

**North Carolina**

**Solid Waste Management**

**Annual Report**

**July 1, 2005 – June 30, 2006**



**State of North Carolina**  
**Michael F. Easley, Governor**

**Department of Environment and Natural Resources**  
**William G. Ross Jr., Secretary**

*Division of Waste Management*  
*Dexter Matthews, Director*

*Division of Pollution Prevention and Environmental Assistance*  
*Gary Hunt, Director*

*Solid Waste Section*  
*Paul Crissman, Chief*

*Community and Business Section*  
*Scott Mouw, Chief*

**Reduce-Reuse-Recycle**

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- Rebecca Sluder, *Facility Data and Planning*
- Ethan Brown, *Facility Data and Planning*
- Garrett Davis, UNC-Institute of Government

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) 807-2425  
<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>

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## CHAPTER 1 – Solid Waste Management

### Executive Summary

*The state per capita disposal rate is 1.36 tons per person per year, a 5 percent increase beyond last fiscal year and an increase of 27 percent from the FY 91-92 base year. North Carolina communities disposed of 11,765,183 tons of waste in North Carolina and out-of-state facilities. This represents an increase of 705,021 tons over the previous fiscal year. North Carolina-permitted solid waste management landfills received a total of 10,668,856 tons of solid waste during FY 2005-2006. Approximately 137,000 tons originated from other states, an increase of over 18,000 tons from FY 2004-2005. South Carolina and Virginia were the sources for all imported waste. North Carolina continues to export more waste than it imports. Over 1,234,000 tons of waste were exported in FY 2005-2006 compared to 137,980 tons imported into the state. During the 2005-2006 Fiscal Year, an increase of 72,381 tons of additional waste were exported from North Carolina to Georgia, South Carolina, Virginia, and Tennessee. There are four proposed landfills to be located in Eastern North Carolina that plan to import waste from out of state. The forecast for waste disposal requirements 10 years into the future indicates a need for disposal capacity to handle approximately 14 million tons of waste annually. Disposal rates of construction and demolition waste over the last five years are increasing at rates which are three times the disposal rates of municipal solid waste.*

### Waste Disposal

#### Current Year

North Carolina communities disposed of 11,765,183 tons of municipal and construction and demolition waste in North Carolina and out-of-state facilities.

#### 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 year's base per capita rate. **(Formula: Total Tons Disposed ÷ Population = Per Capita Disposal Rate)**. Negative numbers indicate a decrease in the per capita disposal rate; positive numbers an increase. Waste reduction is a change from the base year, not a change from year to year. As seen in the following table, North Carolina continues to increase the absolute amount of waste disposed.

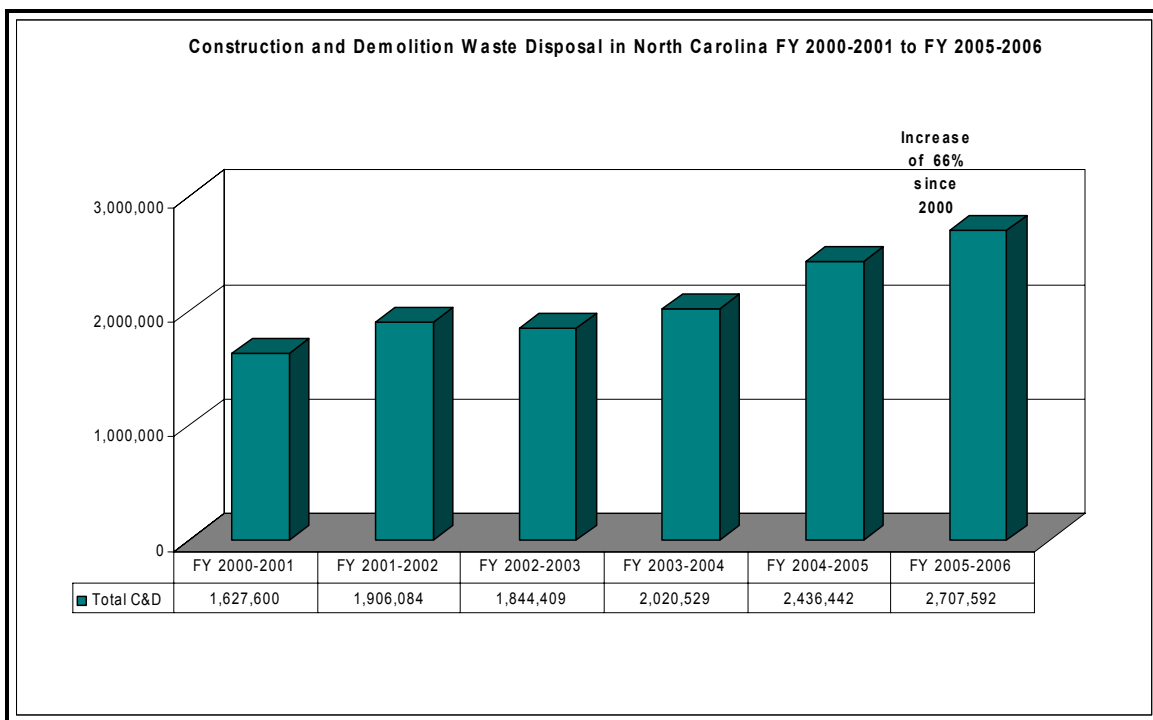
<b>Fiscal Years</b>	<b>Tons Disposed</b>	<b>Population</b>	<b>Per Capita Disposal Rate</b>	<b>Percent Waste Change from Base Year 1991-1992</b>
<b>2005-2006</b>	<b>11,765,183</b>	<b>8,682,066</b>	<b>1.36</b>	<b>27%</b>
2004-2005	11,029,485	8,541,263	1.29	21 %
2003-2004	10,713,444	8,418,090	1.27	19 %
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	1.00	-7 %
1992-1993	6,890,818	6,892,673	1.00	-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. The disposal fee, commonly called a tipping fee, lessened waste disposal for a period of time 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 \$35 per ton. Despite the increase in price, tipping fees in North Carolina remain some of the lowest in the United States.

Waste disposal is a free-market industry involving competition, which helps to keep disposal costs for consumers low. From 1991 to 2006, the face of waste disposal drastically changed as more stringent state regulations required construction of more costly state-of-the-art lined landfills. 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 32 in June 2006. In the same 15-year time period, private landfills increased from 5 to the current number of 8 privately owned landfills. Of the 11 largest municipal solid waste landfills only 3 - Wake County, Hanes Mill Road (city of Winston-Salem) and New Hanover County - are owned by local governments.

#### Construction and Demolition Waste

As development continues, roads, new buildings and homes are constructed, and the demolition of old buildings and factories takes place, North Carolina will see a continual increase in construction and demolition waste disposal. The occurrence of a natural disaster such as a hurricane or flood could augment the growth of construction and demolition disposal even further. North Carolina’s construction and demolition landfills have seen a significant increase in disposal over the past five years. The previous FY 2005-2006 disposal of construction and demolition waste in North Carolina landfills totaled 2,707,592 tons. This number represents a 66 percent increase above the Fiscal Year 2000-2001 amount of 1,627,600. Increases last year were in part due to demolition of the old Pillowtex Plant in Cabarrus county and large amounts of construction and demolition activities at the Fort Bragg Army base in Cumberland County. Municipal solid waste disposal in North Carolina saw an increase of only 18 percent over the same period.



### Imports and Exports

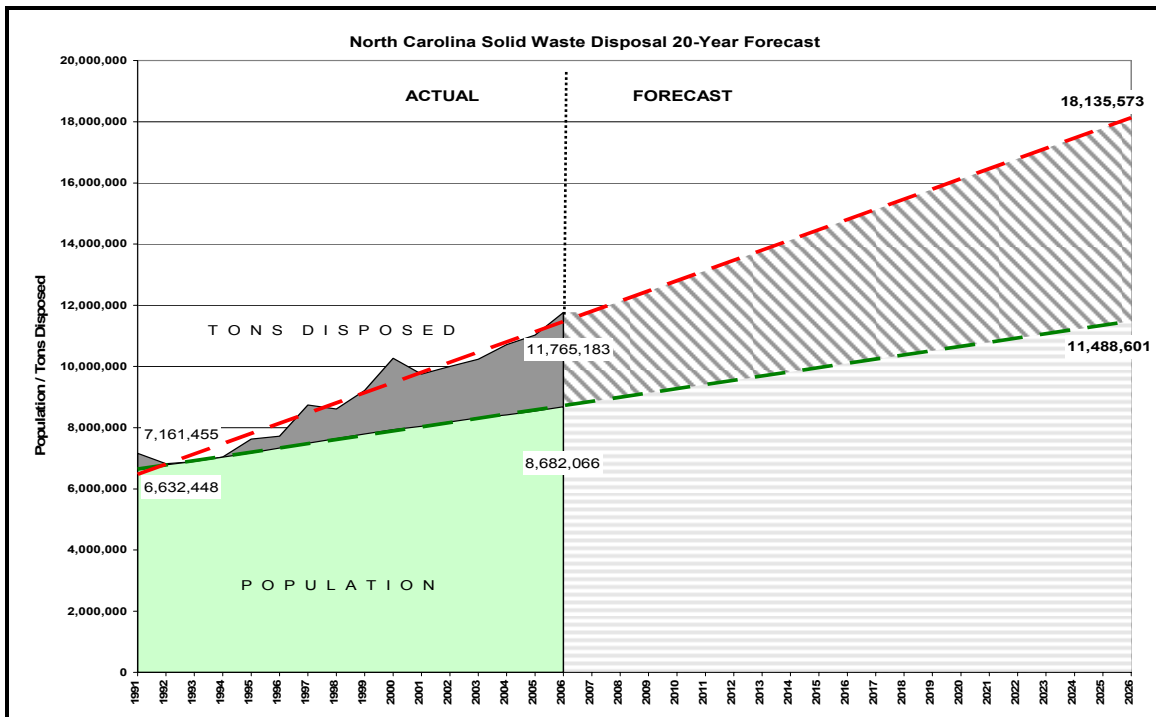
North Carolina continues to export more waste than it imports. Exported waste accounts for approximately 10 percent or a total of 1,234,307 tons of the total waste disposed in the past fiscal year 2005-2006.

In Fiscal Year 95-96, North Carolina exported waste to only one South Carolina landfill. During Fiscal Year 2005-2006, 47 North Carolina counties exported at least some waste to 12 out-of-state landfills and two transfer stations. Back and forth movement - where waste leaves the state only to re-enter for disposal - has continued for the fourth consecutive year. The Fort Mill Transfer Station in South Carolina received approximately 105,200 tons of waste from Mecklenburg County, which was then sent back into North Carolina for disposal. For this reason, the amount 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. In FY 95-96, only one landfill, located in Forsyth County, received imported waste. Currently, nine North Carolina landfills receive imported waste. The state has recently received several permit applications for sites that would primarily receive out-of-state waste.

### Projections

Regression analysis helps forecast future waste disposal. Factoring in absolute population growth, North Carolina will dispose of approximately 14.5 million tons in 10 years and 16 million tons in 15 years. The 20-year forecast projects 18,135,573 tons of waste disposed for a population of 11,488,601. This means 1.58 tons of waste for every citizen in North Carolina. The obvious implication of this trend is that demand for landfill space will increase with time as populations grow, less waste is diverted and imports become a larger portion of waste disposed in North Carolina landfills.



### 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 27 percent - from 1.07 to 1.36 tons per person per year. The statewide goal is unmet and the state per capita rate continues to increase, although several counties achieved the state's waste reduction goal.

Three fundamental, interrelated reasons that contributed to this failure are 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 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 readily adapted to higher tip fees and did not pursue waste reduction as a way to control costs. The combination of strong state and national economies of the early 1990s, moderate disposal costs and 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.

## Landfill Capacity

### Current Status

North Carolina currently has 40 operational municipal solid waste landfills and one municipal solid waste incinerator. The total remaining capacity of all North Carolina MSW landfills measures approximately 261 million cubic yards with room for approximately 157 million tons of MSW waste. The estimate was obtained using the state's average utilization factor of .60 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 7,910,640/tons annually, the state would have 19.8 years of landfill capacity remaining.

### Imports and Proposed Facilities

Imports continue to increase. This increase negatively affects the state's future capacity. New facilities designed to import waste will make a negligible impact on increasing the state's capacity for disposal of North Carolina waste.

### 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 shrinks this capacity number further. 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 maximum distance that large quantities of waste travels is less than 100 miles one-way. Minor exceptions exist, but an examination of service areas supports this fact. Other 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 600 tons per day. Many landfills' franchise agreements only allow them to accept waste from a particular distance around the landfill. Some landfills 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 Activities

The Solid Waste Section, with limited staffing, is facing additional responsibilities due to the increasing complexity of current and new applications, increase in compliance activities, additional mandates to permit and inspect different facility types, and budget reductions that have occurred over the past several years.

### Current Facilities

There are 1,582 permitted solid waste facilities in North Carolina. This includes open and closed facilities, whether they are permitted or notified.

### Changes to Solid Waste Regulations

On Jan. 1, 2007, construction and demolition landfill rules became effective. Prior to these rules, construction and demolition debris was managed in sanitary landfills under Rules 2A NCAC 13B .0501 through .0505. The new rules, 13B .0531 through .0547, are a greatly improved outline of all necessary steps to perform pre-engineering and hydrogeological site studies, to compile and submit applications for permits, to construct and to operate this type of landfill in North Carolina. The rules for sanitary landfills will in the future only be used to permit and construct landfills for industrial waste.

### Compliance Activities

It is the goal of the Compliance Branch within the Solid Waste Section to conduct inspections on all facilities once or twice a year, depending on the type of facility. Facilities scheduled for one inspection a year are tire monofills, composting facilities and land clearing and inert debris landfill sites. Land clearing notified sites and pre-regulatory demolition sites are currently receiving no inspection at all. All other facilities should receive two inspections per year. Field inspections are currently only at 78 percent or 919 out of 1,181 inspection goal under current protocol. This shortfall is a result of a limited staff of field inspectors and hydrogeologists, as well as an increase in staff time spent on activities other than inspections. The compliance branch currently employs 12 field staff and two hydrogeologists who cover the entire state. Field staff spend a large portion of time focusing on complaints of illegal dumps and enforcement activities, handling emergency/disaster cleanup response, collection of local government solid waste plans and reports, and conducting certifications for recycling. As more facilities are permitted, compliance requirements change, disasters and illegal dumping continues, and local governments continue to report that current resources will be spread even further.

Facility Type	Number of Facilities	Minimum Inspections per Year	Total Inspections Needed
Municipal Solid Waste landfills (MSWLF)	177	2	354
Construction and Demolition landfills (CDLF)	86	2	172
Industrial landfills (INDUS)	37	2	74
Treatment and Processing facilities (TP)	28	2	56
Mixed Waste Processors (MWP)	19	2	38
Household Hazardous Waste facilities (HHW)	15	2	30
Incinerators (INCIN)	8	2	16
Tire Monofill landfills (TIRELF)	4	2	8
Tire collection /processing facilities (TIRETP)	11	1	11
Medical Waste facilities	5	2	10
Composting facilities (COMP)	52	1	52
Transfer facilities (TRANS)	104	2	208
Land Clearing and Inert Debris Landfills (LCID)	152	1	152
Land Clearing and Inert Debris Notified sites	731	0	0
Pre-Regulatory Demolition landfills (DEMO)	158	0	0
<b>Total</b>	<b>1587</b>		<b>1181</b>



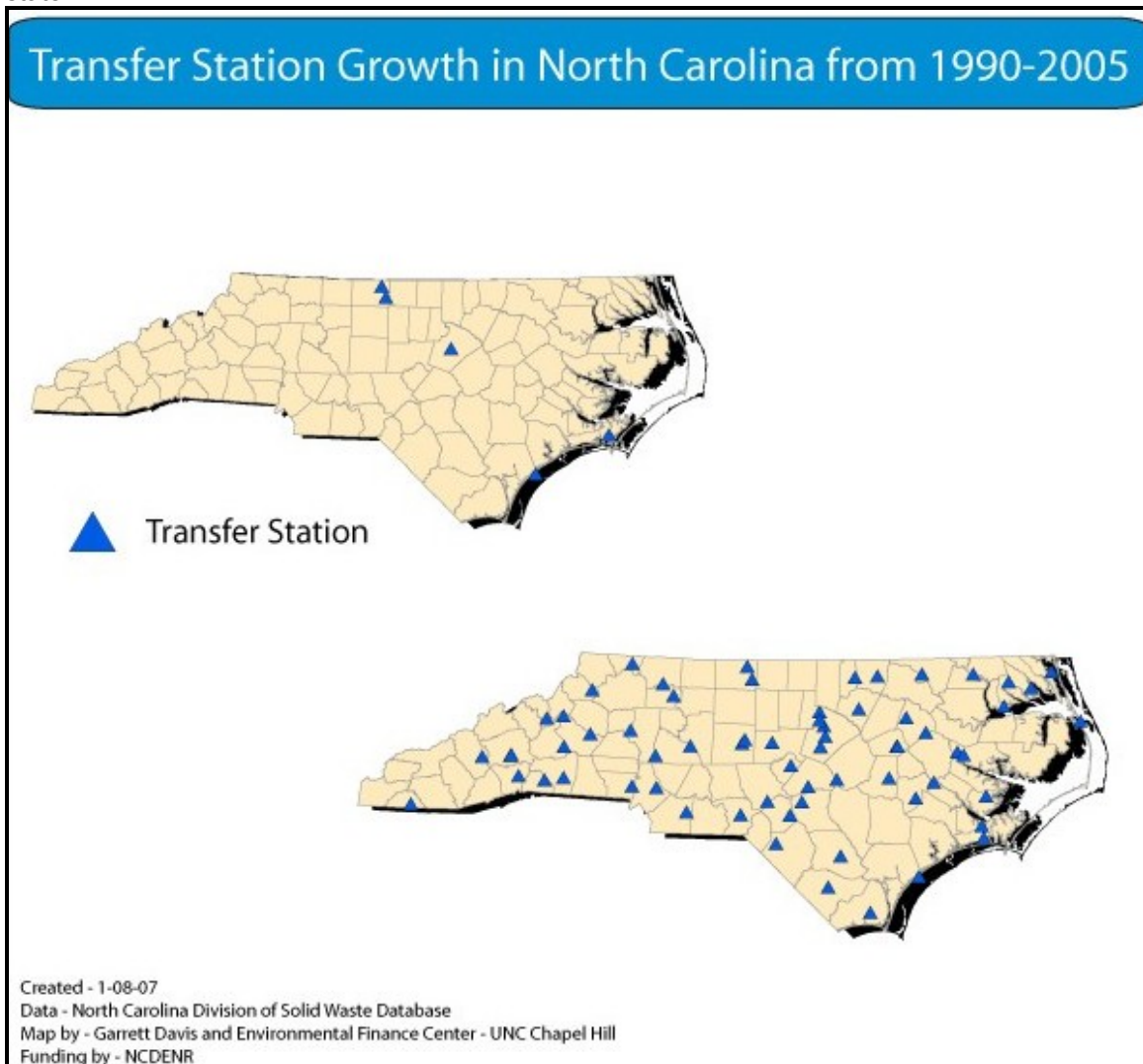
### Medical Waste

Two new products have been approved for the treatment of medical waste and for pathological waste in particular. Previously, the only option available for the treatment of pathological waste in North Carolina was incineration. One new product manufactured by Sanitec uses shredding and microwave radiation. The second product is manufactured by Ozonator of Canada and uses shredding and ozone as a sterilizing agent. These two products offer more options for generators of medical waste.

### Trends and Upcoming Issues

#### **Transfer Stations**

Since the 1990s, waste management and disposal in North Carolina has changed to a more regionally managed system of disposal. Waste is no longer primarily sent to the county-owned landfill but often to a transfer station in the county or many counties away. From the transfer station, the waste is then sent for disposal in a "regional landfill." The change in the management of waste evolved from stricter and more costly requirements for municipal solid waste landfills. In 1998, all unlined municipal solid waste landfills were required to close and all new landfills were required to be constructed with liners. Additional costs associated with liner construction encouraged this growth of regional landfills and transfer stations. Many counties did not find it economically beneficial to own and operate their own landfill, but chose to transfer their waste elsewhere. Growth in regional management of waste spurred application for the permitting of transfer stations across the state. In 1990, North Carolina had only five permitted transfer stations across the state.



Transfer station growth was relatively constant up until 1998. The largest growth in transfer station permitting occurred between 1998 and 1999 when the requirement for liners took effect. During this

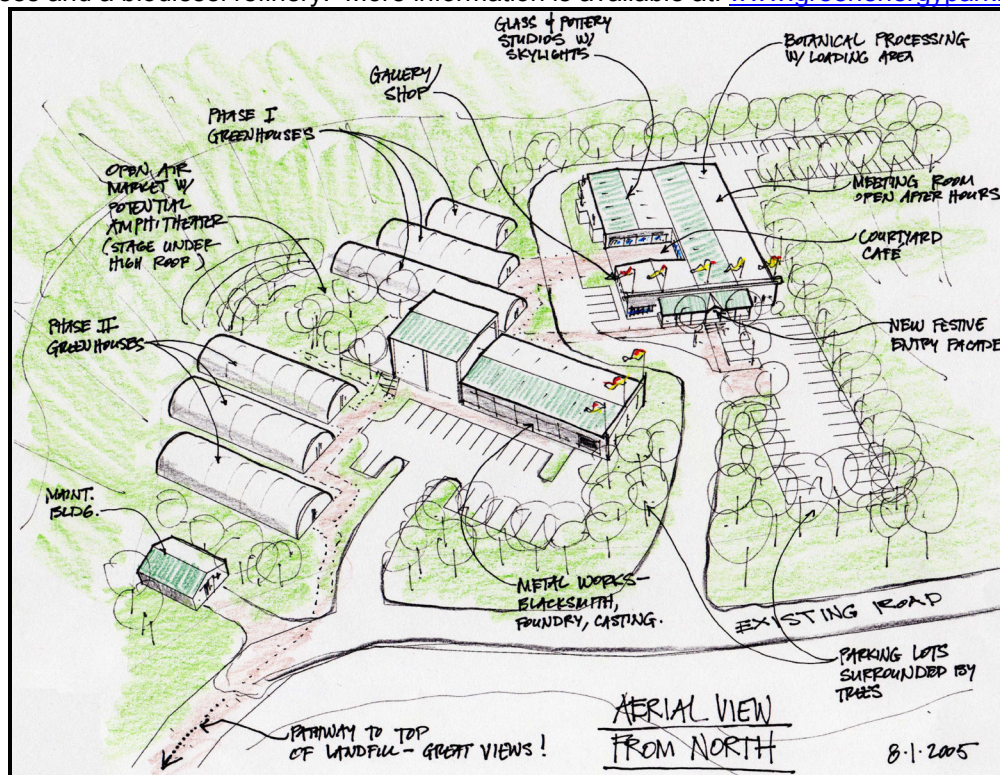
period, the number of transfer stations in North Carolina grew to a total of 72 facilities. Currently, there are 85 transfer stations permitted to receive waste within the state. In addition to the transfer of municipal solid waste, a market has developed for the transfer of construction and demolition waste. In some instances, part of the construction and demolition waste sent to a transfer station is diverted for reuse and taken to places such as Habitat for Humanity. As regional management of waste continues, we should continue to notice transfer stations for both construction and demolition and municipal solid waste increasing throughout the state.

### Landfill Gas

North Carolina has many closed and active landfills, which are producing landfill gas. This gas can be a potential danger to the environment and public health if not managed properly. Methane ( $\text{CH}_4$ ), the primary constituent of landfill gas, is over 20 times more effective in trapping heat in our atmosphere than carbon dioxide ( $\text{CO}_2$ ).  $\text{CH}_4$  remains in the atmosphere for up to 15 years, trapping in heat.  $\text{CH}_4$  is also a primary constituent of natural gas and is an important energy source.

North Carolina's Solid Waste Section is taking an active role working with counties, local public organizations and private organizations in conjunction with EPA's Landfill Methane Outreach Program in developing various programs making use of the  $\text{CH}_4$  component of the landfill gas. The programs include the generation of electric power, production of alternate fuels, operation of ceramic craft and glass-blowing studios, blacksmithing and metal working, green house operations for nursery stock, fish farming, kiln drying of lumber, apple storage and processing, heating of governmental buildings, and the provision of low cost energy to our industries, fire-training facilities and business incubators. In addition to protecting our environment and the public health, the energy derived from landfill gas is lowering our demand for the use of fossil fuels and is reducing the dependency on foreign energy sources.

An example of a highly successful methane recovery project is the Jackson County Green Energy Park, which was named EPA's Project of the Year for 2006. This project recovered gas from the closed Dillsboro landfill. The park includes pottery and glass-blowing studios, blacksmithing for horses, greenhouses and a biodiesel refinery. More information is available at: [www.greenenergypark.org](http://www.greenenergypark.org).



Jackson County Green Energy Park

## Recommendations

On July 27, 2006 the North Carolina General Assembly passed Senate Bill 353. Senate Bill 353 imposed a moratorium on new landfills, directed the Environmental Review Commission to study issues related to solid waste disposal and created a Joint Select Committee on Environmental Justice.

The Environmental Review Commission, with the assistance of the Division of Waste Management, was by this bill directed to study issues related to solid waste. According to the text of the bill the study was to include:

- “(1) Financial responsibility requirements for solid waste landfills, including the application of requirements to limited liability companies and other business entity structures of applicants seeking solid waste landfill permits.
- (2) Application of franchise requirements and local government approval for solid waste landfill permits, including adequacy of public notice and comment, community studies, and site designations prior to local government approval.
- (3) Siting, design, and operational requirements for landfills for the disposal of construction or demolition waste, municipal solid waste, or industrial solid waste that are proposed in areas susceptible to flooding from natural disasters, areas with high water tables, and other environmentally sensitive areas.
- (4) Formation of dangerous chemicals and gases in flood-prone landfill environments.
- (5) Traffic considerations for proposed landfills.
- (6) Regulatory oversight and staffing for permitting and compliance of solid waste landfills, and inspection of waste containers on barges, railways, and trucks.
- (7) Compliance with statutory prohibitions on disposal of certain types of solid waste and measures to prevent disposal of hazardous waste in solid waste and construction and demolition landfills.
- (8) Ways to reduce the amount of solid waste disposed of within North Carolina landfills, including statewide tipping fees, bans on the disposal of certain types of waste in landfills, more aggressive recycling requirements, and enhanced regulatory requirements for landfills and other solid waste management facilities.”

The study indicated several areas that needed to be addressed. The recommendations made by the department satisfy these requests.

