-depth the reporting agencies examine their program fees.

Agencies are asked to report the cost avoided through recycling, calculated by multiplying the recycling tonnage by the cost per ton of solid waste. While most appeared to do this from the data, some agencies reported tremendous differences in their cost avoided through recycling. Those discrepancies were either miscalculations or took into consideration other costs of the program that were not supplied in the report. From the data agencies reported, the total cost avoided is estimated over $51 million, an astounding increase from last year.

While nearly half of the reports claim some revenues for the sale of recyclables, amounting to almost $1.5 million, the majority still experienced net program costs totally nearly $3.5 million. Program costs include collection, processing, and outreach and education. **The result is an average cost of almost $3 per ton of recyclables, a small fraction of the cost for solid waste disposal**, which exemplifies the savings in recycling. It should be noted that 18 agencies did not include recycling program costs although they did report recycling tonnages. Recycling programs should not have the expectation of zero cost, but can expect that there will be an overall savings by avoiding the higher disposal fees of solid waste. As with most new programs and efforts, there is an upfront cost for containers and initial education, and minimal costs to continue marketing the program.

With the economic downturn, recycling commodity prices also declined dramatically starting in October 2008. Some programs may not continue to receive revenues for the sale of their materials, and some may experience increased recycling collection costs in 2009. State agencies can assist our local markets by continuing to improve recycling programs and through an increased effort in buying recycled content products. Some of those state efforts are included in this report as well.

Administrative Support and Source Reduction. A clear majority of agencies report that they receive top-down administrative support for recycling efforts, and over half have a lead coordinator for waste

reduction and recycling program. Forty-six percent have a waste reduction program, and an equal portion have ongoing educational programs for waste reduction and recycling. Most agencies that routinely host the public at their facilities, such as state parks, highway rest areas, museums, and sports venues, provide recycling opportunities for visitors. Some agencies detailed that limited training is provided but could be improved if upper tier administrative support is gained. Information was generally communicated and distributed via:

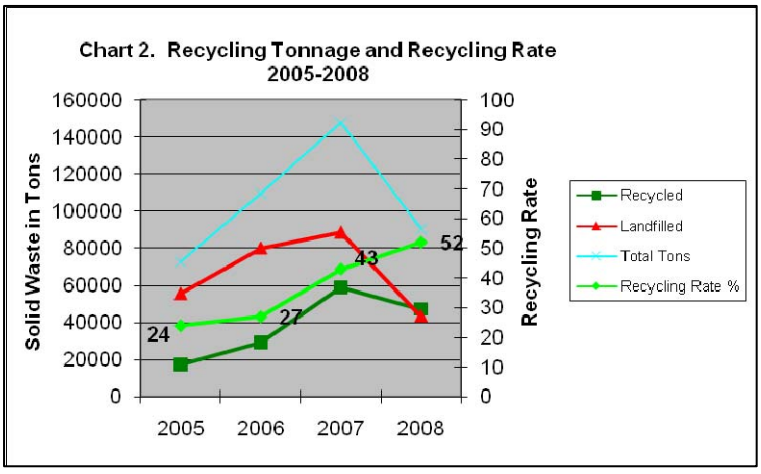
- ✓ Employee email, newspaper, radio, word of mouth and one-on-one education at campus events where promotional items are distributed.
- ✓ Website, brochures, student groups, volunteers and volunteer activities.
- ✓ Presentations at training sessions and managers meetings, as well as annual reports.
- ✓ Recycling policies and procedures listed in materials such as Employee Manuals, printed on campus phone directories, given to residence hall staff, and posted online.
- ✓ Posters and signs in break rooms, recycling centers, hallways, and restrooms.

Ninety-two percent of state agencies practice waste reduction at the source, including reducing office paper by eliminating unnecessary reports and forms or converted to electronic format, making fewer copies, double sided printing, using email and voice mail to communicate, and posting announcements on bulletin boards or in break areas. Agencies estimate a reduction in paper usage in fiscal year 2008. A quarter of agencies conducted solid waste assessments of the amount and types of solid waste at its facilities. Some use this reporting process to reevaluate their program. Other agencies conduct site visits, collect landfill invoices, or audit on-site trash dumpsters. The results help in finding the best place to put recycling containers, deciphering which materials are most feasible to recycle, and identifying where waste reduction techniques would be most efficient.