### **1. Specify how a landfill applicant must demonstrate financial qualifications to construct and operate the landfill.**

*The applicant should provide cost estimates for: performing environmental studies; acquiring the site; designing the landfill; constructing and operating the landfill; and financial assurance required for corrective action and closure of the landfill. To show financial qualification, the applicant should submit an audited, certified, financial statement and identify sufficient assets to cover the estimated costs. Where assets of a parent, subsidiary, affiliate or joint venturer are offered in support of the financial qualifications of the applicant, that party must be listed as an owner/operator on the facility permit.*

### **2. Expand financial assurance requirements.**

*Require that the landfill operator provide financial assurance to cover possible corrective action (in the event of a leak from the landfill, for example). This would be in addition to the financial assurance currently required for the cost of closing the landfill and providing post-closure care. The minimum amount of financial assurance for corrective action should be \$3 million. Financial assurance for corrective action should apply to both new and existing facilities. For new facilities, the financial assurance would be required before permit issuance.*

**3. Strengthen environmental compliance review of potential landfill operators.**

*Expand the scope of the existing environmental compliance review to include any past environmental violation (not just those related to solid waste) and a larger group of people associated with the permit applicant. For example, the environmental compliance review would be broadened to cover a person who holds a minority interest in the entity applying for a landfill permit (except for minority shareholders in publicly traded corporations who do have any involvement in management or control of the corporation.)*

**4. Broaden the definition of “owner or operator.”**

*Include in the definition of “owner or operator” any person who has a financial or equitable interest in the entity that has applied for the landfill permit (except for minority shareholders in publicly traded corporations who do have any involvement in management or control of the corporation.)*

**5. Clarify solid waste enforcement provisions.**

*Amend the statute sections that authorize injunctive relief and civil penalties for solid waste violations to expressly allow the use of those enforcement remedies in response to a violation of a permit issued by the Department or an order issued by the Commission for Health Services. Increase penalties for solid and hazardous waste violations. Authorize the department to recover the costs of investigating a violation.*

**6. Require notice to the department of any significant change in the structure or assets of the business entity that holds a landfill permit.**

*The department should be notified within 30 days of any significant change in the structure of the business entity that owns or operates the landfill facility; the identity of any person or business entity previously identified as an owner or operator of the facility pursuant to G.S. 130A-309.27(a)(1); or in the financial assets identified in the financial qualification of the owner or operator. A change is significant if it could effect the financial qualifications of the permit holder or result in a change in the identity of the owners or operators for purposes of either financial qualification or environmental compliance review. When the department receives notice of a change, it can require a new environmental compliance or financial qualification review.*

**7. Set standards for safe transportation by railway or barge of solid waste.**

*Containers used to transport solid waste should be leak-tested and covered. Records of leak-testing should be retained at the permitted solid waste facility for three years. It would be a violation to allow solid waste, liquids or odors to escape from a container.*

**8. Require a traffic study for larger solid waste facilities.**

*Require that applications for solid waste management facilities proposed to handle more than 100,000 tons of waste per year include a study of the traffic impacts of the facility. The results of the study would be considered in the permit decision.*

**9. Authorize local landfill liaisons.**

*Authorize a local government with planning authority over a sanitary landfill that has a service area of greater than a 100-mile radius to designate a landfill liaison. The liaison would be a certified landfill manager, but would not direct the operation of the landfill. The landfill liaison would have authority to enter the landfill facility at reasonable times and inspect the landfill operation for purposes of: ensuring that the facility meets all local requirements; identifying and notifying the department of potential violations; and identifying and notifying the department of potentially hazardous conditions.*

**10. Require the permittee to employ an independent quality assurance engineer to oversee construction of the landfill.**

*The permittee should employ a licensed engineer who is independent of both the landfill owner and any person engaged in the design or construction of the landfill to inspect during construction. The project engineer would be responsible for certifying that construction of the solid waste management facility units, leachate handling facilities and landfill appurtenances conforms to the plan approved by the department, the permit to construct and the rules adopted by the Commission.*



**11. Establish minimum standards for new landfills and for landfill expansions onto previously unpermitted property.**

*Minimum standards for new landfills and for landfill expansion onto property that was not included within the scope of a previous permit would include:*

- a. double liners and a leak detection system for municipal solid waste landfills;
- b. composite liners for construction and demolition landfills;
- c. a minimum separation of 5 feet between the bottom elevation of the waste (or the liner system, if the landfill has a liner) and seasonal high groundwater and bedrock;
- d. a 200-foot buffer between the waste boundary and streams or wetlands (unless no feasible alternative location is available that would comply with the buffer requirement); and
- e. a prohibition against siting landfill units in the 100-year floodplain or in area reclaimed from the floodplain.

**12. Establish new standards for construction of lined sanitary landfill units permitted on or after the effective date of the bill.**

*Specific standards for leachate collection systems and liners would include:*

- a. leachate collections systems designed to maintain a head of less than one foot during leachate recirculation;
- b. leachate collection systems designed to return the head to one foot or less within 72 hours based on a 25 year-24 hour design storm falling on an empty cell;
- c. geomembrane base liner systems tested for leaks and damage;
- d. leachate collection lines designed and constructed to allow for remote camera inspection and cleaning and to require leachate lines cleaned and remotely inspected annually;
- e. all pipes used to carry leachate constructed with dual containment outside of the lined disposal unit; and
- f. new units and lateral expansions constructed without pipe penetrations of the bottom liner, whether for leachate, stormwater or gas.

**13. Direct the Commission for Health Services to review landfill rules and adopt new rules necessary to protect public health and the environment.**

*Rules adopted by the Commission should include:*

- a. standards for the collection, control and utilization or destruction of landfill gasses at municipal solid waste landfills;
- b. establish standards for the construction, operation and maintenance of bioreactor landfills;
- c. Establish criteria for development of bird and wildlife management plans; and
- d. Incorporate measures necessary to minimize impacts to natural, historic and cultural resources, including but not limited to wetlands, critical fisheries habitat, parks, recreation areas, cultural and historic sites and potential water supplies.

**14. Require that all solid waste management facilities have a waste screening plan to ensure that the facility is in compliance with waste bans.**

**15. Require an environmental study of very large landfills and landfills with an extended service area.**

*The existing exemption from the N.C. Environmental Policy Act for landfills owned and operated by local governments should be removed for facilities that receive more than 300,000 tons of waste per year; have a total disposal capacity of more than 15 million cubic yards of solid waste; or have a service area of more than 100 miles in radius. An environmental study should also be required for privately-constructed landfills that will exceed one or more of those thresholds. The environmental document would need to meet the standards for an environmental impact statement under the N.C. Environmental Policy Act and rules adopted by the Department of Administration to implement the act. The documents would also be subject to the same public notice and hearing requirements.*

**16. Change landfill franchise authority to differentiate between landfills that provide local service and those that have large regional or multi-state service areas.**

*The department is still working on the specific recommendation to alter local government franchise authority.*

**17. Add a new statute section setting out the grounds for denial of a landfill permit.**

*Statutory grounds for permit denial should include:*

- a. *Construction or operation of the landfill would violate water quality standards for groundwater or surface waters;*
- b. *The landfill would jeopardize a renewable resource of more than local concern, such as watersheds or aquifers that are sources of public water supply.*
- c. *Construction or operation of the landfill would damage fragile or historic areas or areas containing environmental or natural resources of more than local significance. Examples of these areas would include national or state parks or forests; wilderness areas; historic sites; recreation areas; segments of the natural and scenic rivers system; wildlife refuges, preserves and management areas; areas that provide habitat for threatened or endangered species; primary nursery areas and critical fisheries habitat designated by the Marine Fisheries Commission; and Outstanding Resource Waters designated by the Environmental Management Commission.*
- d. *Construction or operation of the facility would jeopardize public rights to access or use public trust waters.*
- e. *The facility will be located in a natural hazard area, such as an area subject to excessive seismic activity that would increase the risk to public health or safety.*
- f. *The proposed facility would be inconsistent with statutory standards or rules adopted by the Commission for Health Services.*
- g. *The proposed facility would be inconsistent with ordinances adopted by the local government that has planning jurisdiction over the site of the proposed facility.*
- h. *There is a practicable alternative to be proposed landfill that would have less adverse impact on public resources.*
- i. *Construction of the landfill would contribute to cumulative effects that would damage a natural, historic, or cultural resource protected under the statute.*

**18. Establish permit fees for solid waste facilities. Revenue would be used to support the solid waste regulatory program.**

**19. Establish a statewide surcharge on disposal of solid waste at \$2 per ton.**

*The surcharge would apply to municipal solid waste and to construction and demolition waste that is either disposed of at a permitted solid waste facility or moves through a permitted transfer station en route to a disposal facility outside the State. The surcharge would be used to pay for cleanup of orphan landfills and other orphan inactive hazardous waste sites; provide state matching funds for remediation, monitoring and maintenance of Superfund sites in North Carolina; provide funds to local government for redevelopment of contaminated sites; and provide funds for administration of contracts for cleanup of orphan landfill and inactive hazardous waste sites.*

Consideration should also be given to the following:

- 1. The state should invest resources to increase inspection and compliance activities to ensure the effectiveness of the state's current and pending disposal bans.**
- 2. If enforcement of disposal bans can be improved, the state should consider additional disposal bans on readily recyclable materials.**
- 3. The state should increase funding of recycling grants to community recycling programs and recycling businesses, as well as public recycling outreach campaigns.**
- 4. The state should establish and enforce minimal performance standards for local recycling programs.**
- 5. The state should require and/or provide incentives to private haulers to offer recycling services to all of their customers.**

6. The state should institute incentives to encourage the diversion of large waste streams, such as food and wood wastes.
7. The state should enact legislation to establish a comprehensive statewide recovery system for electronics.



## 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 of 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 decreased again during FY 05-06. The decrease from governments reporting programs from 104 to 102 is possibly due to reporting fluctuations; however, the downward trend over recent years does show that local governments are failing to take advantage of cost effective waste reduction options.

#### Local Reduction/Reuse Programs

Program Type	FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06
<b>Source Reduction Programs</b>							
Backyard Composting	59	64	67	69	68	59	55
Grass Cycling	36	35	29	38	38	33	33
Xeriscaping	11	8	8	11	14	13	14
Junk Mail Reduction	64	64	61	65	63	59	59
Enviroshopping	32	31	27	32	31	29	25
Promotion of Non-toxics	31	33	27	27	28	30	23
Other	6	3	4	2	1	2	1
<b>Reuse Programs</b>							
Swap Shops	23	28	34	33	31	33	37
Paint Exchange	23	19	19	19	18	18	18
Waste Exchange	8	4	3	4	6	8	3
Pallet Exchange	7	9	6	5	9	9	4
Other	10	8	9	11	7	11	5
<b>Local Governments with Programs</b>	<b>110</b>	<b>117</b>	<b>109</b>	<b>112</b>	<b>109</b>	<b>104</b>	<b>102</b>

### Local Government Recovery Programs

Despite decreases in most of the traditional commodities, local government recovery grew by almost 50,000 tons or four percent during FY 2005-06. The increase was driven primarily by increases in the recovery of construction waste, organics (e.g., yard waste), tires and "other" materials. It should also be noted that the recovery of electronic equipment grew substantially during the past year. Recovery of electronic equipment increased 49 percent during FY 2005-06. Despite the marked increase, local government e-waste programs are only recovering about two percent of what is being generated annually.

The largest decline in recovery was in the fiber category, which fell by almost 10,000 tons. It was the first decline in paper recovery in three years. Most of the other traditional commodities rose or fell only slightly providing a sense of stagnation among local government recovery programs.

Increases in recovery failed to outpace increases in disposal again last year. Recovery grew by four percent as compared to a six percent increase in statewide disposal. **Without substantially increased efforts to improve and expand local waste reduction programs, increases in disposal will likely continue to grow at a faster rate than recovery.**

### Local Government Recovery (Tons) and Performance Measures

Material	FY 96-97	FY 97-98	FY 98-99	FY 99-00	FY 00-01
Total Paper	228,025	216,121	233,339	241,859	263,365
Total Glass	44,978	43,449	41,623	41,826	46,936
Total Plastics	13,699	14,399	14,835	14,474	15,062
Total Metal*	77,252	81,262	77,564	86,480	92,634
Total Organics**	640,410	504,554	525,033	638,757	540,582
Special Wastes***	3,230	3,527	3,817	4,907	4,947
Construction and Demolition Debris	N/A	N/A	N/A	59,598	15,406
Tires	N/A	N/A	N/A	N/A	N/A
Other	12,762	35,977	63,794	5,329	6,120
<b>Totals</b>	<b>1,020,356</b>	<b>899,290</b>	<b>960,005</b>	<b>1,093,032</b>	<b>985,052</b>
<b>Per Capita Recovery (lbs.)</b>	<b>279.19</b>	<b>242.03</b>	<b>254.40</b>	<b>285.61</b>	<b>243.66</b>
<b>Recovery Ratio (Recycling:Disposal)</b>	<b>0.13</b>	<b>0.11</b>	<b>0.10</b>	<b>0.11</b>	<b>0.10</b>

Material	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06
Total Paper	267,840	275,538	267,371	303,514	292,628
Total Glass	49,891	51,433	52,117	44,003	45,409
Total Plastics	17,269	16,807	18,679	18,320	18,134
Total Metal*	114,786	109,723	114,097	109,612	108,512
Total Organics**	468,901	689,027	589,124	583,101	604,347
Special Wastes***	5,426	5,926	6,271	6,690	6,900
Construction and Demolition Debris	17,648	20,002	24,084	20,292	24,001
Tires	N/A	N/A	N/A	113,670	146,177
Other	5,896	4,626	4,773	5,677	7,755
<b>Totals</b>	<b>947,657</b>	<b>1,173,082</b>	<b>1,076,516</b>	<b>1,204,879</b>	<b>1,253,863</b>
<b>Per Capita Recovery (lbs.)</b>	<b>231.47</b>	<b>281.88</b>	<b>255.76</b>	<b>282.13</b>	<b>288.84</b>
<b>Recovery Ratio (Recycling:Disposal)</b>	<b>0.10</b>	<b>0.11</b>	<b>0.10</b>	<b>0.11</b>	<b>0.11</b>

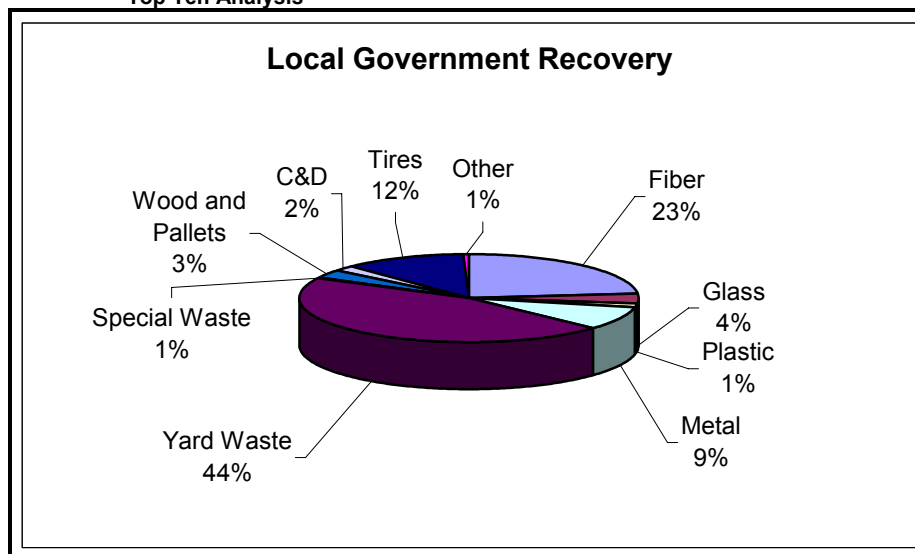
\* Includes white goods, aluminum cans, steel cans and other metals.

\*\* Includes yard waste, pallets and wood waste.

\*\*\* Includes electronics, used oil, oil filters, antifreeze and batteries.

The following figure provides a breakout by percentage of each commodity's contribution to total local government recovery. As can be seen, local government yard waste mulching and composting programs contribute well over 40 percent of all local government recovery. Yard waste recovery can fluctuate drastically from year to year and is commonly excluded from trend analysis. Fiber products constitute 23 percent of local government recovery, and despite a decline this year, will likely continue to provide for the majority of growth in local government recovery programs.

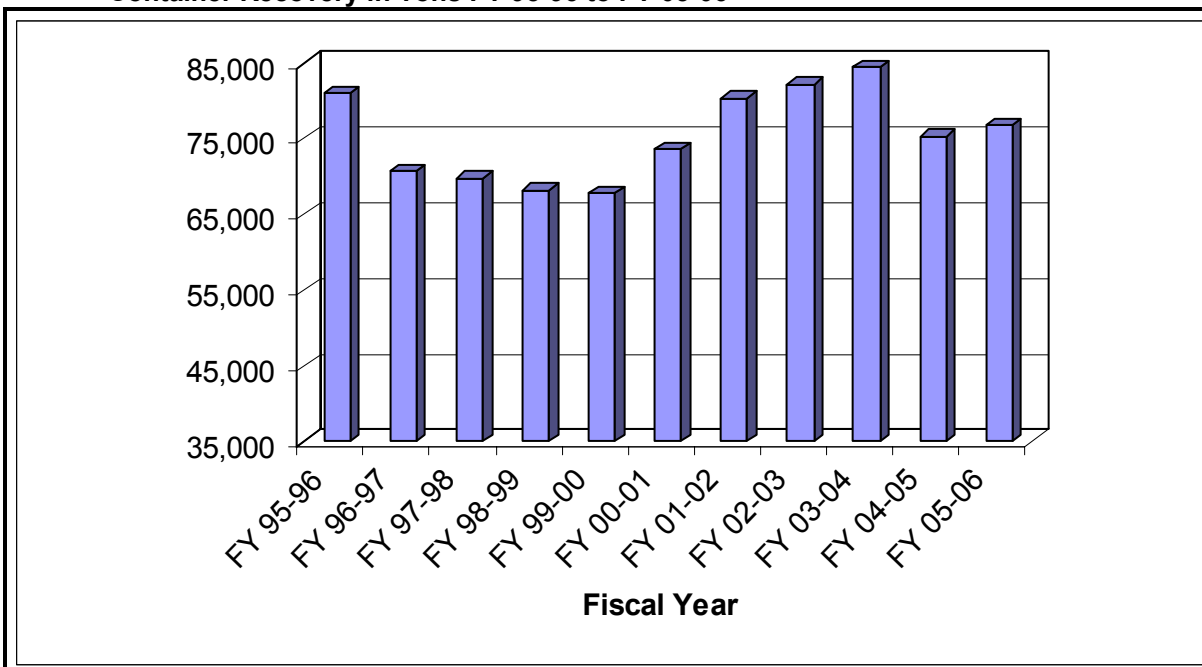
Top Ten Analysis



### Recovery of Traditional Materials

Container recovery rebounded slightly from the sharp drop experienced last year, but has not yet recovered to the levels experienced in the early 2000s. Recovery of glass, PET, HDPE, aluminum and steel containers rose to 76,750 tons, up roughly 1,400 tons from FY 04-05. Of the seven commodities in the category, only aluminum containers and PET containers experienced decreases. It is likely that the actual recovery of aluminum did not actually drop, but rather very strong market conditions resulted in individuals selling aluminum cans directly to markets instead of contributing the containers to local government-operated recycling programs. Although small in comparison to the amount of paper recovered annually, container recovery provides the best snapshot of local government recovery program performance.

**Container Recovery in Tons FY 95-96 to FY 05-06**

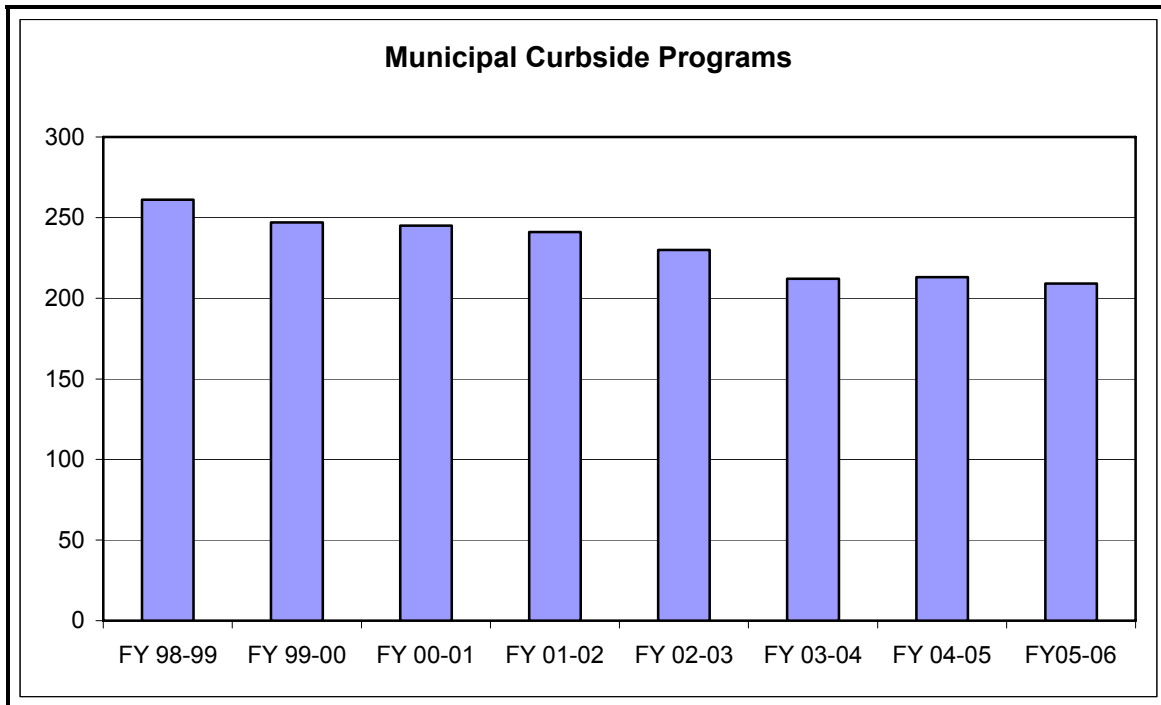


### Local Government Recycling Program Management

The number of municipal curbside recycling programs dropped again during FY 2005-06 to 209. This trend has been continuing since 1999 and represents a problem for achieving meaningful waste reduction in North Carolina. Many curbside recycling programs were originally implemented in the early 1990s with out much thought or planning for maintaining the programs into the future. Many of these programs are still being operated in a manner consistent with the state of the recycling industry in the early 1990s. The recycling industry has evolved dramatically in the past 15 years, and unless small and mid-sized municipal governments update their programs to reflect the current state of the industry, it is likely that the trend of fewer curbside recycling programs will continue.

Despite the continuing decreases in the number of curbside programs, annexations and growth in larger municipalities resulted in another increase in the number of households served by curbside recycling. The number of households served by curbside recycling grew by more that 53,000 during FY 05-06. More than 1,438,000 households in North Carolina now have access to curbside recycling.

In a properly developed program, each household could potentially generate up to 750 pounds of recyclables per year. In reality, North Carolina households are contributing only about 225 pounds of recycling per year to their local recovery programs. If these programs were functioning at their potential, recovery of traditional commodities would increase by more than 375,000 tons. It is very clear that improving the breadth of program collection and increasing participation are keys to improving statewide recovery.



Drop-off programs continue to contribute more to recycling than any other type of program. Roughly 46 percent of all material recovered by local governments comes from drop-off recycling programs. The ability of these programs to handle special wastes, white goods and scrap metal is the primary reason why they contribute more than curbside programs. The use of mixed waste processing continues to decline in the state and may no longer be used for processing traditional recyclables in the future.

**Recovery by Program Type**

Program Type	Percent of Total Recovery
Curbside	37 %
Drop-off	46 %
Mixed Waste Processing	< 1 %
Other Programs	17 %

### **Special Waste Management**

Local government collection of some special wastes fell slightly in FY06 from the previous year, in particular for oil, antifreeze and lead acid batteries, but the amounts were still in line with historical figures. Oil filters enjoyed a jump in tonnage, and a small increase in the number of related active programs. The disposal ban on filters set for October 2009 should spur development of additional programs over the next few years.

The amount of household hazardous waste (HHW) also rose in FY06, breaking the 2,000 ton barrier for the first time. The overall average cost for managing HHW programs fell from FY 05's abnormally high figure to a level more in keeping with the previous years. In general, special waste programs are similar to other local government recovery efforts in being on a solid plateau of activity, neither rising nor falling much from year to year. Despite the need for additional efforts to increase the amount of material being recovered, it is clear that there is little motivation for counties and municipalities to expand programs in this area.

### Local Government Special Waste Management, FY02 to FY06

	FY02	FY03	FY04	FY05	FY06
<b>Used Motor Oil</b>					
Number of programs	127	125	124	119	122
Gallons collected	903,951	907,123	939,916	987,057	933,618
<b>Oil Filters</b>					
Number of programs	20	21	19	17	20
Tons collected	17.79	18.64	24.07	20.40	28.21
<b>Antifreeze</b>					
Number of programs	56	58	63	55	58
Gallons collected	27,668	26,308	26,767	41,050	32,415
<b>Lead Acid Batteries</b>					
Number of programs	86	86	90	89	95
Number collected	80,912	92,292	100,217	97,290	91,947
<b>Household Haz. Waste</b>					
Number of programs	28	31	32	34	34
Number of permanent sites	17	17	17	17	16
HHW tons collected	1483.97	1540.59	1760.17	1940.57	2066.91
Total cost reported	\$2,180,355 (\$1,469/ton)	\$2,161,359 (\$1,403/ton)	\$2,429,912 (\$1,381/ton)	\$4,417,657 (\$2,276/ton)	\$2,718,980 (\$1,315/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

Collection and diversion of more than a half million tons per year of yard waste remains a mainstay of local government solid waste management programs. The very slight rise in managed tons for FY 06 from the previous year reflects the absence of major weather events or droughts that can push yard waste collection dramatically up or down. The chart of historical collection below shows the steady nature of local government performance in this area, demonstrating straightforward compliance with the state's yard waste disposal ban. Without the ban, North Carolina disposed waste tonnage would be higher by five percent.

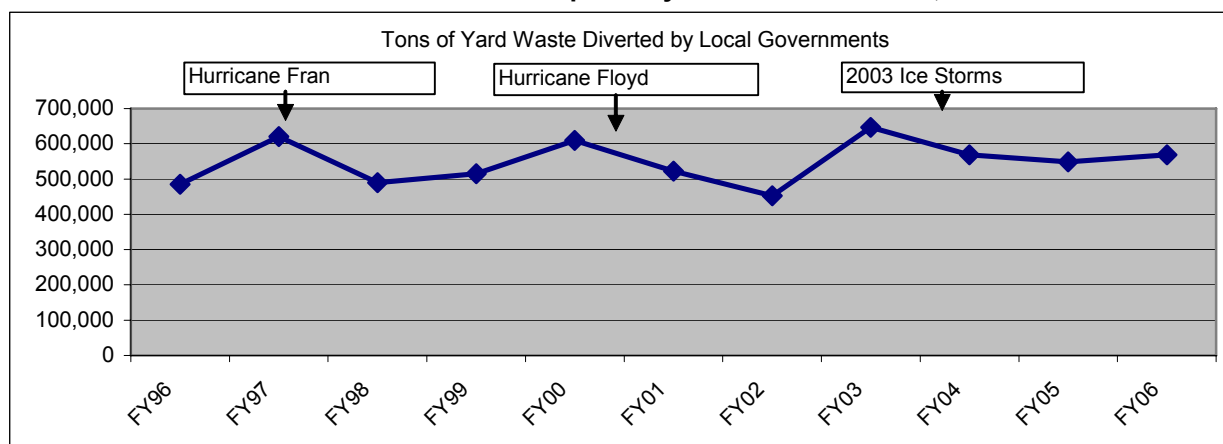
### Local Government Yard Waste Management FY05 and FY06

Destination of Materials	FY 05 tons managed	FY 06 tons managed	Percentage Change
End Users (direct delivery)	72,413	54,438	-25%
Local mulch/compost facility	481,143	513,635	+7%
<b>TOTAL DISPOSAL DIVERSION*</b>	<b>553,556</b>	<b>568,073</b>	<b>+3%</b>
Other Public Facility**	141,394	151,960	+7%
Private Facility	77,079	79,854	+4%
LCID Landfill	132,585	128,157	-3%
<b>YARD WASTE TOTALS</b>	<b>763,220</b>	<b>776,084</b>	<b>+2%</b>

\* 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 – FY06



### Recycling Markets and Prices

FY06 saw steady, high prices for recyclable materials, reflecting the global shift to reliance on recovered over virgin commodities. While domestic manufacturers maintained a growing interest in consuming recycled materials, China's influence on secondary material markets was still the big catalyst in material pricing. Some metal commodities, such as copper and aluminum, enjoyed very strong pricing globally due to tremendous demand pressure. Traditional recyclables collected by local government programs were no exception to the remarkably constant demand for recyclable materials. As can be seen in the table below, displaying the price received by three representative processing facilities in eastern, central and western North Carolina, recycling markets are demonstrating a consistency that should give local recovery programs confidence and reason to expand collection programs.

#### Composite Recycling Market Prices Received by Major NC Processors, FY 06

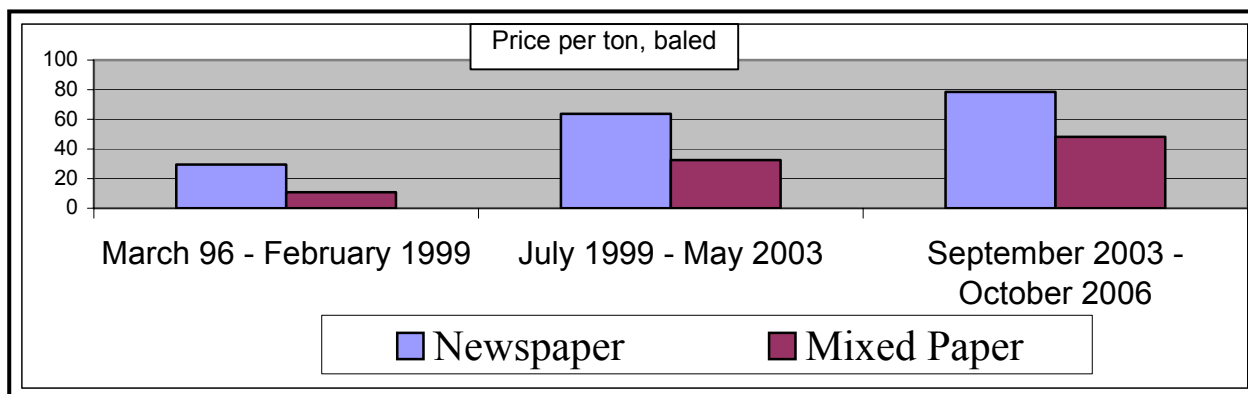
Materials	Summer 05	Fall 05	Winter 06	Spring 06	Summer 06
Aluminum Cans, Lbs., loose	\$.56	\$.55	\$.64	\$.71	\$.74
Steel cans, gross tons, Baled	\$39	\$84	\$67	\$88	\$115
PETE, Lbs. Baled	\$.19	\$.18	\$.18	\$.18	\$.15
HDPE, Lbs., Baled	\$.24	\$.24	\$.34	\$.29	\$.21
Newsprint, ton, baled	\$83	\$84	\$79	\$76	\$71
Corrugated, ton, baled	\$84	\$84	\$60	\$73	\$105
Office paper, ton, baled	\$116	\$115	\$122	\$120	\$138
Mixed paper, ton, baled	\$57	\$48	\$42	\$45	\$57
Clear glass, ton	\$28	\$28	\$28	\$23	\$23
Brown glass, ton	\$24	\$24	\$24	\$17	\$17
Green glass, ton	\$2	\$2	\$2	-\$5	-\$5

Fiber prices generally stayed within a narrow range in FY 06. After a slight mid-year dip, both corrugated and mixed paper rebounded to their highs for the year by summer 2006. Steel cans were probably the most volatile commodity in FY 06, ending on a high note, while aluminum cans rose and then stayed in the 70 cents per pound range for the last six months of the fiscal year. Glass struggled to maintain its value, with all colors falling and green becoming a "cost" commodity. Glass pricing belies the demand for more cullet by North Carolina's glass plants, which can use twice as much material as they are currently receiving. But all in all, the basic "curbside mix" of materials has seen a consistent level of pricing over the course of four years, showing real staying power in the strength of recycling markets.

Mixed paper has become something of a bellwether for recycling markets over the past decade. From a commodity with sporadic demand in the mid-1990s, sometimes with no demand at all, it has become a highly marketable commodity, driven in large part by the Chinese appetite for high quality U.S. fiber. Domestic and foreign mills have found value in mixed paper, making it an easy commodity for communities to add to their curbside and drop-off programs. The marketability and thus collectibility of mixed paper bodes well for community efforts to increase participation and diversion, as now a household can put most of its fiber in their curbside and drop-off bins. The figure below shows the pricing history of

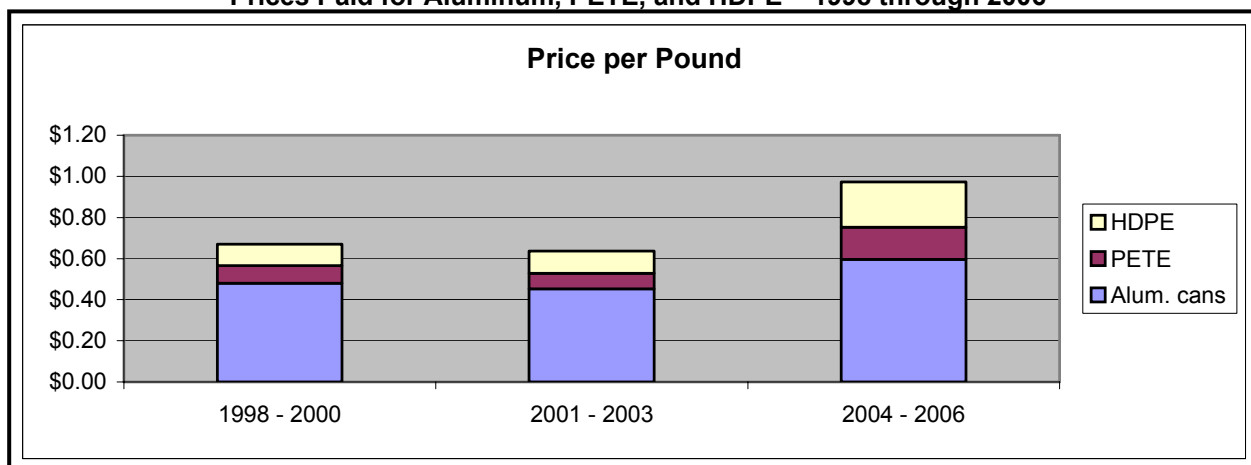
both mixed and newspaper in North Carolina over the course of three four-year time periods, demonstrating the upward climb of these grades.

**Prices Received By NC Processors for Mixed Paper and Newspaper, March 1996 through October 2006**



The following figure shows a similar price history chart for three types of container materials: PETE, HDPE, and aluminum cans. For the first two periods, 1998 through 2000, and 2001 through 2003, the combined price per pound paid for these materials hovered around just over 60 cents. However, from 2004 through 2006, the price increased by 45 percent to almost a dollar per pound.

**Prices Paid for Aluminum, PETE, and HDPE – 1998 through 2006**



### Recycling Market Development

FY 06 saw the continued expansion of recycling businesses in North Carolina and some major investments in recycling facilities. Recycling remained a dynamic arena of entrepreneurial activity, especially for commodities such as plastics and discarded electronics. Among major investments, the firm GEEP Inc. opened a \$4 million shredding plant in 2006 for electronics while Paperstock Dealers started up a new material recovery facility (MRF) in Raleigh, helping that city make major improvements to its curbside recycling program.

Other companies that expanded or made significant investments in FY 06 included FCR's upgrade to its Greensboro MRF, Tidewater Fiber and Orange Recycling's addition of sorting equipment to their processing facilities, EcoResin's opening of a new plant in Rutherford County, McGill-Leprechaun's addition of wood grinding operations, and Envision Plastic's expansion of its HDPE recycling facility. Many other smaller companies made improvements to their operations, investing in equipment and facilities to ramp up their capacity. A range of private sector activities in FY06 increased the availability of market outlets for discarded materials, while creating employment opportunities for North Carolinians in many parts of the state.



## CHAPTER 3 – Local Government Assistance (Fiscal Year 2005-06)

### Solid Waste Management Trust Fund Annual Report

This report details for FY 06 (July 1, 2005 - June 30, 2006) the activities and expenditures of the Solid Waste Management Trust Fund, which 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 by a portion of the revenues from a fee on the sale of new tires and an advanced disposal fee on 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 \$1,015,824 in revenues in FY 06. When added to the beginning balance on July 1, 2005 of \$1,896,767, a total of \$2,912,591 was managed in the Trust Fund for FY 06. Actual expenditures were \$1,289,563, leaving a fund balance at the end of FY 06 of \$1,623,028. However, a total of \$539,858 of that balance was encumbered for standing grant contracts that have 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 06 was \$1,083,170. An additional set of grant contracts worth approximately \$595,000 were in the process of being encumbered at the end of the fiscal year, which further reduced the available balance entering FY06.

#### **FY 06 Trust Fund Expenditures and Revenues**

	<b>Total FY 06</b>
Beginning Balance	\$ 1,896,767
+ Revenue	\$ 1,015,824
- Expenditures	\$ 1,289,563
Ending Balance	\$ 1,623,028
Encumbrances	\$ 539,858
<b>Unencumbered funds on 6/30/06</b>	<b>\$ 1,083,170</b>

#### **Breakdown of FY06 Revenue Sources**

<b>Revenue Source</b>	<b>Total FY 06</b>
Tire Tax	\$ 629,698
White Goods ADF	\$ 360,464
Newsprint Tax	\$ 1,667
Appropriations	\$ 0
Contributions and Misc.	\$ 23,995
<b>Total Revenues</b>	<b>\$ 1,015,824</b>

#### **Trust Fund Revenue Sources - FY 06**

Trust Fund revenues in FY 06, as indicated in the table above, came from four of the five possible revenue 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 \$629,698 in FY 06, an increase of almost 5 percent from FY 05. Tire revenue accounted for over 60 percent of total Trust Fund revenues for FY 06.

**White Goods Tax** – Proceeds from the advanced disposal fee (ADF) on white goods accounted for \$360,464 or about 36 percent of total revenues for FY 06. White goods proceeds were down almost 3 percent from FY 05.

**Virgin Newsprint Tax** – North Carolina newspaper publishers who fail to meet state-required purchasing goals for recycled content newsprint must pay a \$15 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 06, \$1,667 was received from the virgin newsprint tax. Compliance with the law has been consistent - in 11 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** – DPPEA continued a recycling promotion program in FY 06 that entailed a cost-sharing partnership with local governments and private sector contributors. Local governments contributed \$23,995 toward the campaign, but there were no private contributors in FY 06. The list of outreach program partners is provided in Attachment A to this report. More information on the recycling outreach program is provided below.

### **Trust Fund Expenditures - FY 06**

Most of Trust Fund expenditures in FY 06 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 06 Community Waste Reduction and Recycling Grants**

The Community Waste Reduction and Recycling Grants (CWRARGs) are a standard annual grant cycle that DPPEA offers to local government and nonprofit recycling programs to expand and improve community recycling efforts. The CWRARGs usually include targeted grant categories designed to increase activity in certain program areas or to increase the recovery of certain commodities.

DPPEA held one CWRARG grant cycle in FY 06, which was initiated by a Request For Proposals distributed to local governments and to nonprofit agencies involved in waste reduction. Funding categories included Backyard Composting and General recycling activities. Bonus points were awarded in the FY 06 cycle to proposals that addressed new disposal bans and ABC permit recycling requirements passed by the General Assembly in 2005. DPPEA received and evaluated a total of 27 proposals, and selected 22 for a total of \$299,866 in grant awards. Details on the grantees and their projects are provided under Attachment B to this report.

In addition to the CWRARG cycles, DPPEA conducts a related, ongoing request for proposals to develop "Swap Shops," which are community reuse centers open to the public. This open grant round resulted in two awards in FY 06 to Rutherford and Durham counties.

#### **FY 06 Business Recycling Grants**

To increase market demand and encourage recycling economic development in North Carolina, DPPEA conducted a grant cycle in FY 06 for recycling businesses. The grants are designed to help these businesses afford or leverage a critical capital expenditure and thereby expand their material-handling capacity. These expansions in turn translate into new market opportunities for local government recycling programs and for waste generators of all kinds.

In the spring of 2006, the Business Recycling Grant cycle attracted 25 proposals. Eighteen of these proposals were awarded grants for a total of \$295,000 in funding. Details on the grantees and their projects are described in Attachment C to this report.

#### **Recycle Guys and RE3 Outreach Campaigns**



One of the greatest waste management challenges in North Carolina is increasing household participation in local government recycling programs. High participation raises the efficiency of local programs and results in a greater supply of materials for recycling businesses.

To boost participation rates, DPPEA continued its statewide recycling promotion campaigns in FY 06 - the "Recycle Guys" and "RE3." DPPEA's outreach efforts included:

- Continuation of broadcasts of RE3 and Recycle Guys television commercials.
- Distribution of supplemental materials that help expand the presence and reach of the campaigns.

- Production and distribution of cinema ads to increase public awareness of different aspects of recycling.

### **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 06 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, WRP helped western North Carolina businesses and other entities divert more than 18,769 tons of solid waste from landfills, a diverted cost of \$1.33 per ton (by comparison, the most efficient curbside programs have costs of around \$100 - \$120/ton). The estimated solid waste reduction savings for businesses served by Waste Reduction Partners in FY 06 totaled \$1,126,000, which translates into a leverage of savings to invested funding of 45 to 1.

### **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 06 to support staff positions in the Division of Pollution Prevention and Environmental Assistance. A total of \$347,136 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 N.C. 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.

Waste Management Analyst - 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 multimedia statewide Recycle Guys and RE3 campaigns designed to boost recycling participation rates in North Carolina and to make community recycling efforts more efficient.

Waste Management Analyst - 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.

Waste Management Analyst (DPPEA) - 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 (DPPEA) 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 Intern Program**

To encourage professional development and complete technical assistance projects, DPPEA hired student interns to work in the division in FY 06. Student projects in FY 06 focused on development and implementation of the RE3 outreach campaign, as well as an analysis of electronics recycling policy issues.

### **Product Stewardship Initiatives**

"Product Stewardship" is a growing movement by state and local governments to increase manufacturer responsibility for the environmental impacts of their products, including the diversion of those products from disposal to recycling. Greater manufacturer responsibility for end-of-life products will reduce cost and tax burdens on state and local governments. In FY 06, North Carolina participated in product stewardship initiatives by supporting the activities of the Product Stewardship Institute, including the development of a national agreement with the paint industry on paint disposal. DPPEA also helped lead a multi-state effort to encourage the producer responsibility for beverage containers and continued its participation with the Carpet America Recovery Effort (CARE), a national product stewardship program for the carpet industry.

### **Publications and Outreach Efforts**

DPPEA used Trust Fund resources in FY 06 for a number of technical assistance and outreach activities, including: production of technical assistance materials to help in the implementation of new disposal bans and requirements for ABC permit holders to recycle; printing and distribution of the *Recycling Works* newsletter and other fact sheets; and travel to provide technical assistance to local governments and Trust Fund grantees.

### **Workshops and Training**

DPPEA used Trust Fund-provided funding and technical assistance to support a major state recycling conference in March 2006 and to support other waste reduction workshops and outreach conducted by the Carolina Recycling Association and the North Carolina chapter of the Solid Waste Association of North America.

### **Temporary Assistance**

As in past years, DPPEA used temporary labor to help enter data from more than 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 for FY 07**

In FY 07, the Solid Waste Management Trust Fund will be used to provide technical assistance to local government recycling programs and to recycling businesses statewide. As part of that effort, DPPEA will conduct both a community-based and a recycling business grant cycle, helping directly expand collection and processing capacity for recyclable materials. DPPEA will further work to increase the reach of the Recycle Guys and RE3 campaigns. In addition, the Trust Fund will also continue to support the effective Waste Reduction Partners program in western North Carolina and a similar initiative covering the central and eastern part of the stat. 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 more than 97 percent of its revenues in FY 06 from two sources: the statewide fees on the purchase of new tires and white goods (appliances). The Trust Fund only receives a small portion of the proceeds from these fees. The total distribution arrangement of each of these fees is described below:

**Scrap Tire Tax** - During this reporting period (July 1, 2005 - June 30, 2006), a two percent fee was levied on the purchase of new tires in North Carolina. The tire tax allocation is as follows:

- 68 percent of revenues are distributed to the counties on a per capita basis to pay for the proper management of discarded tires.
- 27 percent 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.
- 5 percent of revenues are credited to the Solid Waste Management Trust Fund (administered by the Division of Pollution Prevention & Environmental Assistance).

**White Goods Tax** - During this reporting period (July 1, 2005 - June 30, 2006), a \$3 dollar fee was levied on the purchase on all appliances. The white goods tax allocation is as follows:

- 72 percent of revenues are distributed to the counties on a per capita basis to pay for the proper management of discarded white goods.
- 20 percent 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 percent of revenues are credited to the Solid Waste Management Trust Fund (administered by the Division of Pollution Prevention & Environmental Assistance)

## **FUNDING PARTNERS FOR THE FY 06 RECYCLE GUYS and RE3 CAMPAIGNS**

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

<b>Partner Name</b>	<b>Amount Given</b>
Chatham County	\$1,000
City of Charlotte	\$2,500
City of Raleigh	\$5,000
Davidson County	\$2,500
Lee County	\$1,000
Mecklenburg County	\$5,000
New Hanover County	\$995
Orange County	\$1,000
Catawba County	\$1,000
Wake County	\$4,000
<b>TOTAL</b>	<b>\$23,995</b>

**ATTACHMENT B: 2006 COMMUNITY WASTE REDUCTION AND RECYCLING GRANTS**

<b>GRANTEE</b>	<b>AMOUNT</b>	<b>GRANT DESCRIPTION</b>
Anson County	\$12,500	Anson County will implement oil recycling and make general improvements to the county's recycling program.
Town of Raeford	\$25,000	The Town of Raeford will implement a commercial PAYT program and add cardboard recycling containers.
Coastal Enterprises	\$12,000	Coastal Enterprises will purchase a forklift to help handle recyclables more efficiently at its processing facility.
Edgecombe County	\$18,840	Edgecombe County will implement a school recycling program.
Gaston County	\$8,750	Gaston County will purchase and put into service a variety of recycling bins to increase paper recycling in County offices and paper and plastic recycling in schools.
Henderson County Schools	\$4,000	Henderson County Schools will purchase recycling bins to implement a school recycling program and will conduct a teacher workshop.
Iredell County	\$20,355	Iredell County Recycling will purchase containers and trailers for glass, cardboard, steel cans, electronics and textile recycling.
Burke County	\$17,580	Burke County will place rolloff containers at six recycling convenience sites for the collection and transport of mixed paper.
Town of Clarkton	\$18,000	The Town of Clarkton will build a recycling convenience center beside the Town Hall.
Brunswick County	\$4,500	Brunswick County will place composting bins at two schools for composting cafeteria food waste. It will also conduct a composting education program at the schools. The county will distribute 100 compost bins to residents and publish an educational brochure.
New Hanover County	\$25,000	New Hanover County will develop a new recycling convenience center in an underserved area of the county for recycling ONP, OCC, RMP, glass, aluminum cans, plastic bottles, and rechargeable household batteries
Habitat for Humanity - Matthews	\$17,045	Habitat for Humanity of Matthews will purchase a box-body cargo truck to increase its recovery of furniture, household goods and building supplies.
Land of Sky Regional Council	\$12,500	Land-of-Sky Regional Council will create a community based social marketing campaign that helps local ABC permit holders to start recycling programs.
Cumberland County	\$15,000	Cumberland County will purchase roll-out carts and implement a recycling program to collect office paper, magazines, aluminum, and plastic throughout the county school system.
Town of Princeton	\$13,500	The Town of Princeton will implement an oil, oil filter and antifreeze recycling program.
Onslow County	\$20,196	Onslow County will implement school recycling programs at three schools, and will purchase and provide recycling containers, roll carts, stickers, advertising, and collection of recyclables.
Pasquotank County	\$16,200	Pasquotank County will purchase recycling containers to expand commercial collection, establish an oil filter recycling program, improve recycling collection at the County Correctional facility, and conduct public recycling education.
Pitt County	\$10,000	Pitt Count will purchase a forklift to assist in managing electronics collected for recycling.
Wayne County	\$7,400	Wayne County will conduct a pilot mobile home recycling project and establish an oil filter recycling program.
Cabarrus County	\$7,000	Cabarrus County will develop and implement a multi-faceted educational

GRANTEE	AMOUNT	GRANT DESCRIPTION
		program targeting the recovery of used oil filters.
Habitat for Humanity – Wake County	\$10,000	Habitat – Wake will purchase pallet racking that will expand and improve its ability to handle recyclable construction materials at its Raleigh ReUse Center.
Davidson County	\$4,500	Davidson County SW to provide two compost educational programs, subsidize the cost of compost bin and provide a truckload sale event for the bins.



**ATTACHMENT C: 2006 RECYCLING BUSINESS GRANT PROJECTS**

GRANTEE	AMOUNT	GRANT DESCRIPTION
Cape Fear Site Works	\$15,000	Cape Fear Site Works will install a large multi-functional shelter to assist in their C&D recycling operation.
Resource Reformers, LLC dba Clean Green	\$30,000	Resource Reformers will develop an oil filter recycling awareness campaign and purchase a delivery truck, forklift, and material handling equipment to further develop its oil filter-recycling program.
DC Foam Recycle Center	\$20,000	DC Foam will purchase and install a horizontal baler, forklift(s), trucks, trailers, electronic scales and other miscellaneous equipment needed to upfit a new post-consumer carpet recycling processing facility.
Ensley Plastics	\$10,000	Ensley Corporation will purchase and utilize a grinder to grind segregated plastics.
Innovative Recycling Solutions	\$25,000	Innovated Recycling Services will purchase a screener to make ground pallet & wood waste more marketable.
New Life Plastics	\$10,000	New Life Plastic Recycling, Inc. will purchase and install a pelletizing line for the purpose of repelletizing polyethylene and polypropylene regrind.
Wellmark Plastics	\$20,000	Wellmark will expand processing capabilities to meet increased demand for recycling plastic resin with the addition of a new shredder, grinder, and profile extruder.
Piedmont Pallets & Plastic	\$15,000	Piedmont Pallets & Plastic will purchase a road tractor, trailers, box truck and pallet repair equipment to develop a pallet reuse and recycling operation.
Pallet One of NC - Siler City	\$25,000	Pallet One of NC-Siler City will purchase and utilize a grinder to process scrap wood pallet waste.
GEEP	\$30,000	GEEP will install processing equipment for e-waste recycling. The grant funds will be focused on the monitor processing line, which will handle the dismantling of CRT's.
Green Solutions	\$15,000	Densified Solutions will collect post-industrial expanded polystyrene currently being disposed in landfills, and process it into third generation plastic.
Paper Stock Dealers - Raleigh	\$10,000	Paper Stock Dealers of Raleigh will purchase, install and put into use screening equipment for the purpose of upfitting their new facility with single-stream recycling processing capacity.
PRR Services, LLC	\$15,000	PRR Services is upgrading its material handling and processing capabilities through the purchase and installation of a horizontal baler.
Wake Habitat	\$10,000	Habitat for Humanity of Wake County will purchase a skid steer loader and trailer to increase diversion capacity of salvaged and donated reusable building materials.
Advanced Recycling	\$25,000	Advanced Recycling will purchase the building they are currently leasing, and buy a forklift to assist in material handling.
Alamance Habitat for Humanity ReStore	\$5,000	The Alamance Habitat for Humanity Re-STORE will purchase a truck with a lift to further increase the capacity to recycle materials and merchandise.
Asheboro Recycling Center	\$15,000	Asheboro Recycling Center, in partnership with the town of Asheboro, will begin a curbside recycling program.

## **CHAPTER 4 – State Agency Purchases of Recycled Products and Reduction of Solid Waste Disposal**

### **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 much appreciated.



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](http://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.

The report can be viewed online at <http://www.p2pays.org/epp/stagencies.asp>.  
Hard copies are available upon request.

January 2007

## 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 initiative of Executive Order 8, signed in 1993.<sup>1</sup> Purchasing recycled and other environmentally preferable products improves recycling markets, helps reduce 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.

North Carolina state government has continued to make progress toward environmental sustainability by offering recycled and environmentally preferable products at affordable prices on state contract. Currently, there are about 20 categories of products on term contract that offer products with recycled content materials, and several more products available exhibit some sort of environmentally preferable attribute, including recycled content packaging or energy efficiency. State agencies and others who can buy from state term contract, such as local governments, have a wide degree of choice in the purchase of high quality, cost-effective recycled products on term contract. The list of products can be seen at: [www.doa.state.nc.us/PandC/recycled.htm](http://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 2006. It compiles purchasing reports required from 27 state government department and offices, 12 constituent institutions of the University of North Carolina, 53 community colleges and 82 local public school administrative units. In fiscal year 2005-2006, reports were received from 79 percent of agencies (174 out of 221). The majority of nonreporting agencies are local school entities. Almost half of the agencies that did not report did not comply with reporting requirements last year either. All reporting was conducted online, saving paper and postage.

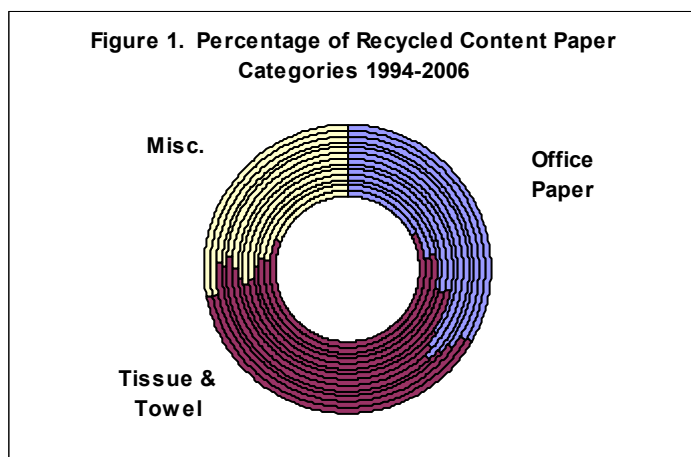
The N.C. Division of Pollution Prevention and Environmental Assistance is the agency charged with compiling data from agency reports and publishing this summary. Copies of this and past reports may be obtained on-line at [www.p2pays.org/epp](http://www.p2pays.org/epp) or by calling (919) 715-6505 or (800) 763-0136.

## Purchases of Recycled Products

### **Paper and Paper Products**

This is the fifth year in which agencies failed to meet the goal set forth by Executive Order 156: "State agencies shall attempt to meet the goal that, as of Fiscal Year 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".<sup>2</sup> Just about half the expenditures for paper were spent on office paper, achieving a 69 percent success in recycled content office paper purchases.

Twenty-one agencies succeeded in reaching the 100 percent goal this fiscal year for all paper purchases, including office paper, tissue and towel papers, and miscellaneous papers such as legal pads, file folders, labels and continuous feed forms. This number has been relatively consistent over the past 10 years. More than a third of the agencies achieved a stellar 90 percent or higher in recycled content purchases for their paper needs.



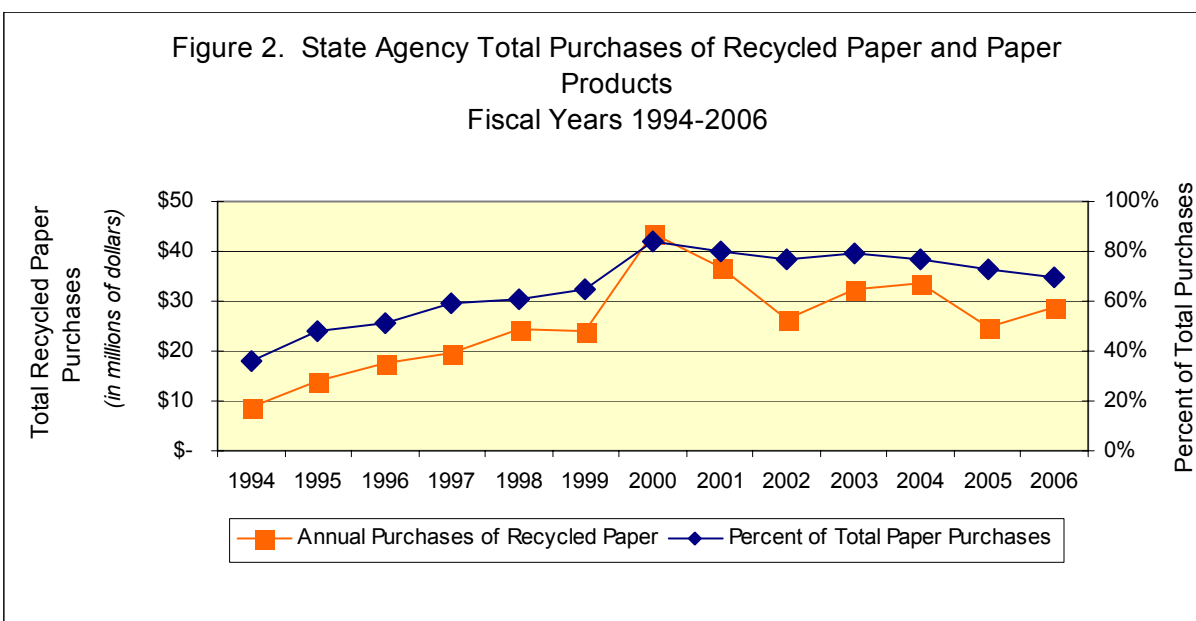
<sup>1</sup> Full text of No. 156 is available online at [www.p2pays.org/epp/reports.asp](http://www.p2pays.org/epp/reports.asp).