Conclusion

While the revitalization of the recycling report has shown a great percentage of agencies continuing their waste reduction and recycling efforts that were established several years ago, there are still challenges. Some agencies, including community colleges and a few universities, are struggling to recycle basic material like cardboard and aluminum cans. Sometimes this is a market issue. More often, it is a perceived barrier due to lack of education and funding, which stems from insufficient support internally.

Inconsistencies and inaccurate reports are still a problem, making finite conclusions complicated. For instance, a variable set of agencies report each year and there is missing data in many reports. In addition, many departments neglect to report for their regional offices. This year the integrity of the data improved with updates to the report form.



Some of the variability in statistics can be attributed to the inability of agencies to accurately track tonnages. Solid waste and recycling weights are still estimated because collection companies have not integrated onboard truck scales. Exact weights can only be obtained if collection is completed at one facility and the truck is brought across scales to obtain an exact weight, which rarely occurs for some agencies that collect their own materials. For these reasons, figures reported likely underestimate the true quantities and costs of waste being disposed. Incomplete tracking and estimation may also contribute to fluctuations in reported recycling over time.

The unreliability of the data prevents the natural and hopeful conclusion that increased recycling tonnages would cause a decrease in solid waste being disposed of in the state's landfills. Excluding DOT's data, this year's recycling tonnage actually decreased by 20 percent from last year. Concurrently,

the solid waste tonnages reported also decreased – by 50 percent! **Therefore, this year's recycling rate is 52 percent, a 9 percent improvement from 2007.** This estimates that agencies are recycling nearly half of their solid waste, and reports indicate they may have achieved some waste reduction through their efforts. Improved awareness of agency solid waste streams and more accurate data collection will make a more reliable comparison possible.

It is encouraging that some agencies have pulled forward as leaders in waste reduction and recycling efforts. Many universities provide reuse programs including large-scale collection and redistribution of clothing, furniture, household supplies, and even electronic products. A few universities have conducted sustainability audits over the last year or two, which include energy and water tracking mechanisms as well as waste audits of the campus. With the re-establishment of the recycling report, some community colleges and universities reached out for assistance to restart or revitalize their program.

DPPEA has outreach and education campaigns available to all universities and community colleges to help promote recycling programs. In FY 2008, many schools took advantage of the RE3 campaign, utilizing posters and commercials on campus. At annual outreach events from job festivals to Earth Day celebrations, campus coordinators gave out promotional materials to encourage students to visit www.re3.org to learn more about recycling. DPPEA developed new materials to continue promoting the program, including online resources such as a web-blog, new commercials, and more promotional materials, which were all well received and enhanced the efforts of RE3.

Recommendations

Upon review and consideration of the data contained in this report, DPPEA submits the following recommendations to improve the solid waste reduction and recycling efforts of North Carolina state agencies.

I. Use the Source Reduction and Recycling Report Data to Assist Programs Statewide. Tracking the amounts of solid waste disposed annually by state agencies is the best way to determine whether efforts to reduce waste, including recycling programs, are affecting the waste stream. This information, along with data on the costs for collection and disposal, can be used to evaluate the cost efficacy of agencies' waste management strategies, as well as the costs avoided through waste reduction and recycling. To maximize data recovery and assessment, it is recommended that agencies:
   - Conduct waste assessments at their constituent facilities, offices, and institutions.
   - Require full accounting for all costs associated with solid waste collection and disposal services.

II. Develop a means to effectively communicate about recycling programs. Programs are ineffective if they are not visible and not explained to employees. This may be as simple as quarterly email reminders of what is accepted at the various bins in your facility, and where the bins are located (i.e. by the copy machine, in the staff lounge, in the lobby, etc.). Depending on the work environment, such efforts may include a full-fledged outreach and education program. Agencies should make use of materials available for promotional initiatives from DPPEA, including posters, stickers, and other advertising tools through the RE3 program at www.re3.org.

III. Agencies should join NC Project Green (www.ncprojectgreen.com), which is a reinvigorated effort focusing on sustainability in government. The audience for the project is state agencies and local governments. Universities and community colleges should consider joining Project Green, as well as the Carolina Recycling Association's Collegiate Recycling Coalition (www.cra-recycle.org/CRC). From these two programs, participants will be educated about recycling markets and how to set up a successful recycling program. Respondents may need training to review how to calculate some of this report data, and these programs can help, along with some direct training from DPPEA.