Less than a quarter of reporting agencies purchased all their office paper with recycled content, but more than half bought all recycled content towel and tissue products. **Figure 1** demonstrates fluctuations in the three paper categories reported on since 1994, which is the innermost circle. Recycled content towel and tissue paper purchases have been declining the last two years, with 80 percent containing recycled content.

Since 2003, the percentage of recycled content paper purchases has decreased by 9 percent, a decline attributable to the reinstatement of the virgin paper available on state contract at a lower price. Recycled content paper costs just over two dollars more per box than virgin paper, or 20 cents per ream. 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, which is a notable obstacle in reaching statewide goals.

More positively, a significant impact is realized from the state's purchases of recycled content paper. For comparison, assume that the roughly \$15 million spent on recycled content office paper and the nearly \$7 million on virgin office paper included exclusively 8 1/2X11 white copy paper, all purchased from the state contract. The recycled office paper purchased conserved almost 89 million trees, saved enough BTUs to provide more than 600,000 households with energy for a year, and reduced the CO2 equivalent of removing 708,313 cars off the road for a year. Over 32 billion gallons of wastewater were also conserved, which is the equivalent of nearly 50,000 swimming pools. The solid waste avoidance could fill 148,496 garbage trucks, amounting to 4 billion pounds. If we converted the \$7 million in virgin paper to 30 percent post consumer recycled paper, we could save another 37 million trees, 26 million more BTUs, and 63,332 more truckloads of garbage. These comparisons help put the impacts of the state's purchasing decisions in more tangible terms, and validate the motives behind our recycled content purchasing efforts<sup>3</sup>.

Another element of recycled paper usage for state agencies includes contracted print jobs. Reported spending on outside print orders was \$13.4 million, in-line with last year's data. Agencies achieved an impressive 10 percent increase of recycled content paper purchases in this category.



**Figure 2** illustrates the trend in overall dollar amounts and percentages of recycled paper purchases over the past 13 fiscal years, including this year's increase in recycled content paper expenditures. Recycled content paper purchases totaled nearly \$29 million, which represents 70 percent of all paper purchases, a

<sup>3</sup> These numbers are based on the assumptions outlined in the report. The weight of the office paper was estimated using a calculator at [www.replanttrees.org](http://www.replanttrees.org), and the environmental impacts were estimated from the Environmental Defense's paper calculator at [www.environmentaldefense.org/papercalculator](http://www.environmentaldefense.org/papercalculator).

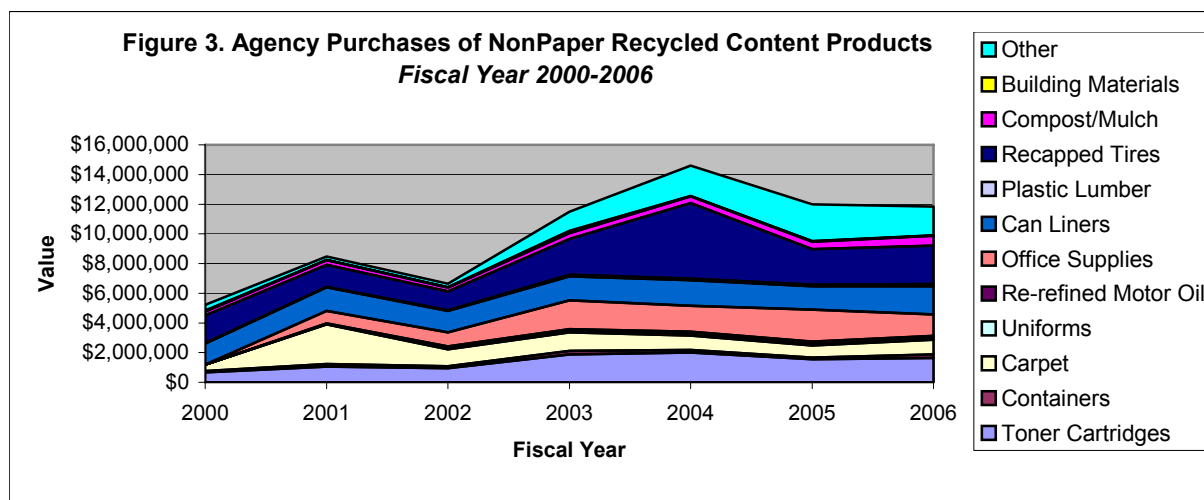
slight decrease from last year. The data indicates a need to enhance efforts to achieve the 100 percent goal across all agencies. The accomplishment of the goal would be helped by a renewed emphasis and commitment from top management in directing agencies to meet the statutory and executive goals. A targeted campaign of outreach to agencies that purchased a high level of virgin paper is also warranted.

### Policy and Administrative Support

While agencies are not required to develop a 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. Agencies are specifically charged with the responsibility of purchasing recycled content products, as well as designating a lead coordinator. A mere 41 percent of the reporting agencies responded positively to having a buy recycled policy or goal in place, consistent with the last three years. Agencies are also reporting that fewer administrators are communicating the importance of purchasing recycled content products, and less than half report having a lead coordinator for buy recycled efforts. These are key components to a successful recycled content procurement program, along with administrator encouragement, and should be examined as a way to significantly increase participation.

### Non-Paper Products

Agencies reported spending \$11.8 million on non-paper recycled products in fiscal year 2006, corresponding with last year's expenditures. Agencies seem to be aware of what the categories include due to outreach and education. In general, non-paper recycled product expenditures have begun to increase, and are expected to rise as purchasers become further educated about the products they buy, and as the array of recycled products become more available on term contracts and through vendors. Total expenditures of the recycled non-paper products reflect similar numbers as last year and are illustrated below in **Figure 3**. 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 included containers, which nearly doubled, office supplies, which were down about half, and compost and mulch, which increased by more than 30 percent. The "other" category decreased by 20 percent and includes furniture, animal bedding, outdoor equipment, and housekeeping supplies. Re-refined motor oil purchases increased by 35 percent this year, which could be a result of education on the availability of the product.



### 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 (EPP). EPP, or green purchasing, includes a host of attributes that can be considered to decrease the impact of our purchases on the environment.

Several universities have developed green building initiatives for new facilities or have begun greening energy and water elements in older buildings. Green buildings require architects and contracts to consider many things from building placement, water and energy use and more environmentally friendly products. Other successes in state government this year include the initiation of dialogue between some

of the DOA Purchase and Contract engineers and DPPEA to revise some product specifications. One huge success included updating the carpet specifications to include more recycled content, as well as language that requires the vendor to remove and recycle old carpet.

## **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 state term contracts that offer high quality, affordable recycled content choices for state 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 \$12.5 million in virgin paper purchases to recycled paper will allow North Carolina state government to contribute substantially 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. In the case of a product like re-refined motor oil – which meets the exact specifications of virgin oil and is supported for use by engine manufacturers – agency purchases of the product is strongly recommended.

The following recommendations may help to increase recycled content purchasing in the future and help state government meet goals set forth both in Executive Order 156 and General Statutes.

## **Recommendations**

**I. Engage agencies regarding sustainability throughout the year.** Continuing efforts to reach out and network with state agency purchasers will help establish green purchasing efforts as an every day activity. It will also strengthen the ability for DPPEA to collect and manage data related to state agency purchases. Reinvigorating NC Project Green, continuing onsite visits, and encouraging collegiate participation in the Collegiate Recycling Conference will revitalize this communication.

**II. Increase administrative support and educational programs.** Disparity among agencies in the degree of support and routine communication received from top management may be the most significant barrier to increased agency participation in recycling and recycled content product procurement. Administrative support is crucial also to the successful implementation of agency sustainability plans that incorporate waste reduction, recycling, and environmentally preferable procurement. For those agencies that have not yet prioritized waste reduction and buying recycled, it is recommended that they:

- Implement and adhere to the goals of Executive Order 156.
- Issue and enforce internal policies, official memoranda and formal declarations that demonstrate administrative leadership and support for Executive Order 156.
- Develop and implement ongoing outreach and education programs for employees and visitors, and take advantage of the assistance DPPEA can offer.

**III. Increase procurement of non-paper recycled content products.** Outright expenditures for non-paper recycled products continue to lag behind those of paper purchases. A vast variety of products are available with recycled content materials, which is apparent from the federal governments purchasing regulations under Executive Order 13101. Their *Comprehensive Procurement Guidelines* features more than 50 items in eight categories, including paper, non-paper office, construction, landscaping, park and recreational, transportation, vehicles and miscellaneous products (visit <http://www.epa.gov/cpg/> for more information). Purchasing a diverse array of recycled content products not only strengthens recycling and job markets in North Carolina, it also helps agencies fulfill their obligation to become more environmentally sustainable. To improve overall buy-recycled efforts, state agencies should:

- Expand the quantity and variety of non-paper recycled products purchased through agency convenience contracts and state term contracts.
- Improve electronic tracking systems for all recycled product purchases.
- Specify or encourage the use of recycled materials and supplies by contracted services, especially in construction, housekeeping and printing.



**IV. Make purchasing decisions based on full environmental impact vs. one-time cost.** To determine the full environmental impact of a product or service, it is important to look at the full life cycle analysis of a product. By doing so, agencies can begin to make purchasing decisions that will reap short and long term benefits.

- Begin looking at products in terms of broad environmental impacts including: durability, energy efficiency, performance, recycled content and recyclability, toxicity, biodegradability, local manufacturers, and packaging.
- Open dialogue with P&C regarding products on STC and contractual services that take into account environmental impact.

#### **Agencies that Purchased 100 Percent Recycled Paper in FY 06**

Alamance Community College*	McDowell Technical Community College
Appalachian State University	Pamlico County Schools
Asheboro City Schools	Randolph Community College
Davidson County Schools	Roanoke Rapids City Schools
Fayetteville Tech Community College	Sampson County Schools
Guilford County Schools	Stokes County Schools
Hoke County Board of Education*	UNC Charlotte
James Sprunt Community College	Wake Technical Community College
Kannapolis City Schools	Wilkes County Schools
Madison County Schools	Wilson Technical Community College
	Winston-Salem State University

\*Did not report any office paper or miscellaneous paper purchases.

#### **Agencies that Failed to Report Data for FY 06**

Alexander County Schools	Hertford County Schools
Alleghany County Board of Education	Hyde County Board of Education
Asheville City Schools	Iredell-Statesville Schools
Avery County Schools	Johnston County Schools
Bertie County Schools	Kings Mountain District Schools
Bladen Community College	Lenoir County Public Schools
Brunswick County Schools	Lieutenant Governor's Office
Cabarrus County Schools	McDowell County Schools
Caldwell County Schools	Mitchell County Schools
Carteret Community College	Mooreville Graded School District
Carteret County Schools	NC Central University
Catawba County Schools	NC School of the Arts
Cherokee County Schools	Northampton County Schools
Clay County Board of Education	Pasquotank County Schools
Clinton City Schools	Pembroke State University*
Coastal Carolina Community College	Pender County Schools
Columbus County Schools	Roanoke-Chowan Community College
Dare County Schools	Robeson County Public Schools
Edenton-Chowan Schools	Shelby City Schools
Edgecombe Community College	Tyrrell County Schools
Elizabeth City State University	UNC Hospitals
Fayetteville State University	Union County Public Schools
Franklin County Schools	Warren County Schools
Graham County Schools	

\*Completed the 2005 State Agency Source Reduction, Recycling, and Composting Report



## State Agency Source Reduction, Recycling, and Composting Efforts

This is the second consecutive year the Division of Pollution Prevention and Environmental Assistance collected the recycling report since FY 1999. Forty-four agencies reported data, consistent with last year, which constitutes 42 percent of the required reporting entities. Universities and community colleges are heavily represented, accounting for 40 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 and share buildings with non-state businesses. They make up 27 percent of the required reports, and include more than twice as many state employees than the Capital area. This year four agency departments reported. The Department of Commerce and the Department of Insurance answered questions regarding their internal recycling program. The Department of Transportation filed a complete report, and a complete summary of their solid waste and recycling program is included in this 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 provided by the Department of Administration and managed by Facilities Management. Facilities Management gathers data from the collection companies and completes this report for agencies in the capital region.

### Recycling Performance

In fiscal year 2006, state agencies collectively diverted 29,210 tons from disposal in landfills and incinerators. Respondents reported recycling 8,682 tons of paper, 2,315 tons of metals, 338 tons of glass, 349 tons of plastic, 6,180 tons of organics, and 11,219 tons of other materials, as demonstrated in Figure 1. Many universities and community colleges remarked that they now commingle their containers; glass and plastic categories may therefore represent estimated numbers or a lump sum of mixed containers.

This data is extremely variable, and drawing comparisons to the 1999 data is difficult because reporting behaviors have most likely changed. **Based on FY 2006 data, the agency recycling rate for all wastes managed during the year was about 27 percent.** This is a 3 percent increase from the 2005 report, but still 8 percent less than the 1999-recycling rate. Three agencies reported recycling tonnages this year but did not include solid waste tonnages.

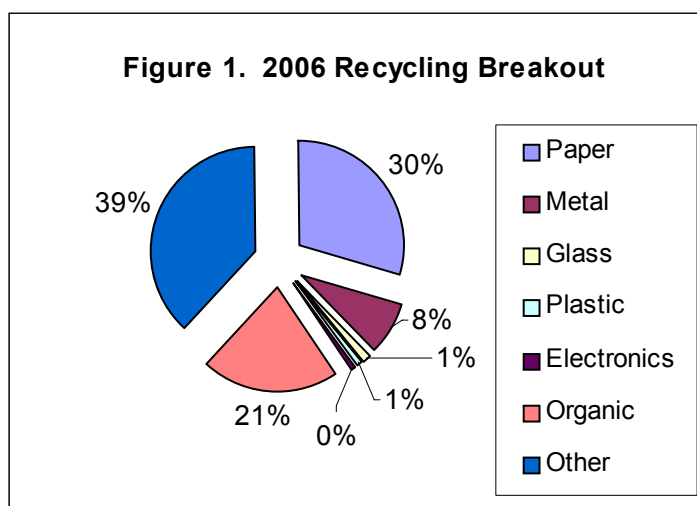


Figure 2. DOA Recycling Tonnages	
Material	Tons
Paper	1852
Metal	15
Glass	3
Plastic	10
Total Tons Recycled	1880

The Capital area recycling data reported by Facilities Management is included in this data. A breakout of the categories is exhibited in Figure 2, representing 6 percent of the total recycling tonnage. Given the data reported, the projected recycling rate of the Capital region would be 53 percent, a gross overestimate that results from a lack of comparative solid waste disposal data.

Data was collected for electronics recycling for the second year in a row. An encouraging one third of agencies have a contract set up with a computer recycling vendor, and in FY 2006 collected 126 tons of electronics. This does not include data from DOA or the State Surplus

Office. Most agencies assert using the statewide electronics recycling contract

([www.doa.state.nc.us/PandC/926a.htm](http://www.doa.state.nc.us/PandC/926a.htm)) to complement recycling through state surplus. A handful of agencies reported other vendors they work with, all of which are listed in our online Recycling Markets directory at [www.p2pays.org/dmrm](http://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 alternate opportunity of reclaiming valuable resources from electronic products.

### **Solid Waste and Program Costs**

Approximately 80,078 tons of solid waste were landfilled or incinerated for state agencies in FY 2006, costing about \$9.8 million in collection and disposal fees at an average cost of just under \$123 per ton. This is just a fraction of the 134,599 tons reported in 1999 costing \$11.75 million, but it is a 44 percent increase from last year. While the overall cost of disposal increase by almost \$3 million from last year, the cost per ton actually decreased by five dollars. This number is extremely fickle depending on how complete agency reports are. Two agencies reported solid waste tonnages but did not report the cost of disposal.

Calculating the total cost of solid waste and recycling programs is difficult, and the report falls short in acquiring sequential data for accurate calculations. Some agencies even responded to this point. In particular, calculating the total cost of solid waste and recycling collection, in conjunction with a successful recycling program, may require more supplemental calculations. In order to determine the true cost or cost avoided, both programs must be considered in the equation. 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, eight 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. The total cost avoided was over \$4 million.

While nearly half the agencies reported some revenues for the sale of recyclables amounting to just over \$300,000, the majority still experienced program costs totaling nearly \$2.7 million. Program costs include collection, processing and outreach and education. **The result is an average cost of \$91 per ton of recyclables, \$32 less than the cost for solid waste disposal**, which exemplifies the savings in recycling. 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 sometimes a higher upfront cost for containers and initial education, and minimal costs to continue marketing the program.

### **Administrative Support and Source Reduction**

The majority of agencies report that they receive top-down administrative support for recycling efforts, and well over half have a lead coordinator for waste reduction and recycling program. Forty-one percent have a waste reduction program, and a handful more have ongoing educational and promotional 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. Information is communicated and distributed via:

- ✓ Meetings with staff, dormitory resident assistants, and employee and student orientation
- ✓ Presentations and tabling special events such as: Move-In, Move-Out, Earth Day, America Recycles Day, Ozone Day
- ✓ Employee manual and materials distributed during student move-in and move-out
- ✓ Web sites, e-mails, electronic bulletin boards, brochures, fliers, newspaper, newsletters
- ✓ Posters, signs, and recycling bins
- ✓ Environmental Clubs and SGA.

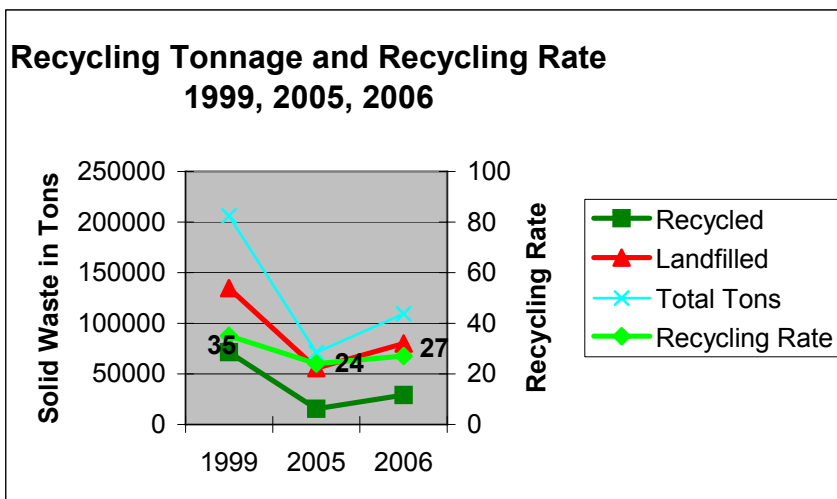
An outstanding 90 percent of state agencies practice waste reduction at the source, including reducing office paper by eliminating unnecessary reports and forms or converted to electronic format, making fewer copies, double sided printing, using email and voice mail to communicate, and posting announcements on bulletin boards or in break areas. Agencies estimate to have reduced 288.5 tons of paper by reducing

their usage in fiscal year 2006. 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 in many ways 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 has not been significant overall improvement. 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.

This year's recycling tonnage represents a 70 percent increase from last year, but only a fraction of the 71,344 tons reported in 1999. This and other inconsistencies can be attributed to a few major challenges, making overall comparisons complicated. For instance, some agencies are reporting their data in tons while others in pounds. This year the data was reviewed more acutely. Next year, the integrity of the data will improve further with updates to the final report form. In addition, there has been a decrease in the number of departments reporting for regional offices in particular. Furthermore, some agencies in downtown Raleigh supplement the state's collection contract with their own, and have not reported that data.



Much of the variability in performance difference 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 in one region and the truck is brought across scales to calculate the tonnage. For these reasons, data reported by state agencies 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 an accurate comparison between recycling tonnage increasing causing a decrease in solid waste being disposed of in the state's landfills and incinerators. While the amount of recycling increased by 70 percent since 1999, and the solid waste tonnage only increased by 44 percent, which is less than half. Overall, the recycling rate improved by 3 percent, from 24 percent in 2005 to 27 percent in 2006. Improved awareness of agency solid waste streams and more accurate data collection will make a more reliable comparison possible. Data compiled for this report indicate that state agencies are recycling less than a third of their solid waste. It appears that agencies have simultaneously achieved some waste reduction through their efforts.

More encouraging are examples of agencies that have pulled forward as stars in waste reduction and recycling efforts. Many of the universities provide reuse programs including large-scale collection and redistribution of clothing, furniture, household supplies, and sometimes 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 have reached out for assistance to restart or

revitalize their program. UNC-Wilmington, Forsyth Tech and Wake Tech all contacted DPPEA following the reporting season last year for assistance in reviving their programs.

DPPEA has developed a new outreach and education campaign that is available to all universities and community colleges to help promote recycling programs. In FY 2006, 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](http://www.re3.org) to learn more about recycling. In 2007 DPPEA is planning to develop new materials to continue promoting the program, including online resources such as a web-blog, new commercials, and more promotional materials.

### **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. Assess the impact of source reduction and recycling on waste disposal and costs. Tracking the amounts of solid waste disposed annually by state agencies is the only way to determine whether efforts to reduce waste, including recycling programs, are impacting the waste stream. This information, along with data on the costs for collection and disposal of solid waste, 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 communicate your recycling program. Programs are ineffective if they are not visible and not explained to employees. This may be as simple as quarterly e-mail reminders of what is accepted at the various bins in your office, 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. DPPEA makes materials available for promotional initiatives, including posters, stickers and other advertising tools through the RE3 program at [www.re3.org](http://www.re3.org).

## CHAPTER 5 – 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, and 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 and contained chlorofluorocarbons refrigerants (CFCs). Counties were mandated to manage them by providing at least one disposal site, at no cost to citizens, and to arrange for the removal of CFCs. To fund this statute the General Assembly imposed a \$3 tax (advanced disposal fee or ADF) on new white goods purchased.

### Overview

- County revenues from scrap metals sales continue to stay high. The demand from overseas markets appears to remain strong despite minor price fluctuations. A number of counties that have made investments in infrastructure to increase efficiency and streamline costs are receiving good profits by selling scrap metals.
- Some counties are continuing to regain control of white goods programs from contractors and third parties. County governments that fail to realize the full worth of scrap metals lose considerable amounts of potential proceeds from their white goods programs.
- A small number of counties with high overhead costs continue to require subsidizing of their deficits. Those counties request cost over-run grants to balance their accounts. As scrap metal prices remain relatively high some counties continue to give away their scrap metals, losing substantial revenue.
- The white goods program continues to promote county infrastructure for improved white goods management through its capital improvements grant program. A number of counties that have used white goods money to improve infrastructure are now receiving lucrative returns.
- Several counties have established in-house chlorofluorocarbons (CFCs) reclamation programs. The white goods program promotes CFC reclamation by providing money to counties for purchasing of machinery and training of personnel. Refrigerant gas recycling provides another source of revenue to counties willing to organize such a program.
- A mechanism should be devised to ensure that counties are spending white goods tax revenues on their white goods 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 Nov. 1<sup>st</sup>. 45 counties had submitted AFIRs at the time this report was prepared, Jan. 15, 2007. A final, revised report will be issued when the remaining counties submit their AFIRs. It should be noted that, aside from many AFIRs from counties being late, many have blank or erroneous entries.

### Counties that did not report as of January 15, 2007

Alamance	Alexander	Ashe	Beaufort
Buncombe	Burke	Caldwell	Camden
Caswell	Chowan	Columbus	Currituck
Dare	Davidson	Durham	Franklin
Gates	Granville	Greene	Halifax
Henderson	Hertford	Hoke	Hyde
Jones	Macon	Madison	McDowell
Mitchell	Montgomery	Moore	Nash
Northampton	Onslow	Pamlico	Pender
Perquimans	Pitt	Polk	Richmond
Robeson	Rowan	Rutherford	Scotland
Stanly	Stokes	Transylvania	Tyrrell
Vance	Warren	Watauga	Wayne
Wilkes	Yancey		

## Financial Update

- ❑ **The white goods management account no longer runs a large surplus.** The number of counties that forfeit their tax proceeds declined significantly while overall grant requests continue to stay relatively high. In FY 98-99, 42 counties forfeited tax proceeds. However, by the fourth quarter of FY 05-06, only 8 counties had forfeited their proceeds.
- ❑ The amount of forfeited funds available for redistribution dropped 75 percent in the last few grant periods, at the same time that county requests for cost overrun and capital improvement grants have remained relatively steady.
- ❑ In FY 2003-04 the white goods management account received \$539,293 in forfeited funds. In FY 05-06 the white goods management account received \$295,473.29 in funds forfeited by counties. This represents a drop in revenue of nearly 45 percent.

### **Advance Disposal Fee**

Net white goods ADF collections in FY 05-06 totaled \$4,903,323.64. Funds were disbursed as follows:

\$ 4,903,323.64	Allocated for direct distribution to counties
\$ 935,846.14	Allocated for white goods management account
\$ 374,338.46	Solid Waste Management Trust Fund
\$ 224,092.96	N. C. Department of Revenue cost of collections
\$ 3,369,046.08	Actual amount distributed directly to counties
\$ 295,473.29	Forfeited by ineligible counties

Although \$3,369,046.08 (72 percent of the net disposal fee collections) was allotted for distribution, ineligible counties forfeited \$295,473.29. The forfeited funds went to the white goods management account, which receives 20 percent of net collections.

### **White Goods Management Account**

The White Goods Management Account was established to help counties whose costs exceed their share of ADF revenue. The account receives 20 percent of white goods ADF revenues. It also receives funds forfeited by counties whose surplus exceeds their threshold amount. By the end of FY 05-06, the White Goods Management Account had \$1,105,017.50 in actual and projected commitments and an account balance of \$969,305.17 which was slightly higher than the starting balance of \$878,734.03. These commitments include \$500,000 for grant requests for the first half of the next fiscal year and \$605,017.50 for capital improvement grants obligations. This account is used to fund counties that incur deficits in their white goods accounts and to provide capital funds to counties to upgrade program infrastructure.

#### **WHITE GOODS DISPOSAL ACCOUNT BALANCE FY 05-06**

Beginning Balance (July 1, 2005)	\$ 878,734.03
Funds Received during FY 05-06	\$ 1,231,319.43
Cost Overrun Grants Disbursed in FY 05-06	\$ 498,046.81
Capital Improvement Grants Paid in FY 05-06	\$ 642,701.48
Moneys Needed for Future Grant Awards*	\$ 1,105,017.50
Ending Balance (June 30, 2006)	\$ 969,305.17

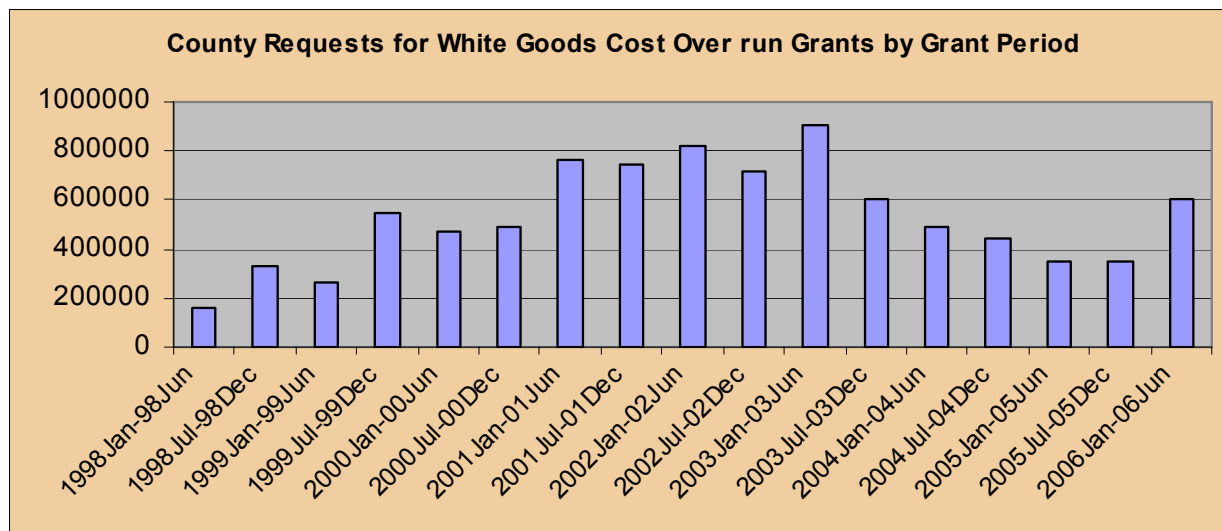
\*Includes \$605,017.50 reserved for capital improvement grants and \$500,000 reserved for next round of overrun grants.

### **White Goods Management Account Grants**

The first graph below shows that total amounts of money requested by counties for cost over-run grants in the last recent grant periods has decreased. There was a sharp rise in the amount of funds requested by counties for cost over-run grants in the January-June 2006 grant round of requests for the fiscal year. This was primarily due to the failure of one county to accurately report its expenses. Otherwise, the graph followed its historic values. The amounts of funds that are requested by counties for cost over-run grants have remained relatively stable for the last few grant rounds. This is thought to be due to the high value of scrap metal. At the end of 2001, the benchmark price (benchmark pricing does not include the costs of shipping and processing metals) of scrap metals was at \$95 per ton. At the end of 2003, the benchmark



price was set at \$150 per ton. Presently, at the end of 2006, the benchmark price of scrap metal stands at \$185 per ton.



Over \$289,273.52 in grants went to 24 counties for losses incurred July-December 2005; \$208,773.29 was distributed to 24 counties for losses incurred January-June 2006 (Tables 1 and 2).

**Table 1**

**Grant Requests & Awards from the White Goods Disposal Account  
for Losses Incurred July- December 2005**

County	ADF	Amount Requested	Amount Paid
Brunswick	\$15,858.97	\$29,176.60	\$29,176.60
Camden	\$1,589.93	\$3,421.00	\$3,421.00
Chatham	\$10,257.58	\$18,029.29	\$7,211.72
Chowan	\$2,698.86	\$7,980.37	\$7,980.37
Cleveland	\$18,165.24	\$73,516.40	\$29,406.56
Craven	\$17,154.40	\$736.72	\$736.72
Currituck	\$4,079.91	\$9,173.72	\$9,173.72
Duplin	\$9,601.47	\$6,203.67	\$6,203.67
Edgecombe	\$10,055.41	\$9,346.73	\$3,738.69
Gates	\$2,048.90	\$8,956.55	\$3,582.62
Graham	\$1,505.81	\$25,226.07	\$10,090.43
Hyde	\$561.64	\$4,649.48	\$1,859.79
Lenoir	\$10,918.91	\$41,949.99	\$29,364.99
Madison	\$3,768.07	\$2,924.00	\$2,923.73
Moore	\$14,797.40	\$4,641.41	\$4,641.41
Nash	\$16,917.91	\$40,255.17	\$28,178.62
Northampton	\$4,022.09	\$20,159.22	\$8,063.69
Orange	\$22,560.15	\$15,769.12	\$6,307.65
Perquimans	\$2,208.17	\$8,442.57	\$8,441.97
Pitt	\$26,391.45	\$1,745.60	\$1,745.60
Randolph	\$25,326.92	\$1,665.63	\$1,665.63
Rutherford	\$67,790.62	\$857.82	\$857.82
Tyrrell	\$415.51	\$820.70	\$328.28
Washington	\$2,514.04	\$9,180.02	\$3,672.01



Table 2

**Disposal Grant Requests & Awards from the White Goods Account  
for Losses Incurred January- June 2006**

County	ADF	Amount Requested	Amount Paid
Beaufort	\$0.00	\$34,902.78	\$17,451.39
Camden	\$1,589.93	\$5,883.00	\$5,883.00
Carteret	\$11,538.84	\$37,755.84	\$26,429.09
Chatham	\$10,257.58	\$26,205.03	\$13,102.52
Cleveland	\$18,165.24	\$70,961.12	\$35,480.56
Currituck	\$4,079.91	\$5,084.68	\$5,084.68
Duplin	\$9,601.47	\$36,421.44	\$18,210.72
Durham	\$44,548.67	\$162,373.42	\$16,237.34
Graham	\$1,505.81	\$26,182.19	\$13,091.10
Lenoir	\$10,918.91	\$28,600.49	\$28,600.49
Macon	\$0.00	\$8,095.94	\$8,095.94
Madison	\$3,768.07	\$3,569.00	\$3,569.00
McDowell	\$8,065.62	\$1,353.54	\$1,353.54
Mitchell	\$2,982.53	\$14,628.17	\$10,239.72
Moore	\$14,797.40	\$12,407.26	\$12,407.26
Nash	\$16,917.91	\$41,523.58	\$29,066.51
Northampton	\$4,022.09	\$11,493.40	\$5,746.70
Orange	\$22,560.15	\$26,968.64	\$13,484.32
Pitt	\$26,391.45	\$1,706.76	\$1,706.76
Rowan	\$24,829.68	\$218.49	\$152.94
Rutherford	\$67,790.62	\$14,702.00	\$7,351.00
Transylvania	\$0.00	\$4,405.72	\$4,405.72
Tyrrell	\$415.51	\$8,763.77	\$4,381.89
Washington	\$2,514.04	\$11,059.07	\$7,741.35

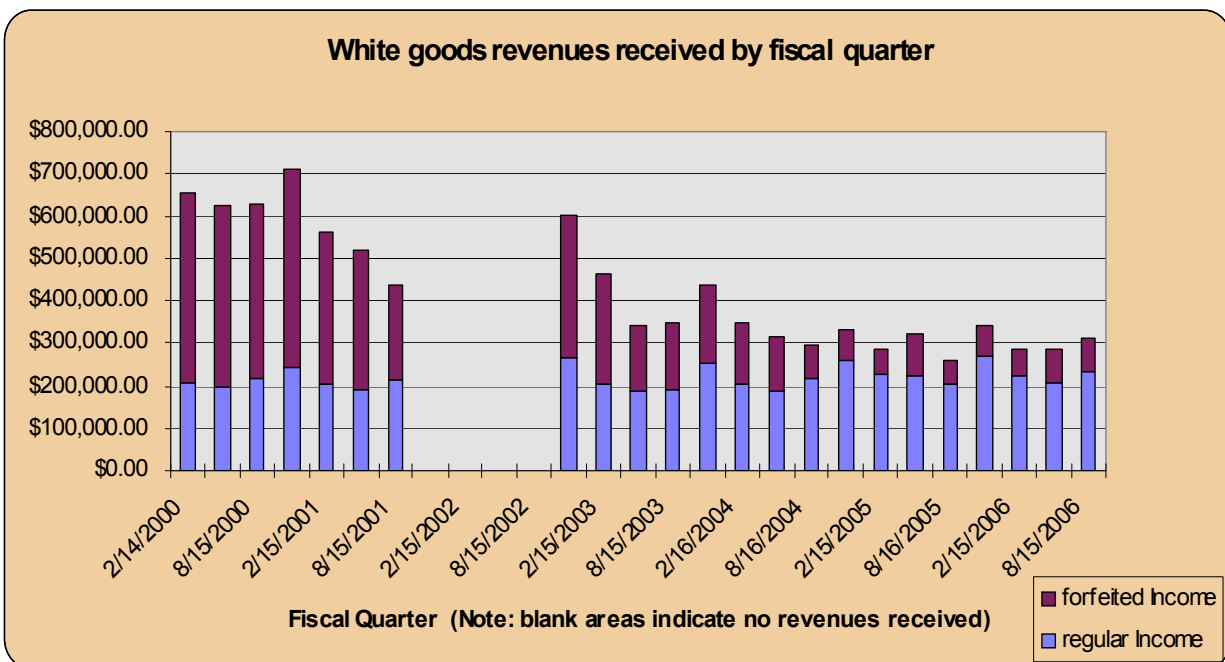
Capital improvement grants totaling \$ 642,701.48 were awarded to 13 counties (Table 3). *In FY 05-06, counties received \$1,140,748.29 in cost overrun and capitol improvement grants, and \$1,231,319.43 in revenues was received.*

Table 3

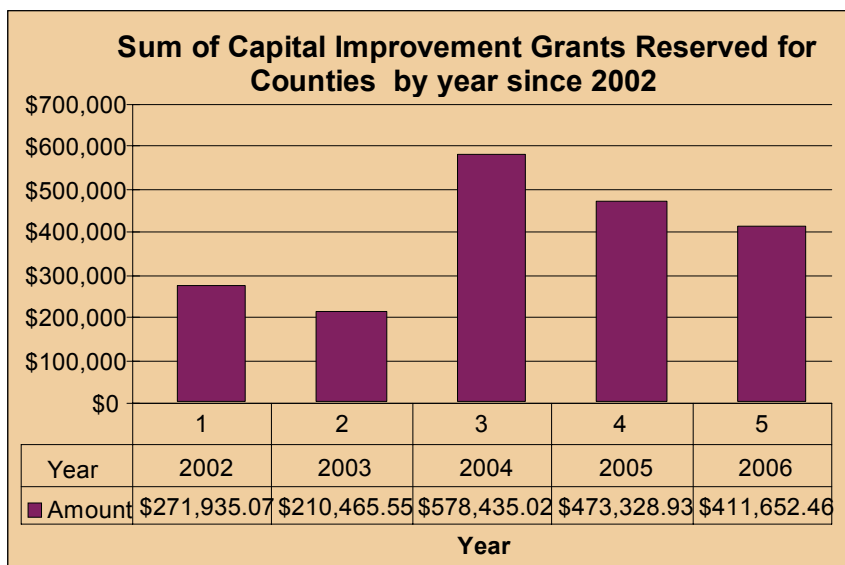
**Capital Improvement Grants Paid to Counties for Fiscal Year 2005-2006**

County	Amount	Purpose
Ashe	\$34,500.00	roll-off truck
Caldwell	\$56,100.00	skid steer
Chowan	\$10,607.80	roll-off containers
Duplin	\$93,569.85	concrete pad
Gates	\$10,607.80	roll-off containers
Hoke	\$45,898.00	concrete pad
Jackson	\$34,304.83	loading area
Lincoln	\$9,312.17	concrete pad repair
Lincoln	\$53,851.70	Knuckleboom loader
Nash	\$15,450.00	concrete pad
Perquimans	\$12,918.50	roll-off containers
Pitt	\$68,125.00	roll-off containers
Surry	\$54,345.88	concrete pad
Wilkes	\$143,109.95	road tractor-trailer

As the previous graph demonstrated, the total of the amounts requested have decreased gradually in recent grant periods. As the next graph depicts, the amount of available funds dropped significantly at the same time grant requests declined. Funds are received into the white goods account from the Department of Revenue forty five days after the end of the fiscal quarter.



The graph below shows that since the year 2002 capital improvement grant amounts have increased. The white goods program is actively encouraging counties to improve infrastructure and equipment to enhance county program efficiency. The net effect of these trends is that careful management of the fund is necessary to keep it solvent.



### Program Results

Grant and ADF 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 05-06, 45 county collection sites took in 38,788 tons, or an estimated 969,700 appliances. 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 ADF. In 1998, Senate Bill 124 extended the fee for three years but reduced it from \$10 to \$3. In 2000, the sunset on the fee was removed.

The 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 ADF proceeds to clean sites based on the percentage of white goods at the site.

Another accomplishment came when counties began to implement proper management practices to capture and recycle CFCs. The practice avoids illegal venting of CFCs into the atmosphere, but also creates a potential revenue source.

Anecdotal data indicates that more can be accomplished in this area. Accidental and intentional venting of CFCs because of poor management practices may be more widespread than previously thought. Larger regulatory fines would act as a deterrent to illegal venting of CFCs and encourage counties to do more toward recycling.

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 and for the training of personnel. It is hoped that the net result will be a decrease in the amounts of ozone depleting CFC's accidentally released into the environment while at the same time opening up new revenue opportunities for counties in reclaimed CFCs.

The white goods program's emphasis on capital improvement grants has enabled counties to acquire the equipment and infrastructure for more efficient white goods management. At the same time, the use of machinery and infrastructure to better manage white goods produces higher revenues from scrap metals.

Though the white goods program has had many accomplishments, some problems remain. Those include the limited accountability by counties to assure that tax disbursements and grants are being used for direct white goods costs.

Many local governments are privatizing their white goods management. Overall, 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.

### **Counties That Forfeited Funds**

#### **Counties That Became Ineligible for Advance Disposal Fees (ADF) In March 2006** **(Based on FY 04-05 AFIR Reports)**

Anson	Beaufort	Bertie	Cabarrus	Cherokee
Forsyth	Franklin	Greene	Hoke	Hyde
Jones	Macon	Polk	Richmond	Robeson
	Sampson	Transylvania	Tyrrell	

**Counties That Will Become Ineligible for Advance Disposal Fees in March 2007**  
**(Based on FY 05-06 AFIR Reports)**

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

Anson	Bertie	Cabarrus	Cherokee
Forsyth	Graham	Lincoln	New Hanover
Sampson	Union	Wilson	

Counties that do not submit their AFIR by March 1, 2007, will be ineligible to receive tax proceeds.

**White Goods Management Costs**

Counties can use the white goods ADF proceeds disbursed quarterly by the Department of Revenue 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. Many 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 counties with high costs. Some counties with low program costs are marginally in compliance with the law's intent.

The 45 reporting counties spent \$2,851,767 in FY 05-06. Of this total \$2,576,550 was for daily operations, \$173,112 for capital improvements, and \$102,105 to clean up 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 recordkeeping, and lack access to a local market or a combination of these factors. Because of 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 over run grants to finance their programs.

<b>Highest Operating Costs Reported</b>		
<b>County</b>	<b>Cost per Ton</b>	<b>Cost per Appliance</b>
Chatham	\$193.84	\$7.75
Cumberland	\$165.32	\$6.61
Gaston	\$163.04	\$6.52
Graham	\$146.80	\$5.87
Cleveland	\$117.78	\$4.71
Duplin	\$117.02	\$4.68
Person	\$113.65	\$4.55
Wake	\$109.46	\$4.38
Randolph	\$102.68	\$4.11
Orange	\$95.13	\$3.81

<b>Lowest Operating Costs Reported</b>		
<b>County</b>	<b>Cost per Ton</b>	<b>Cost per Appliance</b>
Anson	\$0.00	\$0.00
Brunswick	\$0.00	\$0.00
Martin	\$1.66	\$0.07
Iredell	\$3.24	\$0.13
Sampson	\$11.62	\$0.46
Wilson	\$11.95	\$0.48
Swain	\$12.43	\$0.50
Cabarrus	\$16.62	\$0.66
Lincoln	\$17.31	\$0.69
Cherokee	\$22.50	\$0.90

\*Estimate assumes an average appliance weight of 80 pounds.

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. Overall, operating costs by counties do not seem restricted by geography. Instead, analysis suggests that a correlation to distance to markets, extent of intra-county collections, extent of record keeping, and cost allocation plans among counties have a greater effect on county costs.

**Tonnage Collected by Counties**

In FY 05-06, 45 counties reported processing 38,788 tons of white goods. This translates into 969,700 individual appliances (assuming 25 appliances per ton), or about .11 appliances per person in North Carolina. In FY 91-92 all 100 counties collected 25,749 tons, or 644,000 appliances.

## CHAPTER 6 – Scrap Tire Management

### Scrap Tire Disposal Account

The Scrap Tire Disposal Account was created by the 1993 General Assembly. It receives 27 percent of its revenues from the Scrap Tire Disposal Tax initiated on October 1, 1993. The 2002 Session removed the sunset on the Scrap Tire Disposal Tax.

Beginning in October 1992, 25 percent of the STDA fund was allocated for cost overrun grants to counties and 75 percent was allocated for clean up of nuisance tire sites. Starting with the August 12, 1997 distribution, 50 percent of the fund is allocated for cost overrun grants, 10 percent for clean up of nuisance tire sites and 40 percent for processed tire material market development grants.

#### **FY 05-06 Balances**

Balance of Funds as of July 1, 2005	\$4,941,915.16
Deposits Received FY 2005-2006	\$3,438,176.52
Total Funds in Account	\$8,380,091.68
Grants to County Scrap Tire Programs	\$1,706,606.38
Nuisance Tire Site Cleanup Program	\$163,085.85
Processed Tire Material Grants	\$393,598.29
Balance of Funds as of June 30, 2006	\$6,116,801.16
Obligated funds as of June 30, 2006	\$3,114,021.24
Net Balance of Funds as of June 30, 2006*	\$3,002,779.92

\* \$3,114,021.24 obligated: \$704,510 for tire cleanup, \$2,409,511.24 for tire recycling grants under contract and under negotiation

### Tire Tax Distribution

Of the state's tire disposal tax revenue, 68 percent is distributed to counties on a per capita basis. In the past year, the total amount distributed was \$8,563,897.80. 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 77 percent of the total reported disposal costs of \$11,041,479.85. This provided an average of \$1.57 for each of the 7.1 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. (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 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, 60 counties requested \$1,157,388 and were awarded \$799,168. In the second grant cycle, 61 counties requested \$1,267,951 and were awarded \$907,438.

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 division 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.

<b>Grant Period</b>	<b>10/02-3/03</b>	<b>4/03-9/03</b>	<b>10/03-3/04</b>	<b>4/04-9/04</b>	<b>10/04-3/05</b>	<b>4/05-9/05</b>
Funds Available	\$694,963	\$788,202	\$834,700	\$974,029	\$884,872.58	\$1,011,756.57
Funds Awarded	\$821,583	\$816,985	\$767,032	\$949,011	\$799,168.27	\$907,438.11
Grant Requests	60	61	60	67	60	61
Funds Requested	\$1,011,560	\$1,107,107	\$1,094,005	\$1,403,584	\$1,157,388.16	\$1,267,950.84

### Processed Tire Material Market Development Grants Awarded

The goal of the division's grant program is to make scrap tire recycling sustainable in North Carolina. This goal can be met. We anticipate awarding grants for manufacturing rubber products such as 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. 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	
❑ TIRES, Inc., Winston Salem, N.C.	\$320,000.00
Produce playground/industrial mats 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	
❑ N.C. State University, Raleigh, N.C.	\$122,480.00
Performance of Tire Chips in Bed Systems Drain-fields of Septic Systems	

### Tire Cleanup Program

A total of 364 nuisance tire sites have been identified in North Carolina; 342 have been cleaned and 20 sites have cleanups underway. The remaining three 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	342	7,921,557	94%	7,921,557
Under Clean Up	20	514,780	5%	131,733
Remaining Sites	2	18,000	1%	0
<b>TOTAL</b>	<b>364</b>	<b>8,454,337</b>	<b>100%</b>	<b>8,053,290</b>

The law requires the Division to first address nuisance tire sites that pose the greatest threat to public health and the environment. At the program's start, efforts and actions to clean top priority sites were developed and initiated as funds were available. As cleanup funds were received through quarterly distributions, additional priority sites were cleaned.

The section has established and implemented a specific cleanup plan for each known nuisance tire site. As new sites are discovered, prompt investigation leads to a cleanup plan for each site within 30 days. The plan is implemented as soon as possible to minimize potential threats to human health and the environment. The section is committed to the N.C. Big Sweep program, with reimbursements going to counties that request funds to dispose of scrap tires collected by the statewide event.



To date 181 nuisance tire sites were cleaned using STDA funds. Cost recovery efforts collected \$413,896.74 from responsible parties in 10 of these sites. One site is under cost recovery action.

As a cost saving measure, minimum-security inmates have removed over 600,000 tires from nuisance sites. Counties that have used inmate labor in nuisance tire cleanups are: Anson, Bladen, Buncombe, Burke, Camden, Chatham, Chowan, Cleveland, Columbus, Craven, Davidson, Halifax, Harnett, Iredell, Lee, Moore, New Hanover, Northampton, Onslow, Perquimans, Richmond, Robeson, Rockingham, Rutherford, Stokes, Surry, Washington and Yadkin.

### Scrap Tire Generation

The U.S. EPA standard to estimate scrap tire generation is one tire per person, per year.<sup>4</sup> The 2005 N.C. population was about 8.7 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 received in either tons or the number of tires. Tons can be converted to number of tires. A ton of tires consist of 100 passenger tires, 20 truck tires, or 4 off-road tires (tractors and other large off-road equipment). A more accurate method of converting tons reported to number of tires was utilized for this report, as it was for last year's report. This method results in a lower total number of tires disposed from prior years but a more accurate accounting for the three categories of tires.

In FY 05-06, counties reported receiving tires in three size categories: 87 percent passenger car tires, 11 percent heavy truck tires and 2 percent off-road tires. During FY 05-06 counties disposed of 7,028,095 tires (6,113,879 passenger, 741,643 heavy truck and 172,563 off-road). Comparing tire generation to population results in .81 scrap tires 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 is presented in the Appendix.

In FY 05-06, North Carolina businesses and individuals disposed of approximately 166,000 tons of tires. These tires were managed by county collection facilities and private processing/disposal facilities as follows:

142,563 tons	Managed by counties and shipped to three NC processing firms
1,377 tons	Managed by counties and shipped out-of-state
<u>22,116 tons</u>	Tires taken directly to processing firms (not managed by counties)
<b>166,056 tons</b>	<b>Total</b>

Counties reported receiving approximately 144,000 tons from N.C. scrap tire generators. The counties shipped about 143,000 tons to three private North Carolina recycling facilities; the remaining tons were shipped to out-of-state processors.

Three private N.C. processing firms received 143,000 tons from county tire programs and an additional 22,000 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.

The tire program's success is proven by the increase in the number of tires disposed during the past twelve years. Almost all disposed tires are being handled at regulated disposal facilities. However, since free disposal was implemented in 1994, a problem has emerged with illegal disposal of out-of-state tires at county collection sites. The Solid Waste Section estimates that counties spend about \$600,000 per year to manage out-of-state tires that are inappropriately disposed as North Carolina tires. This cost estimate is based on disposal costs in counties with tire volumes greater than 120 percent of the county population (1.2 tires per person). Some counties are regional retail centers or have other factors that cause them to receive an excess volume of tires.

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<sup>4</sup>"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 over-runs.

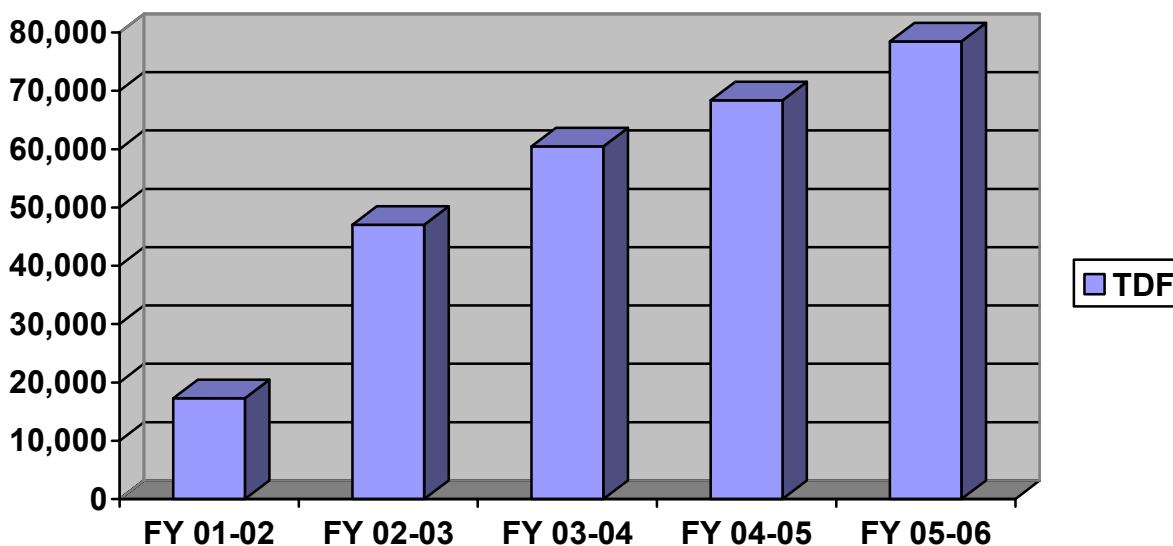
### County Tire Disposal

There are 98 county programs, including one regional program [Carteret, Craven and Pamlico (CRSWMA)]. Counties reported spending a total of \$11,041,479.85 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 N.C. 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.

### Tire Recycling

In FY 05-06, 70% of tires received by the three North Carolina processing facilities were recycled. In order of weight recycled, the categories are tire derived fuel, civil engineering (including drain field material), crumb/ground rubber, retread/resale, and miscellaneous. 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. Demand has increased from 17,304 tons in FY 01/02 to 78,474 tons in FY 05/06. While the recycling rate for scrap tires has continued to increase, the division actively seeks new opportunities for sustainable scrap tire recycling.



**Addendum****Table 7 - COUNTY REPORTS OF TIRE DISPOSAL ACTIVITIES**

<b>County</b>	<b>Tax Revenue</b>	<b>Total Costs</b>	<b>Contractor</b>
Alamance	\$137,791.16	\$181,210.44	CCTD
Alexander	35,208.11	36,129.63	USTR
Alleghany	10,900.26	26,345.00	USTR
Anson	25,761.84	23,078.64	TDS
Ashe	25,255.39	45,008.00	USTR
Avery	18,134.69	27,651.35	USTR
Beaufort	46,077.81	90,923.85	CCTD
Bertie	19,863.07	21,176.38	CCTD
Bladen	33,148.50	47,230.92	CCTD
Brunswick	84,766.36	141,805.02	CCTD
Buncombe	215,740.14	228,300.00	USTR
Burke	89,420.90	115,931.00	USTR
Cabarrus	146,749.85	143,000.00	USTR
Caldwell	78,932.94	80,322.81	USTR
Camden	8,409.89	13,291.50	CCTD
Caswell	23,829.27	17,784.04	CCTD
Catawba	148,377.97	220,945.61	USTR
Chatham	55,016.70	58,277.90	CCTD
Cherokee	25,748.31	40,658.30	USTR
Chowan	14,534.92	67,492.68	CCTD
Clay	9,616.02	19,538.50	USTR
Cleveland	98,041.11	168,103.83	USTR
Columbus	54,900.97	72,238.66	CCTD
CRSWMA	167,795.82	255,111.92	CCTD
Cumberland	312,040.84	262,436.32	CCTD
Currituck	21,696.48	31,604.50	WM
Dare	34,233.59	6985.93	CCTD
Davidson	153,887.46	160,832.87	USTR
Davie	37,988.48	28,589.13	USTR
Duplin	51,627.12	73,625.12	CCTD
Durham	239,662.54	301,200.52	CCTD
Edgecombe	54,290.40	75,938.00	CCTD
Forsyth	321,985.04	454,462.44	USTR
Franklin	52,906.78	67,573.04	CCTD
Gaston	193,036.73	192,244.17	USTR
Gates	11,016.69	11,433.10	CCTD
Graham	8,116.71	9,100.00	CCTD
Granville	53,147.27	82,354.39	CCTD
Greene	20,093.51	33,677.83	CCTD
Guilford	436,529.21	526,717.60	CCTD
Halifax	56,924.77	84,960.43	CCTD
Harnett	99,793.93	76,144.15	CCTD
Haywood	56,681.91	116,774.40	WR
Henderson	96,318.99	209,406.50	USTR
Hertford	23,883.47	42,747.60	CCTD
Hoke	38,462.12	28,741.84	CCTD
Hyde	5,696.27	12,340.56	CCTD
Iredell	136,179.16	214,875.00	USTR

County	Tax Revenue	Total Cost	Contractor
Jackson	35,692.50	45,689.22	USTR
Johnston	141,013.53	192,658.00	CCTD
Jones	10,290.49	15,591.95	CCTD
Lee	50,369.93	47,553.73	CCTD
Lenoir	58,996.76	96,259.42	CCTD
Lincoln	68,325.74	143,502.65	USTR
Macon	34,757.02	75,050.84	USTR
Madison	23,085.93	24,008.00	USTR
Martin	23,689.27	33,420.14	CCTD
McDowell	38,995.52	85,787.18	USTR
Mecklenburg	768,979.80	1,108,241.00	USTR
Mitchell	16,074.75	50,017.30	USTR
Montgomery	27,365.72	24,791.40	CCTD
Moore	79,559.15	56,508.97	CCTD
Nash	91,007.13	109,441.59	CCTD
New Hanover	174,096.46	286,757.53	CCTD
Northampton	21,757.12	24,983.40	CCTD
Onslow	160,025.34	141,934.58	CCTD
Orange	121,695.15	97,822.00	CCTD
Pasquotank	37,549.77	90,960.19	CCTD
Pender	45,067.69	70,949.07	CCTD
Perquimans	11,881.91	17,363.44	CCTD
Person	37,220.35	51,120.00	CCTD
Pitt	141,769.32	212,965.54	CCTD
Polk	19,066.46	18,260.00	USTR
Randolph	136,444.44	205,456.19	CCTD
Richmond	46,749.71	56,162.88	CCTD
Robeson	127,092.84	78,665.25	CCTD
Rockingham	92,765.07	109,858.00	CCTD
Rowan	133,960.41	152,818.74	USTR
Rutherford	63,664.74	96,211.40	USTR
Sampson	62,916.13	115,480.00	CCTD
Scotland	36,757.76	48,566.20	CCTD
Stanly	59,440.28	102,658.71	USTR
Stokes	46,102.01	43,527.74	USTR
Surry	72,651.61	137,630.56	CCTD
Swain	13,524.74	14,950.00	USTR
Transylvania	29,837.75	40,587.64	USTR
Tyrell	4,212.74	6,108.00	CCTD
Union	151,028.13	146,104.86	USTR
Vance	44,108.71	102,034.00	CCTD
Wake	722,228.12	813,779.60	CCTD
Warren	20,193.67	27,631.97	CCTD
Washington	13,560.72	35,848.26	CCTD
Watauga	43,099.78	42,652.70	USTR
Wayne	115,547.70	141,680.00	CCTD
Wilkes	67,379.77	120,000.00	USTR
Wilson	76,702.78	158,963.80	CCTD
Yadkin	37,226.51	29,837.74	USTR
Yancey	18,147.40	32,867.05	USTR
<b>TOTAL</b>	<b>\$8,563,897.80</b>	<b>\$11,041,479.85</b>	

CCTD – Central Carolina Tire Disposal / USTR – U.S. Tire Disposal / WM – Waste Management / WR – Waste Recovery

## CHAPTER 7 – Department of Transportation

### RECYCLE/REUSE/REDUCE REPORT

FISCAL YEAR 2005-2006



John L. Sharp  
Waste Management Analyst  
General Service Division



### 3 R PROGRAM - RECYCLE/REDUCE/REUSE

SPECIAL THANKS TO THE FOLLOWING FOR THEIR SUPPORT AND ASSISTANCE:



NCDOT SECRETARY LYNDON TIPPETT, Human beings are considered the “highest order” on earth. This title is more than an honor; it carries a special Responsibility. As living creatures, we have a moral obligation to do more than preserve our existing resources. We must set an example for the good of our successors—our children and grandchildren.



State Highway Administrator L. A. Sanderson, PE (Len), To achieve NCDOT’s objective of preserving and enhancing natural, cultural and human resources while providing a safe and well-maintained interconnected transportation system requires the participation of each and every employee-  
Together, we can make a difference.

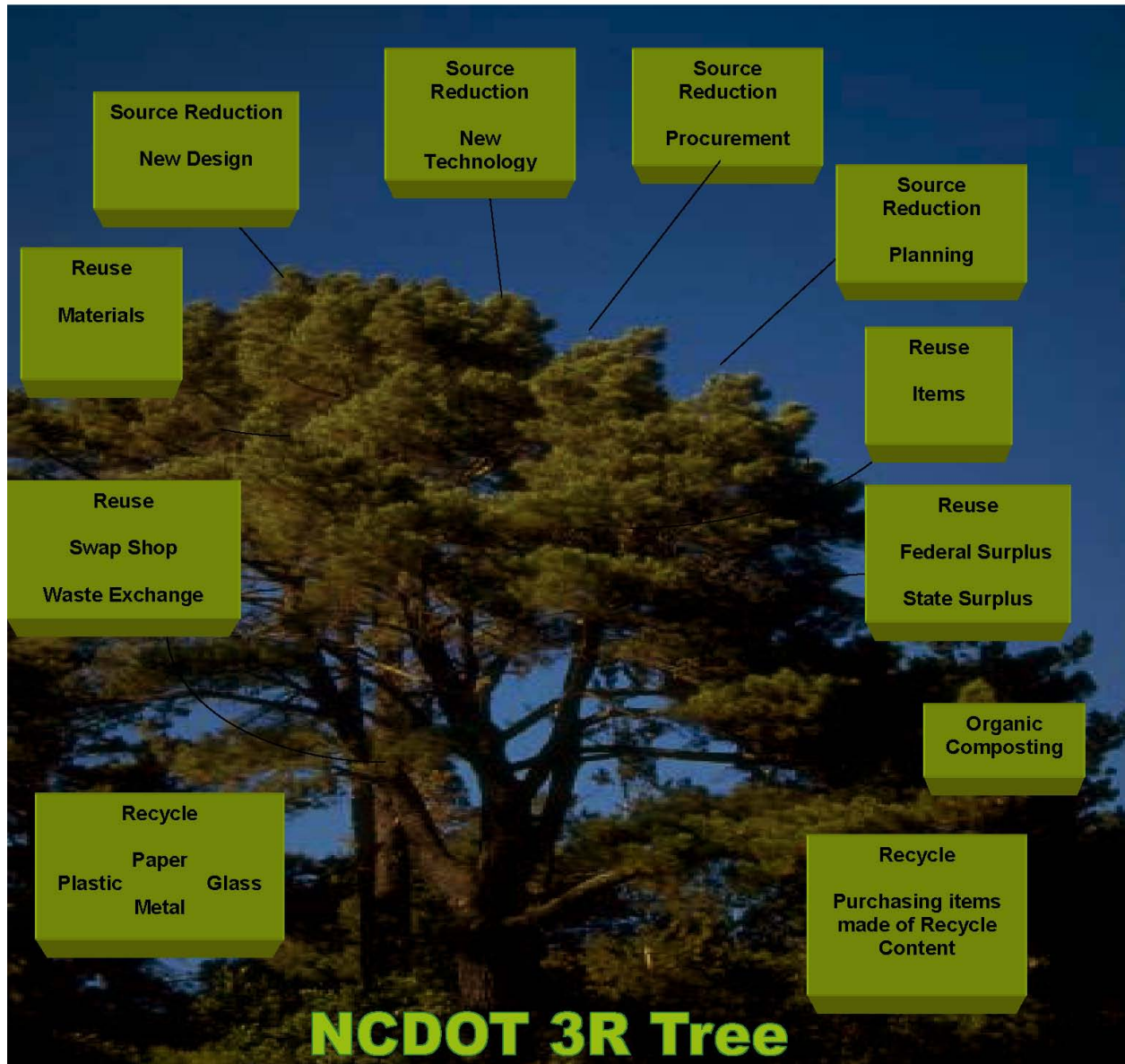




NCDOT COMMISSIONER GEORGE TATUM- Together, we can make great strides in preserving our natural resources. These efforts to protect our environment will be rewarded by preservation of a quality life that will be enjoyed by generations to come.











### **NCDOT 2006 Paper Recycling Program Environmental Impact**

4,637,651 Gallons of Water Saved  
2,719,359 Kilowatt Hours of Energy Saved  
253,460 Gallons of Oil Saved  
11,339 Trees Saved  
2,001 Cubic Yards of Landfill Space Saved

### **Recycle/ Waste Facts:**

- North America has 8% of the world's population, consumes 1/3 of the world's resources, and produces 1/2 of the world's garbage.
- Annually, enough Energy is saved by recycling steel to supply North Carolina with almost a decade worth of electricity
- Americans throw away enough office and writing paper annually to build a wall 12 feet high stretching from Los Angeles to New York.
- American consumers and industry throw away enough aluminum in a year to rebuild our entire airplane commercial fleet every three months.
- The estimated 272 billion aluminum cans reclaimed during the 1980s saved 2 billion feet of Landfill space
- More than 20,000,000 Hershey's Kisses are wrapped each day, using 48,545 square miles of aluminum foil annually. All that foil is recyclable, but not many people realize it.
- Scrap steel reduces related water pollution, air pollution, and mining wastes. It takes four times as much Energy to make steel from virgin ore.
- 40% of all U.S. municipal solid waste consists of paper and paperboard products
- Each ton of recycled paper saves 17 trees
- Each ton of recycled paper saves over 3 cubic yards of landfill space
- Each ton of recycled paper requires 6953 fewer gallons of water to manufacture than virgin paper
- Each ton of recycled paper requires 4077 kWh less energy than virgin paper to produce
- Each ton of recycle paper saves 400 Gallons of oil
- Manufacturing with copper scrap saves an estimated 85% in energy costs
- Recycling generates jobs and revenue
- Rainforests are being cut down at the rate of 100 acres per minute!
- A single quart of motor oil, if disposed of improperly, can contaminate up to 2,000,000 gallons of fresh water.
- Motor oil never wears out, it just gets dirty. Oil can be recycled, re-refined and used again, reducing our reliance on imported.



## NCDOT Annual 3R Program Report 2005-2006

### **PART I. Education On Waste Reduction And Recycling**

Effective education is the key to a successful waste reduction program. Executive Order 156 requires state agencies to (a) educate employees about recycling and waste reduction to ensure participation, and (b) establish a network of volunteers or designees to help the agency's lead coordinator carry out the agency's waste reduction education programs. In regard to the past fiscal year (July 1, 2005- June 30, 2006), please answer the following questions: Yes / No

1. Does NCDOT have top down support for a recycling program?  
**Yes**
2. Does NCDOT have a lead coordinator for waste reduction and recycling efforts?  
**Yes**
3. Does NCDOT have a waste reduction position, office, or program?  
**Yes**
4. Does NCDOT have an ongoing educational and promotional program for waste reduction and recycling?  
**Yes**
5. If yes, how was it communicated and how was information distributed?  
***Majority of the information was communicated and distributed electronically by: Employee news letter -In The Loop, Email-Dist A, Web site <http://www.ncdot.org/environment/3R>, Special Event days- Earth Day/ America Recyclers Day, Management/Staff meetings***
6. NCDOT routinely hosts members of the public at its facilities (highway rest stops/ conferences) Does NCDOT provide waste reduction and recycling opportunities for visitors?  
**Yes**

### **PART II. Source Reduction (Waste Prevention) of Waste**

North Carolina places source reduction (waste prevention) and reuse at the top of the hierarchy of preferred methods for managing solid waste. Executive Order 156 requires state agencies to practice waste prevention whenever feasible.

In regard to the past fiscal year (July 1, 2005 - June 30, 2006), please answer the following questions: Yes / No

1. Did most of NCDOT employees practice one or more techniques for reducing waste at the source?  
**Yes**
2. Did NCDOT conduct solid waste assessments of the amount and types of solid waste at its facilities?  
**No**

3. If yes, please describe briefly:  
**Questions 4-7 relate to office paper waste reduction carried out in NCDOT facilities from July 1, 2005 - June 30, 2006.**
4. Did your facilities take action to reduce office paper (copy paper, letterhead, envelopes, and packaging) waste?  
**Yes**
5. If yes, what percentage of your facilities took action to reduce office paper waste?  
**70%**
6. Which techniques did your agency practice to reduce office paper waste? (Check all that apply.)  
Yes / No
- a. Eliminated unnecessary reports and reduced report size.  
**Yes**
  - b. Eliminated unnecessary forms or converted to electronic format.  
**Yes**
  - c. Made fewer copies.  
**Yes**
  - d. Printed or copied documents on both sides of the paper.  
**Yes**
  - e. Used electronic mail and voice mail.  
**Yes**
  - f. Post announcements on bulletin boards or in break areas.  
**Yes**
7. How much paper (tons) overall was reduced by your agency?  
**160 Tons**

### **PART III. Recycling And Composting Information**

1. PAPER: newspaper, cardboard, magazines, office paper, mixed paper, computer printout, telephone books, hardback books, etc.  
**667 tons**
2. METAL: aluminum cans, steel cans, scrap metal, white goods, etc.  
**1233 tons**
3. GLASS CONTAINERS: clear, brown, green, and mixed glass.  
**8 tons**
4. PLASTIC: PETE (#1), HDPE (#2), six-pack rings (LDPE, or #4), mixed plastic, etc.  
**6 tons**
5. ORGANIC MATERIALS: wooden pallets, other wood, yard waste, food scraps, used cooking grease, animal manure, etc.  
**1672 tons**
6. OTHER MATERIALS: lead-acid batteries, commingled materials, textiles/fabrics, motor oil, tires, asphalt, etc.  
**10,552 tons**
7. GRAND TOTAL POUNDS RECYCLED/COMPOSTED:  
**14,138 tons**

**PART IV. Solid Waste Disposal And Cost Information**

Enter NCDOT solid waste disposal and cost information for July 1, 2005-June 30, 2006

1. Total tons of solid waste disposed by land filling or incineration  
**39,421 tons**
2. Total costs for solid waste collection and disposal  
**\$ 1,419,170.00**
3. Cost per ton of solid waste collected and disposed  
**\$ 36 /ton**
4. Total tons recycled or composted  
**14,138 tons**
5. Total solid waste collection and disposal costs avoided through recycling and composting  
**\$ 508,968**
6. Total revenues from sale of recycled materials and compost products  
**\$ 144,000.00**

## CHAPTER 8 – Department of Administration

### Environmentally Preferred Purchasing

The Department of Administration continues to promote the purchase and use of reusable, refillable, repairable, more durable, and less toxic supplies and products. As the Department progresses, 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 DOA's Web site: <http://www.doa.state.nc.us/PandC/>

Solicitations advertised by the Division To Comply With the Session Laws 1993 {G.S. 130A - 309.14(a)}

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, if such products result in waste reduction and their procurement is both practicable and cost-effective.

Recycling and Source Reduction information provided by the contractors on bids received during the 2005 to 2006 fiscal year indicate the sustainable features or criteria of those products. Table 1 lists the 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**

<b>Primary Sustainable Feature of Awarded Purchases</b>	<b>Number of Bids by Sustainable Criteria</b>	<b>Percentage Bids by Sustainable Criteria</b>
Recyclable	581	32.7%
Recycled Content Packaging	196	11.0%
Recycled Content other than packaging and metals	127	7.1%
Recycled Content - Metals	99	5.6%
Other - Energy Efficient, Reusable , Refillable	21	1.2%
Not Applicable - Contractual Services	458	25.7%
Purchases Without Documented Sustainable Comments which may include non-reusable medical products	297	16.7%
Total Bids	1779	100.00%

**Table 2**

<b>Commodity Purchase Awards by Bid Type</b>	<b>Number Awards by Bid Type</b>	<b>Percentage Awards by Bid Type</b>
Agency RFP	303	17.0%
Contractual Services	22	1.2%
Convenience Contracts	283	15.9%
Open Market	612	34.4%
Quotes	161	9.1%
Term Contracts	53	3.0%
Waivers	345	19.4%
Total	1779	100.0%

### NC E-Procurement @Your Service

NC E-Procurement @ Your Service is a user-friendly, Internet-based purchasing system that offers electronic purchase order processing and enhanced administrative functions to buyers and vendors, resulting in operational efficiencies and cost savings.

The program's goals and objectives reflect the State's "One North Carolina" vision outlined by Governor Michael Easley, as well as that of the sponsoring agencies - the Department of Administration's Division of Purchase & Contract, the Office of the State Controller, and the Office of Information Technology Services' Statewide Information Technology Procurement Office. As of December 2006, the enterprise-wide system has over 49,700 vendors registered and over 14,000 users from more than 241 entities across the State including state agencies, hospitals, institutions, community colleges, K-12 public schools, and local governments.

Another way that NC E-Procurement has made the interactions between government and business more intuitive is to create an on-line marketplace for informal bidding; this marketplace is known as eQuote. The eQuote system allows users to submit electronic requests for quotes to vendors, replacing cumbersome manual quoting processes involving phone, fax, or U.S. mail. Vendors respond with their quotes on-line and buyers view the auto-tabulated quotes, award the contract, and submit the purchase order. After the purchase order is issued, the vendors who responded to the eQuote are electronically notified of the award.

[NC E-Procurement @ Your Service](#) contributes to a sustainable environment by significant reduction in hard copy document reproduction (paper, printers and supplies) by the use of electronic business transactions and electronic documents.

### **Compliance Program**

The Division of Purchase and Contract is now able to conduct Compliance Reviews utilizing the NC E-procurement system. Reviews are conducted for community colleges and state agencies. By conducting compliance reviews utilizing NC E-procurement, travel (fuel reduction) is significantly reduced as well as paper reduction.

### **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 18,019 registered vendors as of June 30, 2006. The system continues to grow with the addition of users increasing from 138 Entities with 467 users as of June 30, 2006. This is an increased user base of 10% for the Entities and 6% for the users, which posted 6,031 bids.

### **Open Market Awards**

- Office Panel Systems - It is standard procedure to incorporate refurbished language in the bid document for refurbished panel systems.
- Food Product Packaging - Wooden pallets that cases of food are shipped on are exchanged. Also, all of the cardboard cases are recyclable.
- Food serving equipment purchased made from stainless steel that can be recycled at end of use
- Emergency bar lights for police cars specified the new LED lamps. These bar lights offer more functionality (light patterns other than available with strobe lamps), energy efficiency (reduced electrical load on the car's alternator and battery), and significantly decrease maintenance (long life solid state LED displays eliminates lamp replacement due to mechanical vibration). Secondary benefits may include increased life for the lead acid automotive battery and potentially decreased automotive fuel consumption.
- A new type of imager allows the user to locate untreated latent fingerprints from up to 15 feet away without the use of traditional fingerprint powders or chemicals on most non-porous surfaces. After determining an area of interest that area would be processed in the normal manner. Potentially, the processing powders and chemicals used may be reduced to find areas of interest for normal processing.

## 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 wider 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.
- ❑ **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.
- ❑ **Oil Filters, 060C** - Allows for multipacking, which reduces the number of individual boxes for the filters. This helps reduce trash that would otherwise be generated.
- ❑ **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; Trucks/Vans/Utility Vehicles, 070G** - Bids included an AFV (alternate fuel vehicle) category for each line item. Passenger cars were bid for both standard and alternate fuels, with only the AFV types awarded, including a gasoline /electric hybrid vehicle. Limited availability restricted award of AFV type 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.
- ❑ **Remanufactured Toner Cartridges, 207A** - Common use cartridges are remanufactured to equivalency with the original OEM performance. Fewer cartridges are added to the waste stream.
- ❑ **Coolers, Water, Electric, 225A** - Packaging, refrigerant and metal components may contain or are recyclable.
- ❑ **Large & Specialty Lamps, 285A** - Encourages the use of energy efficient fluorescent lamps and lists products that meet the Federal Energy Management Program (FEMP) recommendations. Some of the lamps contain up to 65% recycled content including glass and mercury. Some of the packaging contains 73% recycled content. Some of the lamps are low mercury (TCLP compliant), non-hazardous.
- ❑ **Ballasts, 285B** – Electronic ballasts are more energy efficient, supports variable illumination on demand and reduces electro magnetic radiation. A link is provided to FEMP that illustrates ROI for retrofitting with more energy efficient lamps and ballasts. Ballasts contain no PCB’s and can be disposed of in the trash. Reduced form factor 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** - This contract is limited to recycled computer paper and continuous stock labels most often used by the State.
- ❑ **Fuel, Propane (Tankwagon), 405A** - Metal components may contain recycled materials. Metal is recyclable.
- ❑ **Recycled Motor Oil, 405H, 405J** - 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. Approximately 1,959,715 gallons purchased with 391,943 gallons from recycled biomass reduces crude oil consumption.
- ❑ **Gasohol, 405M** - E-10 blended fuel contains 90% unleaded gasoline and 10% ethanol. Approximately 1,049,076 gallons were purchased with 104,907 gallons from ethanol.
- ❑ **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 – extending service of item. Packaging is recycled and 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.
- ❑ **Furniture, Chairs, Ergonomic, 425E** - Fabric, 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 contains 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.
- ❑ **Disinfectants and Odor Counteractants, 435A** - Plastic bottles and shipping boxes are 100% recyclable. Plastic containers for deodorant cake can be recycled after cake evaporates totally.
- ❑ **External Defibrillators, 465B** - Defibrillators can be refurbished and packaging materials can be recycled.
- ❑ **Indoor And Outdoor Waste Receptacles, Food Prep Containers, Pails, and Related Items, 485F** - Most plastic products contain 15% to 20% 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 consumes 90% less energy than conventional signals, while providing greater reliability, long-lasting, and low-maintenance performance. Signals are certified for ENERGY STAR for reduced energy consumption.
- ❑ **Material Handling Carts/Trucks, 560A** - Very few products are made from virgin steel. Products are not shipped in cartons.
- ❑ **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 promotes 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** - Vendors use recycled items (approx. 10%) and are ISO 9000 compliant. Packaging contains from 60%-100% recycled content.
- ❑ **Office Supplies, 615A** - Contractors are required to the extent feasible and practical, to offer as many 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** - Contains 100% recycled fiber, 40% post-consumer recycled fiber.
- ❑ **Office Paper, 645A** - Contains 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 distance 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** - May have up to 15% recycled content.
- ❑ **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.
- ❑ **Vending Machines And Money Changers, 740B** - Packaging, refrigerant and metal components may contain recycled content and are recyclable.
- ❑ **Markerboards, Tackboards and Accessories, 785B** - Metal and wood components contain recycled materials.
- ❑ **Teaching Equipment, Electricity/Electronics Courses, 924A** - Office paper, cardboard and metal enclosures have recycled content. Documentation provided in soft copy instead of hard copies printed materials.

- ❑ **E-85 Fuel** - Agency Specific Contract for use by Motor Fleet Management. E-85 blended fuel contains 15% unleaded gasoline and 85% ethanol. Fuel is used in the flex fuel vehicles compatible for E85 fuel. Approximately 272,318 gallons were purchased with 231,470 gallons from ethanol.
- ❑ **Electronic Equipment Recycling Services, 926A** - Assists agencies and local governments with CRT disposal prohibition 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**

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 and Virgin 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

**Used** - Automobiles and trucks

#### **Refillable**

Ammunition - Cartridge Refills  
Batteries - Vehicle & Storage  
Drums – Steel, Fire Extinguishers  
Cylinders for Welding, Medical & Specialty Gases  
Fuel Tanks, Liquid Hand Soap  
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

# **Appendices A-D Of the North Carolina Solid Waste Management Annual Report July 1, 2005 – June 30, 2006**

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**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE AND CONSTRUCTION AND DEMOLITION LANDFILLS,  
DESCENDING ORDER OF TONS, FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
1304	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1,000,909	1,026,065	1,116,525	1,080,396	1,072,224	1,255,717	MSWLF
8202	WI-SAMPSON COUNTY DISPOSAL INC	447,290	613,534	775,052	940,344	849,094	866,528	MSWLF
6204	UWHARRIE ENV. REG. LANDFILL	685,584	671,808	700,619	706,997	729,158	760,704	MSWLF
0803	EAST CAROLINA REG LANDFILL	447,290	443,058	396,601	574,897	507,877	519,758	MSWLF
9209	WAKE COUNTY LANDFILL-NORTH	589,252	375,365	349,902	367,681	371,635	434,566	MSWLF
3402	HANES MILL ROAD LANDFILL	323,049	287,953	274,119	238,948	274,561	266,504	MSWLF
0403	CHAMBERS DEVELOPMENT MSWLF	49,979	216,576	225,788	234,976	288,249	262,093	MSWLF
6504	NEW HANOVER COUNTY LANDFILL	148,792	117,637	117,867	187,387	171,425	245,781	MSWLF
7304	UPPER PIEDMONT REG LANDFILL	220,253	217,643	239,251	219,366	238,823	244,695	MSWLF
2509	CRSWMA - LONG TERM REGIONAL LANDFILL	167,504	174,864	183,703	204,988	211,127	236,436	MSWLF
1403	FOOTHILLS ENVIRONMENTAL LANDFILL	165,086	170,687	198,767	187,696	203,788	219,353	MSWLF
2608	FORT BRAGG C&D LANDFILL	91,743	138,914	50,441	50,324	189,861	218,565	CDLF
4112	GREENSBORO, CITY OF	269,228	259,080	251,505	237,057	219,090	201,396	MSWLF
9228	RED ROCK DISPOSAL, LLC		33,984	166,165	143,815	168,931	183,704	CDLF
2601	CUMBERLAND COUNTY LANDFILL	132,410	129,407	130,812	123,416	173,797	171,151	MSWLF
1803	CATAWBA COUNTY LANDFILL	174,900	164,469	165,142	164,590	168,140	167,988	MSWLF
4903	IREDELL COUNTY SANITARY LF	121,341	121,253	128,291	134,241	149,417	162,637	MSWLF
1302	CABARRUS COUNTY CDLF	32,294	29,666	31,622	25,570	31,461	158,626	CDLF
6019	MECKLENBURG COUNTY LANDFILL	135,498	82,031	93,011	120,260	140,348	158,035	MSWLF
9231	MATERIAL RECOVERY/ BROWNFIELD RD C&D LA				59,505	141,043	148,244	CDLF
4103	GREENSBORO, CITY OF	162,592	201,856	162,190	143,319	126,427	145,871	CDLF
6709	ONslow COUNTY SUBTITLE D LANDFILL	103,057	104,967	107,639	120,106	131,685	141,239	MSWLF
1107	BUNCOMBE COUNTY MSW LANDFILL	122,333	146,690	160,863	170,170	173,774	122,034	MSWLF

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PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
6013	NORTH MECKLENBURG C&D LANDFILL	206,805	181,045	192,669	172,186	180,578	119,795	CDLF
4116	MRR SOUTHERN,LLC				17,948	100,237	114,093	CDLF
5504	BFI-LAKE NORMAN LANDFILL	103,598	121,364	74,612	85,398	85,247	112,369	CDLF
1306	HIGHWAY 49 C&D LANDFILL AND RECYCLING	57,101	57,453	61,571	85,975	101,695	112,072	CDLF
5103	JOHNSTON COUNTY LANDFILL	89,683	93,267	97,593	103,501	108,751	109,822	MSWLF
3412	OLD SALISBURY ROAD CDLF	93,100	104,808	103,277	110,229	117,119	102,059	CDLF
2906	DAVIDSON CO MSW LINED LANDFILL	101,991	100,991	93,351	96,265	104,040	100,574	MSWLF
8003	ROWAN COUNTY LANDFILL	69,471	69,131	73,350	79,166	75,524	98,548	MSWLF
3606	GASTON COUNTY LANDFILL	67,901	72,704	86,228	65,903	70,905	97,159	MSWLF
9606	WAYNE COUNTY LANDFILL	79,809	88,437	88,943	94,800	92,938	92,481	MSWLF
2301	CLEVELAND COUNTY LANDFILL OPEN	70,845	69,495	86,717	94,600	94,667	90,761	MSWLF
7803	ROBESON COUNTY LANDFILL	96,089	86,678	93,423	106,336	95,585	89,296	MSWLF
7904	ROCKINGHAM COUNTY LANDFILL	80,402	79,675	79,800	77,027	89,388	89,212	MSWLF
4104	HIGH POINT CITY OF - LANDFILL	148,349	148,546	156,155	139,743	99,207	85,891	MSWLF
8606	SURRY COUNTY MSWLF	56,947	50,087	51,565	64,828	69,190	80,985	MSWLF
1007	BRUNSWICK COUNTY CDLF	26,231	31,829	42,009	51,994	63,913	76,390	CDLF
0104	AUSTIN QUARTER SWM FACILITY	94,979	90,027	97,059	95,056	82,685	74,163	MSWLF
9230	HWY 55 C & D LANDFILL, LLC			41,177	80,279	72,421	69,182	CDLF
7407	C & D LANDFILL INC.	2,981	25,687	39,769	40,607	54,373	59,339	CDLF
1107	BUNCOMBE COUNTY C&D UNIT	43,370	24,238	8,209	29,889	39,252	58,730	CDLF
6801	ORANGE COUNTY LANDFILL	58,955	56,597	56,925	57,143	56,308	57,570	MSWLF
9704	WILKES COUNTY MSWLF	59,143	60,635	60,114	61,686	61,649	57,391	MSWLF
0105	COBLES C&D LANDFILL	99,226	79,036	78,328	57,962	57,825	55,849	CDLF
9214	BFI-HOLLY SPRINGS DISPOSAL INC	25,251	150,523	36,146	37,584	46,975	54,771	CDLF



**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE AND CONSTRUCTION AND DEMOLITION LANDFILLS,  
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PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
4903	IREDELL COUNTY C&D UNIT	47,735	43,806	43,783	53,758	54,252	51,545	CDLF
6708	CAMP LEJEUNE MSW LANDFILL	39,653	47,433	40,054	48,972	49,418	50,802	MSWLF
8401	ALBEMARLE, CITY OF-LANDFILL	38,251	40,397	41,494	43,505	49,910	49,424	MSWLF
3606	GASTON COUNTY C&D LANDFILL	35,091	39,604	33,799	43,913	50,427	47,527	CDLF
5503	LINCOLN COUNTY LANDFILL	38,481	41,231	44,125	45,558	52,013	45,935	MSWLF
5409	LENOIR COUNTY MSW LANDFILL					33,323	43,600	MSWLF
4407	HAYWOOD CO WHITE OAK LANDFILL	43,260	48,893	49,580	42,580	56,055	42,790	MSWLF
9003	GRIFFIN FARMS CDLF	24,088	20,763	26,604	32,381	33,639	42,747	CDLF
1803	CATAWBA COUNTY C&D UNIT			27,291	31,920	30,106	40,246	CDLF
2601	CUMBERLAND COUNTY C&D UNIT	16,314	14,024	13,506	22,901	30,245	40,163	CDLF
5101	JOHNSTON COUNTY C&D LANDFILL	37,728	42,548	38,774	33,853	31,233	39,646	CDLF
8003	ROWAN COUNTY C&D UNIT				12,171	35,070	38,939	CDLF
9226	SHOTWELL LANDFILL INC.	1,902	22,919	21,946	30,094	30,204	36,600	CDLF
6301	MOORE COUNTY C&D LANDFILL	31,144	26,675	24,807	26,237	29,823	36,406	CDLF
7803	ROBESON COUNTY CDLF	18,990	10,922	10,946	10,431	11,058	31,801	CDLF
9809	WILSON COUNTY WESTSIDE C&D LANDFILL					22,137	31,442	CDLF
3901	GRANVILLE COUNTY CDLF	22,122	29,599	24,128	24,063	24,579	31,260	CDLF
9601	WAYNE COUNTY CDLF	30,838	39,537	31,563	24,481	31,616	28,569	CDLF
8401	ALBEMARLE, CITY OF, CDLF	24,370	28,262	29,362	34,503	30,318	28,413	CDLF
9001	UNION COUNTY C&D	28,546	31,443	27,498	24,897	20,278	27,859	CDLF
5703	MACON COUNTY LANDFILL OPEN	36,510	37,041	38,145	27,889	27,746	27,783	MSWLF
8807	TRANSYLVANIA COUNTY LANDFILL	20,186	22,495	24,034	26,496	28,303	26,732	MSWLF
2301	CLEVELAND COUNTY CDLF	14,790	14,913	62,119	24,638	25,762	25,155	CDLF
7002	PASQUOTANK COUNTY C&D LANDFILL	6,490	6,753	12,575	21,795	20,129	23,710	CDLF

**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE AND CONSTRUCTION AND DEMOLITION LANDFILLS,  
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PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
0501	ASHE COUNTY LANDFILL	24,833	22,598	22,528	22,342	21,704	22,643	MSWLF
8103	RUTHERFORD COUNTY C&D	14,963	18,291	16,316	24,173	20,604	21,768	CDLF
4302	HARNETT COUNTY CDLF	14,109	16,291	15,766	22,316	24,200	20,115	CDLF
2002	CHEROKEE COUNTY MSW FACILITY	20,138	19,179	18,977	19,124	18,631	20,113	MSWLF
1203	BURKE COUNTY CDLF	20,712	19,314	14,348	16,633	18,631	19,339	CDLF
5403	LENOIR COUNTY CDLF	37,223	39,373	31,680	28,698	25,576	19,191	CDLF
6403	NASH COUNTY C&D LANDFILL		38,963	14,925	17,023	11,928	18,690	CDLF
8602	SURRY COUNTY C&D LANDFILL	15,951	17,403	13,910	14,814	13,680	16,260	CDLF
6801	ORANGE COUNTY C&D UNIT	33,471	27,729	20,231	17,328	16,084	16,157	CDLF
8301	SCOTLAND COUNTY CDLF	28,446	24,867	23,613	24,545	23,874	16,078	CDLF
4407	HAYWOOD COUNTY C&D UNIT				10,116	7,498	15,594	CDLF
2803	DARE COUNTY C&D LANDFILL	25,215	24,306	31,038	40,225	32,390	15,368	CDLF
7606	GOLD HILL ROAD C&D DEBRIS LANDFILL		7,471	9,980	15,418	12,401	13,327	CDLF
4303	HARNETT CO ANDERSON CRK C&D LANDFILL	5,928	7,690	6,751	10,538	10,695	13,237	CDLF
4501	HENDERSON COUNTY C&D LANDFILL	11,780	13,082	13,378	17,554	12,628	11,450	CDLF
5503	LINCOLN COUNTY C&D UNIT	11,404	14,635	18,730	16,337	16,097	10,351	CDLF
5901	MARTIN COUNTY C&D LANDFILL	3,759	3,572	3,829	4,410	3,567	9,518	CDLF
5704	HIGHLANDS C&D LANDFILL	7,274	8,962	11,075	9,601	9,463	9,383	CDLF
2906	DAVIDSON COUNTY CDLF		3,670	8,077	11,707	10,638	7,999	CDLF
5301	LEE COUNTY C&D LANDFILL	7,987	7,868	8,114	9,247	7,637	7,767	CDLF
3301	EDGCOMBE COUNTY CDLF	44,236	18,507	18,639	19,977	11,778	7,670	CDLF
4204	HALIFAX COUNTY CDLF	4,588	3,481	4,451	5,724	4,707	6,957	CDLF
5803	MADISON COUNTY C&D UNIT	3,421	5,501	3,933	4,180	14,803	6,327	CDLF
10002	YANCEY-MITCHELL C&D LANDFILL	3,751	2,809	3,443	4,557	6,519	5,851	CDLF

**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE AND CONSTRUCTION AND DEMOLITION LANDFILLS,  
DESCENDING ORDER OF TONS, FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
0905	BLADEN COUNTY C&D LANDFILL	5,635	6,859	4,562	3,861	5,469	5,309	CDLF
0104	AUSTIN QUARTER C&D UNIT	7,324	5,319	4,735	5,866	4,783	5,102	CDLF
0603	AVERY COUNTY C&D LANDFILL	3,478	3,164	2,472	2,830	3,855	3,460	CDLF
4002	GREENE COUNTY CDLF	4,541	2,446	1,837	1,684	1,627	2,635	CDLF
7502	POLK COUNTY C&D LANDFILL			2,347	4,184	5,524	2,481	CDLF
0201	ALEXANDER COUNTY CDLF	4,000	3,664	4,435	3,566	1,556	2,444	CDLF
8202	WI-SAMPSON COUNTY C&D UNIT	21,618	2,724	9,666	545	3,623	2,357	CDLF
9404	WASHINGTON COUNTY C&D LANDFILL	764	973	1,116	4,681	2,268	1,856	CDLF
8603	SURRY COUNTY C&D LANDFILL	873	4,308	3,245	2,519	3,448	1,359	CDLF
	NORTHAMPTON CO. C&D STOCKPILE	708	672	882	1,052	656	506	CDLF
<b>TOTAL TONS</b>		<b>8,267,236</b>	<b>8,574,707</b>	<b>8,860,027</b>	<b>9,446,562</b>	<b>9,948,591</b>	<b>10,597,882</b>	

**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE LANDFILLS, DESCENDING ORDER OF TONS, FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
1304	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1,000,909	1,026,065	1,116,525	1,080,396	1,072,224	1,255,717	MSWLF
8202	WI-SAMPSON COUNTY DISPOSAL INC	447,290	613,534	775,052	940,344	849,094	866,528	MSWLF
6204	UWHARRIE ENV. REG. LANDFILL	685,584	671,808	700,619	706,997	729,158	760,704	MSWLF
0803	EAST CAROLINA REG LANDFILL	447,290	443,058	396,601	574,897	507,877	519,758	MSWLF
9209	WAKE COUNTY LANDFILL-NORTH	589,252	375,365	349,902	367,681	371,635	434,566	MSWLF
3402	HANES MILL ROAD LANDFILL	323,049	287,953	274,119	238,948	274,561	266,504	MSWLF
0403	CHAMBERS DEVELOPMENT MSWLF	49,979	216,576	225,788	234,976	288,249	262,093	MSWLF
6504	NEW HANOVER COUNTY LANDFILL	148,792	117,637	117,867	187,387	171,425	245,781	MSWLF
7304	UPPER PIEDMONT REG LANDFILL	220,253	217,643	239,251	219,366	238,823	244,695	MSWLF
2509	CRSWMA - LONG TERM REGIONAL LANDFILL	167,504	174,864	183,703	204,988	211,127	236,436	MSWLF
1403	FOOTHILLS ENVIRONMENTAL LANDFILL	165,086	170,687	198,767	187,696	203,788	219,353	MSWLF
4112	GREENSBORO, CITY OF	269,228	259,080	251,505	237,057	219,090	201,396	MSWLF
2601	CUMBERLAND COUNTY LANDFILL	132,410	129,407	130,812	123,416	173,797	171,151	MSWLF
1803	CATAWBA COUNTY LANDFILL	174,900	164,469	165,142	164,590	168,140	167,988	MSWLF
4903	IREDELL COUNTY SANITARY LF	121,341	121,253	128,291	134,241	149,417	162,637	MSWLF
6019	MECKLENBURG COUNTY LANDFILL	135,498	82,031	93,011	120,260	140,348	158,035	MSWLF
6709	ONslow COUNTY SUBTITLE D LANDFILL	103,057	104,967	107,639	120,106	131,685	141,239	MSWLF
1107	BUNCOMBE COUNTY MSW LANDFILL	122,333	146,690	160,863	170,170	173,774	122,034	MSWLF
5103	JOHNSTON COUNTY LANDFILL	89,683	93,267	97,593	103,501	108,751	109,822	MSWLF
2906	DAVIDSON CO MSW LINED LANDFILL	101,991	100,991	93,351	96,265	104,040	100,574	MSWLF

**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE LANDFILLS, DESCENDING ORDER OF TONS, FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
8003	ROWAN COUNTY LANDFILL	69,471	69,131	73,350	79,166	75,524	98,548	MSWLF
3606	GASTON COUNTY LANDFILL	67,901	72,704	86,228	65,903	70,905	97,159	MSWLF
9606	WAYNE COUNTY LANDFILL	79,809	88,437	88,943	94,800	92,938	92,481	MSWLF
2301	CLEVELAND COUNTY LANDFILL OPEN	70,845	69,495	86,717	94,600	94,667	90,761	MSWLF
7803	ROBESON COUNTY LANDFILL	96,089	86,678	93,423	106,336	95,585	89,296	MSWLF
7904	ROCKINGHAM COUNTY LANDFILL	80,402	79,675	79,800	77,027	89,388	89,212	MSWLF
4104	HIGH POINT CITY OF - LANDFILL	148,349	148,546	156,155	139,743	99,207	85,891	MSWLF
8606	SURRY COUNTY MSWLF	56,947	50,087	51,565	64,828	69,190	80,985	MSWLF
0104	AUSTIN QUARTER SWM FACILITY	94,979	90,027	97,059	95,056	82,685	74,163	MSWLF
6801	ORANGE COUNTY LANDFILL	58,955	56,597	56,925	57,143	56,308	57,570	MSWLF
9704	WILKES COUNTY MSWLF	59,143	60,635	60,114	61,686	61,649	57,391	MSWLF
6708	CAMP LEJEUNE MSW LANDFILL	39,653	47,433	40,054	48,972	49,418	50,802	MSWLF
8401	ALBEMARLE, CITY OF-LANDFILL	38,251	40,397	41,494	43,505	49,910	49,424	MSWLF
5503	LINCOLN COUNTY LANDFILL	38,481	41,231	44,125	45,558	52,013	45,935	MSWLF
5409	LENOIR COUNTY MSW LANDFILL					33,323	43,600	MSWLF
4407	HAYWOOD CO WHITE OAK LANDFILL	43,260	48,893	49,580	42,580	56,055	42,790	MSWLF
5703	MACON COUNTY LANDFILL OPEN	36,510	37,041	38,145	27,889	27,746	27,783	MSWLF
8807	TRANSYLVANIA COUNTY LANDFILL	20,186	22,495	24,034	26,496	28,303	26,732	MSWLF
0501	ASHE COUNTY LANDFILL	24,833	22,598	22,528	22,342	21,704	22,643	MSWLF
2002	CHEROKEE COUNTY MSW FACILITY	20,138	19,179	18,977	19,124	18,631	20,113	MSWLF

**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE LANDFILLS, DESCENDING ORDER OF TONS, FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
TOTAL TONS		6,639,636	6,668,623	7,015,618	7,426,033	7,512,148	7,890,290	

**APPENDIX A-1: PUBLIC AND PRIVATE CONSTRUCTION AND DEMOLITION LANDFILLS, DESCENDING ORDER OF TONS,  
FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
2608	FORT BRAGG C&D LANDFILL	91,743	138,914	50,441	50,324	189,861	218,565	CDLF
9228	RED ROCK DISPOSAL, LLC		33,984	166,165	143,815	168,931	183,704	CDLF
1302	CABARRUS COUNTY CDLF	32,294	29,666	31,622	25,570	31,461	158,626	CDLF
9231	MATERIAL RECOVERY/ BROWNFIELD RD C&D LA				59,505	141,043	148,244	CDLF
4103	GREENSBORO, CITY OF	162,592	201,856	162,190	143,319	126,427	145,871	CDLF
6013	NORTH MECKLENBURG C&D LANDFILL	206,805	181,045	192,669	172,186	180,578	119,795	CDLF
4116	MRR SOUTHERN,LLC				17,948	100,237	114,093	CDLF
5504	BFI-LAKE NORMAN LANDFILL	103,598	121,364	74,612	85,398	85,247	112,369	CDLF
1306	HIGHWAY 49 C&D LANDFILL AND RECYCLING	57,101	57,453	61,571	85,975	101,695	112,072	CDLF
3412	OLD SALISBURY ROAD CDLF	93,100	104,808	103,277	110,229	117,119	102,059	CDLF
1007	BRUNSWICK COUNTY CDLF	26,231	31,829	42,009	51,994	63,913	76,390	CDLF
9230	HWY 55 C & D LANDFILL, LLC			41,177	80,279	72,421	69,182	CDLF
7407	C & D LANDFILL INC.	2,981	25,687	39,769	40,607	54,373	59,339	CDLF
1107	BUNCOMBE COUNTY C&D UNIT	43,370	24,238	8,209	29,889	39,252	58,730	CDLF
0105	COBLES C&D LANDFILL	99,226	79,036	78,328	57,962	57,825	55,849	CDLF
9214	BFI-HOLLY SPRINGS DISPOSAL INC	25,251	150,523	36,146	37,584	46,975	54,771	CDLF
4903	IREDELL COUNTY C&D UNIT	47,735	43,806	43,783	53,758	54,252	51,545	CDLF
3606	GASTON COUNTY C&D LANDFILL	35,091	39,604	33,799	43,913	50,427	47,527	CDLF
9003	GRIFFIN FARMS CDLF	24,088	20,763	26,604	32,381	33,639	42,747	CDLF
1803	CATAWBA COUNTY C&D UNIT			27,291	31,920	30,106	40,246	CDLF



**APPENDIX A-1: PUBLIC AND PRIVATE CONSTRUCTION AND DEMOLITION LANDFILLS, DESCENDING ORDER OF TONS,  
FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
2601	CUMBERLAND COUNTY C&D UNIT	16,314	14,024	13,506	22,901	30,245	40,163	CDLF
5101	JOHNSTON COUNTY C&D LANDFILL	37,728	42,548	38,774	33,853	31,233	39,646	CDLF
8003	ROWAN COUNTY C&D UNIT				12,171	35,070	38,939	CDLF
9226	SHOTWELL LANDFILL INC.	1,902	22,919	21,946	30,094	30,204	36,600	CDLF
6301	MOORE COUNTY C&D LANDFILL	31,144	26,675	24,807	26,237	29,823	36,406	CDLF
7803	ROBESON COUNTY CDLF	18,990	10,922	10,946	10,431	11,058	31,801	CDLF
9809	WILSON COUNTY WESTSIDE C&D LANDFILL					22,137	31,442	CDLF
3901	GRANVILLE COUNTY CDLF	22,122	29,599	24,128	24,063	24,579	31,260	CDLF
9601	WAYNE COUNTY CDLF	30,838	39,537	31,563	24,481	31,616	28,569	CDLF
8401	ALBEMARLE, CITY OF, CDLF	24,370	28,262	29,362	34,503	30,318	28,413	CDLF
9001	UNION COUNTY C&D	28,546	31,443	27,498	24,897	20,278	27,859	CDLF
2301	CLEVELAND COUNTY CDLF	14,790	14,913	62,119	24,638	25,762	25,155	CDLF
7002	PASQUOTANK COUNTY C&D LANDFILL	6,490	6,753	12,575	21,795	20,129	23,710	CDLF
8103	RUTHERFORD COUNTY C&D	14,963	18,291	16,316	24,173	20,604	21,768	CDLF
4302	HARNETT COUNTY CDLF	14,109	16,291	15,766	22,316	24,200	20,115	CDLF
1203	BURKE COUNTY CDLF	20,712	19,314	14,348	16,633	18,631	19,339	CDLF
5403	LENOIR COUNTY CDLF	37,223	39,373	31,680	28,698	25,576	19,191	CDLF
6403	NASH COUNTY C&D LANDFILL		38,963	14,925	17,023	11,928	18,690	CDLF
8602	SURRY COUNTY C&D LANDFILL	15,951	17,403	13,910	14,814	13,680	16,260	CDLF
6801	ORANGE COUNTY C&D UNIT	33,471	27,729	20,231	17,328	16,084	16,157	CDLF

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**APPENDIX A-1: PUBLIC AND PRIVATE CONSTRUCTION AND DEMOLITION LANDFILLS, DESCENDING ORDER OF TONS,  
FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
8301	SCOTLAND COUNTY CDLF	28,446	24,867	23,613	24,545	23,874	16,078	CDLF
4407	HAYWOOD COUNTY C&D UNIT				10,116	7,498	15,594	CDLF
2803	DARE COUNTY C&D LANDFILL	25,215	24,306	31,038	40,225	32,390	15,368	CDLF
7606	GOLD HILL ROAD C&D DEBRIS LANDFILL		7,471	9,980	15,418	12,401	13,327	CDLF
4303	HARNETT CO ANDERSON CRK C&D LANDFILL	5,928	7,690	6,751	10,538	10,695	13,237	CDLF
4501	HENDERSON COUNTY C&D LANDFILL	11,780	13,082	13,378	17,554	12,628	11,450	CDLF
5503	LINCOLN COUNTY C&D UNIT	11,404	14,635	18,730	16,337	16,097	10,351	CDLF
5901	MARTIN COUNTY C&D LANDFILL	3,759	3,572	3,829	4,410	3,567	9,518	CDLF
5704	HIGHLANDS C&D LANDFILL	7,274	8,962	11,075	9,601	9,463	9,383	CDLF
2906	DAVIDSON COUNTY CDLF		3,670	8,077	11,707	10,638	7,999	CDLF
5301	LEE COUNTY C&D LANDFILL	7,987	7,868	8,114	9,247	7,637	7,767	CDLF
3301	EDGCOMBE COUNTY CDLF	44,236	18,507	18,639	19,977	11,778	7,670	CDLF
4204	HALIFAX COUNTY CDLF	4,588	3,481	4,451	5,724	4,707	6,957	CDLF
5803	MADISON COUNTY C&D UNIT	3,421	5,501	3,933	4,180	14,803	6,327	CDLF
10002	YANCEY-MITCHELL C&D LANDFILL	3,751	2,809	3,443	4,557	6,519	5,851	CDLF
0905	BLADEN COUNTY C&D LANDFILL	5,635	6,859	4,562	3,861	5,469	5,309	CDLF
0104	AUSTIN QUARTER C&D UNIT	7,324	5,319	4,735	5,866	4,783	5,102	CDLF
0603	AVERY COUNTY C&D LANDFILL	3,478	3,164	2,472	2,830	3,855	3,460	CDLF
4002	GREENE COUNTY CDLF	4,541	2,446	1,837	1,684	1,627	2,635	CDLF
7502	POLK COUNTY C&D LANDFILL			2,347	4,184	5,524	2,481	CDLF

**APPENDIX A-1: PUBLIC AND PRIVATE CONSTRUCTION AND DEMOLITION LANDFILLS, DESCENDING ORDER OF TONS,  
FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
0201	ALEXANDER COUNTY CDLF	4,000	3,664	4,435	3,566	1,556	2,444	CDLF
8202	WI-SAMPSON COUNTY C&D UNIT	21,618	2,724	9,666	545	3,623	2,357	CDLF
9404	WASHINGTON COUNTY C&D LANDFILL	764	973	1,116	4,681	2,268	1,856	CDLF
8603	SURRY COUNTY C&D LANDFILL	873	4,308	3,245	2,519	3,448	1,359	CDLF
	NORTHAMPTON CO. C&D STOCKPILE	708	672	882	1,052	656	506	CDLF
<b>TOTAL TONS</b>		<b>1,627,600</b>	<b>1,906,084</b>	<b>1,844,409</b>	<b>2,020,529</b>	<b>2,436,442</b>	<b>2,707,592</b>	

**APPENDIX A-2: INCINERATION FACILITIES, DESCENDING ORDER OF TONS, FY 2005-2006**

PERMIT #	FACILITY	TONS					
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
6505-I	NEW HANOVER WASTE-TO-ENERGY FACILITY	108,381	120,751	123,823	74,984	104,755	70,974
<b>TOTAL TONS</b>		<b>108,381</b>	<b>120,751</b>	<b>123,823</b>	<b>74,984</b>	<b>104,755</b>	<b>70,974</b>

**APPENDIX A-3: PRIVATE INDUSTRIAL LANDFILLS, DESCENDING ORDER OF TONS, FY 2005-2006**

PERMIT #	FACILITY	TONS					
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
7302	CAROLINA POWER & LIGHT CO	637,626	587,579	604,673	601,271	424,991	366,747
4406	BLUE RIDGE PAPER PRODUCTS, INC.	254,825	238,262	248,125	262,223	278,181	304,512
9401	WEYERHAEUSER	69,697	88,631	94,243	107,389	111,463	129,729
5603	COLLINS & AIKMAN	2,988	1,465	4,748	5,292	6,724	3,472
9703	LOUISIANA-PACIFIC CORPORATION	2,918	3,289	3,607	4,846	3,135	2,568
4204	HALIFAX COAL ASH LANDFILL	5,713	1,303	4,061	2,246	2,362	3,232
6004	DUKE POWER COMPANY	2,187	1,065	2,954	1,621	4,287	2,327
7602	EVEREADY BATTERY	616	676	849	401	538	590
1804	DUKE POWER/MARSHALL STEAM PL	231,476	1,497	520	366	685	1,064
TOTAL TONS		1,208,047	923,766	963,780	985,654	832,365	814,240

**APPENDIX A-4: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2005-2006**

PERMIT #	FACILITY	2005-2006	DISPOSAL DESTINATION	PERMIT #
0202-T	ALEXANDER CO. TRANSFER STATION	22,171	FOOTHILLS ENVIRONMENTAL LANDFILL	1403
0303-T	ALLEGHANY COUNTY TRANSFER FACILITY	9,512	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
0703-T	ARS - BEAUFORT TRANSFER STATION	57,331	EAST CAROLINA REG LANDFILL	0803
0602-T	AVERY COUNTY TRANSFER STATION	13,632	BRISTOL LANDFILL, VA	
4118-T	BISHOP ROAD TRANSFER STATION	199,487	UWHARRIE ENV. REG. LANDFILL	6204
0904-T	BLADEN COUNTY TRANSFER STATION	21,338	WI-SAMPSON COUNTY DISPOSAL INC	8202
1010-T	BRUNSWICK COUNTY TRANSFER STATION	83,625	WI-SAMPSON COUNTY DISPOSAL INC	8202
1108-T	BUNCOME COUNTY TRANSFER STATION	42,345	BUNCOMBE COUNTY MSW LANDFILL	1107
1205-T	BURKE COUNTY TRANSFER FACILITY	57,950	FOOTHILLS ENVIRONMENTAL LANDFILL	1403
1604	CARTERET COUNTY TRANSFER STATION	117,651	CRSWMA - LONG TERM REGIONAL LANDFILL	2509
9211-T	CARY TOWN OF - TRANSFER STATION	2,502	SOUTH WAKE TRANSFER STATION	9221-T
9211-T	CARY TOWN OF - TRANSFER STATION	23,802	WI-SAMPSON COUNTY DISPOSAL INC	8202
2510-T	CHERRY POINT TRANSFER STATION	6,442	CRSWMA - LONG TERM REGIONAL LANDFILL	2509
7605-T	CITY OF ASHEBORO RECYCLING/SOLID WASTE TRA	19,541	UWHARRIE ENV. REG. LANDFILL	6204
3212-T	CITY OF DURHAM TRANSFER STATION	183,190	BRUNSWICK LANDFILL, VA	
2609	CITY OF FAYETTEVILLE/ WASTE INDUSTRIES TRANS	94,980	WI-SAMPSON COUNTY DISPOSAL INC	8202
6405-T	CITY OF ROCKY MOUNT TRANSFER STATION #2	97,311	BRUNSWICK LANDFILL, VA	

**APPENDIX A-4: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2005-2006**

PERMIT #	FACILITY	2005-2006	DISPOSAL DESTINATION	PERMIT #
2202-T	CLAY COUNTY TRANSFER STATION	5,751	PINEBLUFF LANDFILL, GA	
2403-T	COLUMBUS COUNTY TRANSFER STATION	43,047	WI-SAMPSON COUNTY DISPOSAL INC	8202
2703-T	CURRITUCK TRANSFER STATION	34,878	EAST CAROLINA REG LANDFILL	0803
9224	D.H. GRIFFIN RECLAMATION CENTER	74,652	MATERIAL RECOVERY/ BROWNFIELD RD C&D LAND	9231
9224	D.H. GRIFFIN RECLAMATION CENTER	2,780	BFI-HOLLY SPRINGS DISPOSAL INC	9214
2806	DARE COUNTY C&D LANDFILL	22,104	EAST CAROLINA REG LANDFILL	0803
2804-T	DARE COUNTY TRANSFER STATION	57,587	EAST CAROLINA REG LANDFILL	0803
5407-T	DUPONT KINSTON TRANSFER FACILITY	4,003	EAST CAROLINA REG LANDFILL	0803
5407-T	DUPONT KINSTON TRANSFER FACILITY	306	LENOIR COUNTY MSW LANDFILL	5409
8004-T	EAST SPENCER WASTE TRANSFER FACILITY	52,375	UWHARRIE ENV. REG. LANDFILL	6204
8004-T	EAST SPENCER WASTE TRANSFER FACILITY	9,173	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
7903-T	EDEN, CITY OF TRANSFER STATION	4,966	ROCKINGHAM COUNTY LANDFILL	7904
3302-T	EDGCOMBE COUNTY TRANSFER STATION	26,344	EAST CAROLINA REG LANDFILL	0803
7406-T	EJE RECYCLING TRANSFER STATION	401	C & D LANDFILL INC.	7407
7406-T	EJE RECYCLING TRANSFER STATION	7,726	EAST CAROLINA REG LANDFILL	0803
2606-T	FORT BRAGG TRANSFER STATION	1,077	CUMBERLAND COUNTY LANDFILL	2601
2606-T	FORT BRAGG TRANSFER STATION	26,228	UWHARRIE ENV. REG. LANDFILL	6204



**APPENDIX A-4: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2005-2006**

PERMIT #	FACILITY	2005-2006	DISPOSAL DESTINATION	PERMIT #
3502-T	FRANKLIN COUNTY TRANSFER STATON	1,177	BRUNSWICK LANDFILL, VA	
3502-T	FRANKLIN COUNTY TRANSFER STATON	15,236	UPPER PIEDMONT REG LANDFILL	7304
9607-T	GOLDSBORO TRANSFER STATION	11,054	WAYNE COUNTY LANDFILL	9606
3803	GRAHAM COUNTY TRANSFER STATION	7,366	PINEBLUFF LANDFILL, GA	
4307-T	HARNETT CNTY-DUNN/ERWIN TRANSFER STATION	43,187	UWHARRIE ENV. REG. LANDFILL	6204
4305-T	HARNETT COUNTY TRANSFER STATION	10,938	UWHARRIE ENV. REG. LANDFILL	6204
4408	HAYWOOD COUNTY MWP FACILITY	35,924	HAYWOOD CO WHITE OAK LANDFILL	4407
4504-T	HENDERSON COUNTY TRANSFER FACILITY	68,507	PALMETTO LANDFILL, SC	
4602-T	HERTFORD COUNTY TRANSFER STATION	1,092	EAST CAROLINA REG LANDFILL	0803
4702	HOKE COUNTY TRANSFER STATION	28,896	UWHARRIE ENV. REG. LANDFILL	6204
4904-T	IREDELL COUNTY TRANSFER STATION	42,858	IREDELL COUNTY SANITARY LF	4903
4904-T	IREDELL COUNTY TRANSFER STATION	1,880	IREDELL COUNTY C&D UNIT	4903
5003-T	JACKSON COUNTY SCOTT CREEK TRANSFER STATIO	33,889	R&B LANDFILL	
5803-T	MADISON COUNTY TRANSFER	9,538	BFI, CARTER VALLEY	
5602-T	McDOWELL CO TRANSFER FACILITY	33,675	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
9234	MRR WAKE TRANSFER STA, LLC	5,615	BFI-HOLLY SPRINGS DISPOSAL INC	9214
9234	MRR WAKE TRANSFER STA, LLC	52,347	MATERIAL RECOVERY/ BROWNFIELD RD C&D LAND	9231

**APPENDIX A-4: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2005-2006**

PERMIT #	FACILITY	2005-2006	DISPOSAL DESTINATION	PERMIT #
5408-T	ONslow CONTAINER SERVICE, INC.	26,022	EAST CAROLINA REG LANDFILL	0803
3416-T	OVERDALE ROAD TRANSFER STATION	714	FOOTHILLS ENVIRONMENTAL LANDFILL	1403
3416-T	OVERDALE ROAD TRANSFER STATION	132,701	UWHARRIE ENV. REG. LANDFILL	6204
6903-T	PAMLICO COUNTY TRANSFER STATION	8,542	CRSWMA - LONG TERM REGIONAL LANDFILL	2509
7003-T	PASQUOTANK COUNTY TRANSFER STATION	22,829	EAST CAROLINA REG LANDFILL	0803
9227-T	PCM CONSTRUCTION SERVICE- N RALEIGH C&D TRA	14,917	ROWLAND DEMO LANDFILL	92M
9227-T	PCM CONSTRUCTION SERVICE- N RALEIGH C&D TRA	38,410	RED ROCK DISPOSAL, LLC	9228
9229	PCM CONSTRUCTION SERVICES-APEX TRANSFER ST	3,833	CURRIN BROTHERS LANDFILL	92N
9229	PCM CONSTRUCTION SERVICES-APEX TRANSFER ST	56,960	RED ROCK DISPOSAL, LLC	9228
7103-T	PENDER CO TRANSFER STATION	25,603	WI-SAMPSON COUNTY DISPOSAL INC	8202
7202-T	PERQUIMANS-CHOWAN-GATES TRANSFER	24,408	EAST CAROLINA REG LANDFILL	0803
7503-T	POLK COUNTY TRANSFER STATION	10,512	UNION COUNTY LANDFILL, SC	
7503-T	POLK COUNTY TRANSFER STATION	1,378	PALMETTO LANDFILL, SC	
6014	QUEEN CITY TRANSFER STATION	13,021	FOOTHILLS ENVIRONMENTAL LANDFILL	1403
6014	QUEEN CITY TRANSFER STATION	23,325	UWHARRIE ENV. REG. LANDFILL	6204
6014	QUEEN CITY TRANSFER STATION	54,700	PALMETTO LANDFILL, SC	
6014	QUEEN CITY TRANSFER STATION	106,260	UNION COUNTY LANDFILL, SC	

**APPENDIX A-4: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2005-2006**

PERMIT #	FACILITY	2005-2006	DISPOSAL DESTINATION	PERMIT #
7603-T	RANDOLPH COUNTY TRANSFER FACILITY	65,772	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
9608	RECYCLED MATERIALS, INC.	3	WAYNE COUNTY LANDFILL	9606
7902-T	REIDSVILLE, CITY OF TRANSFER FACILITY	6,582	UPPER PIEDMONT REG LANDFILL	7304
7703-T	RICHMOND COUNTY TRANSFER STATION	43,332	UWHARRIE ENV. REG. LANDFILL	6204
8104-T	RUTHERFORD COUNTY TRANSFER FACILITY	45,113	PALMETTO LANDFILL, SC	
8302-T	SCOTLAND COUNTY T.S.	25,711	UWHARRIE ENV. REG. LANDFILL	6204
2705	SOUNDSIDE RECYCLING & MATERIALS, INC	9,312	EAST CAROLINA REG LANDFILL	0803
2705	SOUNDSIDE RECYCLING & MATERIALS, INC	636	JOHN C. HOLLAND ENTERPRISES	
9221-T	SOUTH WAKE TRANSFER STATION	99,701	WI-SAMPSON COUNTY DISPOSAL INC	8202
9221-T	SOUTH WAKE TRANSFER STATION	49,642	WAKE COUNTY LANDFILL-NORTH	9209
3214-T	STONE PARK COURT TRANSFER STATION	25,781	RED ROCK DISPOSAL, LLC	9228
3214-T	STONE PARK COURT TRANSFER STATION	64,254	WI-SAMPSON COUNTY DISPOSAL INC	8202
8603-T	SURRY COUNTY TRANSFER STATION	29,272	SURRY COUNTY MSWLF	8606
8702-T	SWAIN COUNTY TRANSFER FACILITY	8,702	PINEBLUFF LANDFILL, GA	
2101-T	TOWN OF EDENTON TRANSFER STATION	4,276	EAST CAROLINA REG LANDFILL	0803
	TRIBAL TRANSFER STATION	25	PALMETTO LANDFILL, SC	
9005-T	UNION COUNTY TRANSFER STATION	80,463	CHAMBERS DEVELOPMENT MSWLF	0403

**APPENDIX A-4: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2005-2006**

PERMIT #	FACILITY	2005-2006	DISPOSAL DESTINATION	PERMIT #
6302	UWHARRIE ENV INC/MOORE CTY TRANSFER STATIO	57,721	UWHARRIE ENV. REG. LANDFILL	6204
6202-MRF	UWHARRIE ENVIRONMENTAL MRF	16,190	UWHARRIE ENV. REG. LANDFILL	6204
9302-T	WARREN COUNTY TRANSFER STATION	8,040	BRUNSWICK LANDFILL, VA	
9302-T	WARREN COUNTY TRANSFER STATION	35	UPPER PIEDMONT REG LANDFILL	7304
9808-T	WASTE INDUSTRIES- BLK. CRK. RD. TRANSFER	76,124	WI-SAMPSON COUNTY DISPOSAL INC	8202
9808-T	WASTE INDUSTRIES- BLK. CRK. RD. TRANSFER	26,805	BRUNSWICK LANDFILL, VA	
9217	WASTE INDUSTRIES CROSSWINDS PARK TRANSFER	198	WI-SAMPSON COUNTY DISPOSAL INC	8202
9806-T	WASTE INDUSTRIES WILSON TRANSFER ST.	72,124	WI-SAMPSON COUNTY DISPOSAL INC	8202
9806-T	WASTE INDUSTRIES WILSON TRANSFER ST.	26,805	BRUNSWICK LANDFILL, VA	
9102-T	WASTE INDUSTRIES-VANCE COUNTY	37,650	UPPER PIEDMONT REG LANDFILL	7304
9102-T	WASTE INDUSTRIES-VANCE COUNTY	10,900	BRUNSWICK LANDFILL, VA	
1903-T	WASTE MAN. - CHATHAM CO TRANSFER STATION	32,079	WI-SAMPSON COUNTY DISPOSAL INC	8202
5304-T	WASTE MAN. - LEE CO.TRANSFER STATION	62,731	WI-SAMPSON COUNTY DISPOSAL INC	8202
5304-T	WASTE MAN. - LEE CO.TRANSFER STATION	62,731	WI-SAMPSON COUNTY DISPOSAL INC	8202
1104	WASTE MANAGEMENT OF ASHEVILLE	151,662	PALMETTO LANDFILL, SC	
3608	WASTE MANAGEMENT OF CAROLINAS	156,643	PALMETTO LANDFILL, SC	
9215-T	WASTE MANAGEMENT OF RAL-DUR	1,859	BRUNSWICK LANDFILL, VA	

**APPENDIX A-4: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2005-2006**

PERMIT #	FACILITY	2005-2006	DISPOSAL DESTINATION	PERMIT #
9215-T	WASTE MANAGEMENT OF RAL-DUR	90,324	WI-SAMPSON COUNTY DISPOSAL INC	8202
9503-T	WATAUGA CO TRANSFER FACILITY	50,038	IRIS GLENN LANDFILL, TN	
4205-T	WELDON, TOWN OF, TRANSFER STATION	123,221	BRUNSWICK LANDFILL, VA	
4205-T	WELDON, TOWN OF, TRANSFER STATION	1,056	EAST CAROLINA REG LANDFILL	0803
9903-T	YADKIN COUNTY TRANSFER FACILITY	18,105	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
10003-T	YANCEY-MITCHELL TRANSFER STATION	25,353	PALMETTO LANDFILL, SC	
<b>TOTAL TONS</b>		<b>4,060,488</b>		

Facilities without permit numbers listed are either temporary or out of state facilities.

**APPENDIX A-5: TIRE MONOFILLS IN DESCENDING ORDER OF TONS, FY 2005-2006**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	
4304	CENTRAL CAROLINA TIRE MONOFILL	61,104	66,010	71,112	77,672	79,710	87,434	TIRELF
1303	US TIRE DISPOSAL	89,426	92,866	152,432	13,282	18,139	22,440	TIRELF
TOTAL TONS		150,530	158,876	223,544	90,954	97,849	109,874	

## APPENDIX B: COUNTY POPULATION, WASTE DISPOSAL, PER CAPITA RATE AND PERCENT REDUCTION, FY 2005-2006

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED				BASE YEAR PER CAPITA	PER CAPITA RATE	%CHANGE FROM 1991-1992
		1991-1992	2002-2003	2003-2004	2004-2005	2005-2006	1991-1992	2005-2006	2005-2006**
ALAMANCE	138,572	99,302	144,913	143,358	163,266	166,815	0.91	1.20	32%
ALEXANDER	35,898	25,716	27,834	26,126	25,301	24,614	0.90	0.69	-24%
ALLEGHANY	10,912	14,131	8,249	8,193	8,828	9,594	1.45	0.88	-39%
ANSON	25,766	14,229	29,544	24,796	24,587	23,580	0.61	0.92	50%
ASHE	25,500	18,089	22,587	22,367	22,281	22,798	0.81	0.89	10%
AVERY	18,030	11,130	16,251	18,406	19,396	18,045	0.74	1.00	35%
BEAUFORT	46,010	41,796	67,593	70,668	58,588	60,670	0.99	1.32	33%
BERTIE	19,640	17,372	22,622	36,922	27,036	31,477	0.86	1.60	86%
BLADEN	32,866	25,048	44,554	31,482	30,178	30,666	0.86	0.93	8%
BRUNSWICK	89,463	78,123	120,506	140,371	158,103	172,389	1.48	1.93	30%
BUNCOMBE	216,738	159,040	255,112	319,594	332,213	301,430	0.90	1.39	55%
BURKE	88,293	78,006	81,642	85,273	86,867	87,160	1.02	0.99	-3%
CABARRUS	150,434	95,215	250,162	254,210	286,070	434,268	0.94	2.89	207%
CALDWELL	78,492	65,532	88,730	79,633	91,879	96,882	0.92	1.23	34%
CAMDEN	9,008	1,850	3,630	4,326	3,500	5,070	0.31	0.56	82%
CARTERET	62,760	86,894	88,515	101,592	100,409	122,886	1.62	1.96	21%
CASWELL	23,759	5,136	9,116	9,672	5,380	5,879	0.25	0.25	-1%
CATAWBA	149,032	151,559	192,830	196,758	198,555	208,837	1.26	1.40	11%
CHATHAM	56,090	33,235	40,298	39,984	38,166	40,117	0.84	0.72	-15%
CHEROKEE	26,180	16,020	18,977	19,132	18,679	20,113	0.78	0.77	-2%
CHOWAN	14,470	13,692	16,621	24,102	18,360	20,655	0.99	1.43	44%
CLAY	9,876	4,172	4,792	5,283	5,737	5,269	0.57	0.53	-6%
CLEVELAND	97,056	73,138	150,089	120,048	121,404	117,031	0.86	1.21	40%



## APPENDIX B: COUNTY POPULATION, WASTE DISPOSAL, PER CAPITA RATE AND PERCENT REDUCTION, FY 2005-2006

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED				BASE YEAR PER CAPITA	PER CAPITA RATE	%CHANGE FROM 1991-1992
		JULY 2005	1991-1992	2002-2003	2003-2004	2004-2005	2005-2006	1991-1992	2005-2006
COLUMBUS	54,524	45,199	32,431	52,358	44,629	45,299	0.91	0.83	-9%
CRAVEN	92,670	86,549	88,270	94,147	100,073	105,031	1.05	1.13	8%
CUMBERLAND	305,173	227,302	337,375	358,348	510,574	560,404	0.81	1.84	127%
CURRITUCK	22,984	13,792	31,116	43,358	38,295	37,085	1.00	1.61	61%
DARE	34,790	51,300	96,697	127,088	95,513	99,299	2.23	2.85	28%
DAVIDSON	154,294	139,617	139,610	167,005	141,483	141,207	1.08	0.92	-15%
DAVIE	38,930	19,348	37,735	33,983	36,094	39,046	0.68	1.00	47%
DUPLIN	51,920	33,310	43,416	56,243	44,883	46,833	0.82	0.90	10%
DURHAM	242,210	218,972	298,420	294,086	308,097	292,729	1.17	1.21	3%
EDGECOMBE	53,034	71,471	60,805	64,041	53,735	47,058	1.25	0.89	-29%
FORSYTH	326,340	304,290	501,034	550,614	539,006	564,037	1.14	1.73	52%
FRANKLIN	54,106	28,702	47,668	50,129	45,922	38,476	0.76	0.71	-6%
GASTON	193,886	165,100	216,267	226,625	232,948	239,157	0.93	1.23	33%
GATES	11,219	5,897	5,250	6,473	5,680	7,028	0.63	0.63	-1%
GRAHAM	8,119	4,508	7,681	6,464	6,581	7,161	0.62	0.88	42%
GRANVILLE	53,356	54,548	68,759	69,579	68,754	74,764	1.39	1.40	1%
GREENE	20,173	7,428	5,942	6,789	7,775	7,685	0.48	0.38	-21%
GUILFORD	441,428	471,541	709,579	659,224	653,690	703,606	1.35	1.59	18%
HALIFAX	56,253	54,907	53,760	42,186	53,374	55,944	0.98	0.99	1%
HARNETT	101,608	69,073	73,593	85,390	90,619	90,784	1.01	0.89	-12%
HAYWOOD	56,595	57,842	51,047	55,627	66,387	60,800	1.21	1.07	-11%
HENDERSON	97,792	81,498	104,249	116,840	119,866	133,618	1.14	1.37	20%
HERTFORD	23,864	14,288	21,206	24,984	36,138	30,577	0.63	1.28	103%

## APPENDIX B: COUNTY POPULATION, WASTE DISPOSAL, PER CAPITA RATE AND PERCENT REDUCTION, FY 2005-2006

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED				BASE YEAR PER CAPITA	PER CAPITA RATE	%CHANGE FROM 1991-1992
		JULY 2005	1991-1992	2002-2003	2003-2004	2004-2005	2005-2006	1991-1992	2005-2006
HOKE	40,696	18,331	28,027	31,269	28,968	29,925	0.80	0.74	-8%
HYDE	5,587	2,762	4,296	9,874	7,482	7,219	0.50	1.29	158%
IREDELL	139,727	114,539	174,819	191,086	208,136	231,821	1.19	1.66	39%
JACKSON	35,752	18,661	39,230	41,448	48,679	52,674	0.68	1.47	117%
JOHNSTON	146,312	74,169	176,576	186,255	157,678	170,051	0.88	1.16	32%
JONES	10,246	4,360	2,725	3,008	2,917	2,803	0.47	0.27	-42%
LEE	53,789	48,341	67,648	67,941	76,971	70,320	1.16	1.31	13%
LENOIR	58,278	67,693	89,576	89,217	80,419	73,510	1.17	1.26	8%
LINCOLN	69,529	44,442	82,930	89,475	100,386	101,878	0.87	1.47	68%
MACON	32,550	19,738	35,825	35,388	37,209	37,167	0.82	1.14	39%
MADISON	20,296	11,676	13,056	13,654	24,340	15,677	0.68	0.77	14%
MARTIN	24,580	30,112	17,458	17,038	20,336	28,121	1.19	1.14	-4%
MCDOWELL	43,175	29,180	38,321	38,065	39,935	39,325	0.82	0.91	11%
MECKLENBURG	796,232	677,573	1,278,129	1,280,887	1,285,489	1,506,402	1.29	1.89	47%
MITCHELL	15,880	15,768	13,865	14,500	16,761	18,008	1.11	1.13	2%
MONTGOMERY	27,359	28,873	45,267	46,175	46,063	47,145	1.23	1.72	40%
MOORE	80,867	74,062	84,819	90,359	95,034	99,097	1.23	1.23	0%
NASH	91,544	84,594	103,213	114,139	110,941	116,431	1.09	1.27	17%
NEW HANOVER	180,358	157,647	250,327	264,387	279,268	333,313	1.28	1.85	44%
NORTHAMPTON	21,568	19,528	19,271	29,323	15,359	16,300	0.94	0.76	-20%
ONSLOW	157,748	158,344	149,346	181,006	189,905	200,160	1.04	1.27	22%
ORANGE	121,991	131,067	89,547	88,062	90,486	93,804	1.36	0.77	-43%
PAMLICO	13,068	8,541	8,359	12,451	9,036	10,195	0.75	0.78	4%

## APPENDIX B: COUNTY POPULATION, WASTE DISPOSAL, PER CAPITA RATE AND PERCENT REDUCTION, FY 2005-2006

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED				BASE YEAR PER CAPITA	PER CAPITA RATE	%CHANGE FROM 1991-1992
		1991-1992	2002-2003	2003-2004	2004-2005	2005-2006	1991-1992	2005-2006	2005-2006**
PASQUOTANK	38,882	30,150	37,123	39,926	39,099	41,734	0.97	1.07	11%
PENDER	46,538	18,188	29,063	30,586	33,845	36,448	0.60	0.78	31%
PERQUIMANS	12,154	7,520	9,396	15,278	13,065	12,743	0.73	1.05	44%
PERSON	37,125	24,249	35,017	35,014	34,732	34,837	0.80	0.94	17%
PITT	143,207	132,896	152,459	148,664	160,067	168,957	1.21	1.18	-2%
POLK	19,006	9,327	14,001	13,353	15,254	18,818	0.63	0.99	57%
RANDOLPH	137,283	78,663	120,390	127,792	124,035	119,466	0.73	0.87	19%
RICHMOND	46,676	60,752	64,246	76,304	92,606	71,854	1.35	1.54	14%
ROBESON	127,695	104,700	126,032	129,897	117,786	133,002	0.99	1.04	5%
ROCKINGHAM	91,817	71,481	100,478	97,642	98,556	98,604	0.83	1.07	29%
ROWAN	133,339	90,081	135,552	131,386	147,880	141,922	0.80	1.06	33%
RUTHERFORD	63,303	89,175	63,608	72,756	71,101	67,036	1.56	1.06	-32%
SAMPSON	63,566	33,545	52,657	54,907	50,182	52,238	0.70	0.82	17%
SCOTLAND	36,838	39,867	42,092	45,112	45,618	34,703	1.17	0.94	-19%
STANLY	58,912	69,288	74,341	83,181	83,933	80,912	1.32	1.37	4%
STOKES	46,234	17,976	16,223	15,656	11,259	11,176	0.47	0.24	-49%
SURRY	73,028	73,595	68,830	83,583	90,567	100,363	1.18	1.37	16%
SWAIN	13,585	5,651	8,286	9,343	8,413	8,774	0.50	0.65	29%
TRANSYLVANIA	29,880	30,072	30,539	32,343	37,794	40,073	1.16	1.34	16%
TYRRELL	4,203	2,985	3,021	2,023	2,699	2,853	0.79	0.68	-14%
UNION	161,332	77,842	166,558	166,124	168,381	205,251	0.90	1.27	41%
VANCE	43,624	43,267	52,119	50,799	53,895	40,809	1.11	0.94	-16%
WAKE	755,034	569,622	856,043	915,086	999,535	1,071,973	1.29	1.42	10%

## APPENDIX B: COUNTY POPULATION, WASTE DISPOSAL, PER CAPITA RATE AND PERCENT REDUCTION, FY 2005-2006

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED				BASE YEAR PER CAPITA	PER CAPITA RATE	%CHANGE FROM 1991-1992
		1991-1992	2002-2003	2003-2004	2004-2005	2005-2006	1991-1992	2005-2006	2005-2006**
WARREN	20,215	10,978	10,996	13,656	11,096	10,310	0.63	0.51	-19%
WASHINGTON	13,418	11,699	12,692	18,230	16,976	14,410	0.84	1.07	28%
WATAUGA	42,934	36,755	50,099	53,111	65,132	62,503	0.99	1.46	47%
WAYNE	115,714	106,149	124,473	122,620	127,369	123,445	1.00	1.07	7%
WILKES	66,897	58,818	60,189	61,686	61,649	57,391	0.97	0.86	-12%
WILSON	76,826	120,870	138,607	123,498	127,231	115,018	1.82	1.50	-18%
YADKIN	37,404	20,779	20,212	22,651	21,532	20,157	0.67	0.54	-20%
YANCEY	18,152	15,576	11,912	12,356	13,929	12,179	1.01	0.67	-34%
<b>STATE TOTALS</b>	<b>8,682,066</b>	<b>7,257,428</b>	<b>10,236,960</b>	<b>10,713,444</b>	<b>11,061,911</b>	<b>11,765,183</b>	<b>1.07</b>	<b>1.36</b>	<b>27%</b>

TOTAL ADJUSTED FOR HURRICANE  
DEBRIS (e.g. FRAN, FLOYD)

*\*\* Percent Change formula: (current year per capita minus base year per capita) divided by base year per capita*

**Appendix C**  
**Imports and Exports**  
**FY 1995-1996 through FY 2005-2006**

<b>Fiscal Year</b>	<b>Total Tons Exported</b>	<b>Receiving Facility</b>	<b>Distribution of Tons Received</b>		<b>Total Tons Imported</b>	<b>Receiving Facility</b>	<b>Distribution of Tons Received</b>
<b>2005-2006</b>	<b>1,234,307</b>	Atlantic Waste, VA BFI, Carter Valley, TN Bristol Landfill, VA Brunswick Landfill, VA Eagle Point Landfill, GA Iris Glenn Landfill, TN Lee County Landfill, SC Maplewood Landfill, VA Palmetto Landfill, SC Pinebluff Landfill, GA R&B Landfill, GA Union County Landfill, SC	32 9,311 14,208 411,107 8,744 53,706 10,194 361 538,508 13,010 38,676 136,450		<b>137,307<sup>(4)</sup></b>	BFI- Lake Norman Chambers Development Gaston County C&D Landfill Gaston County Landfill Griffin Farms C&D Mecklenburg County Landfill New Hanover Waste to Energy Upper Piedmont Regional Landfill Waste Management of the Carolinas	18,403 55,869 30 239 510 1944 9 56,428 3,875
<b>2004-2005</b>	<b>1,161,926<sup>(3)</sup></b>	Atlantic Waste, VA BFI- Carter Valley, TN Bristol Landfill, VA Brunswick Landfill, VA Eagle Point Landfill, GA Fort Mill Transfer, SC <sup>(3)</sup> Iris Glenn Landfill, TN Maplewood Landfill, VA Palmetto Landfill, SC Pinebluff Landfill, GA R&B Landfill, GA Union County, SC	44,864 9,500 14,314 370,810 8,398 52,731 53,126 364 507,307 14,414 34,748 51,338		<b>119,202<sup>(3)</sup></b>	Chambers Development Landfill Gaston County Landfill Griffin Farms C&D Landfill Mecklenburg County Landfill Piedmont Sanitary Landfill Upper Piedmont Regional Landfill Waste Management of the Carolinas Transfer	82,535 75 373 584 1,754 30,163 3,230
<b>2003-2004</b>	<b>1,048,111</b>	Atlantic Waste Disposal, VA Carter Valley, TN Bristol Landfill, VA Brunswick Landfill, VA Eagle Point Landfill, GA Iris Glenn Landfill, TN Maplewood Landfill, VA Palmetto Landfill, SC Pinebluff Landfill, GA R&B Landfill, GA Hampton Roads, VA Union County Landfill, SC	53,898 9,356 13,768 377,250 3,046 10,608 1,321 479,650 12,788 22,216 4,072 14,453		<b>108,803</b>	Charlotte Motor Speedway Landfill Lake Norman Landfill Chambers Development Landfill Gaston County Landfill Griffin Farms C&D Landfill Mecklenburg County Landfill New Hanover Waste to Energy Upper Piedmont Landfill Waste Management of the Carolinas Transfer	3,567 6,452 61,301 106 197 855 3 33,733 2,589

<b>2002-2003</b>	<b>971,286<sup>(2)</sup></b>	Maplewood Landfill, VA Atlantic Waste, VA BFI, Carter Valley, TN Bristol Landfill, VA Brunswick Landfill, VA Iris Glenn Landfill, TN Lee Co. Landfill, SC Palmetto Landfill, SC Pinebluff Landfill, GA R&B Landfill, GA John C. Holland Enterprises	10,887 61,912 8,746 13,000 396,386 41,384 31,084 395,418 9,839 2,030 600	<b>144,116<sup>(2)</sup></b>	BFI- Charlotte Motor Speedway <sup>(2)</sup> Chambers Development, Anson Co. <sup>(2)</sup> Gaston Co. Landfill Griffin Farms C&D Landfill, Union Co. Mecklenburg Co. Landfill New Hanover Waste to Energy Piedmont Sanitary Landfill, Forsyth Co. Upper Piedmont Regional Landfill, Person Co Waste Management of Carolinas, Gaston Co.	66,246 91,990 127 201 1,181 1 37,264 10,949 2,403
<b>2001-2002</b>	<b>882,247<sup>(1)</sup></b>	Maplewood Landfill, VA Atlantic Waste, VA BFI, Carter Valley, TN Bristol Landfill, VA Brunswick Landfill, VA Danville Transfer, VA Iris Glenn Landfill, TN Lee Co. Landfill, SC Palmetto Landfill, SC Pinebluff Landfill, GA R&B Landfill, GA	8,844 36,290 4,789 12,584 420,627 5,327 44,548 28,515 312,013 6,683 2,027	<b>117,981</b>	BFI- Charlotte Motor Speedway Chambers Development, Anson Co. Gaston Co. Landfill GDS Recycling Services, Catawba Co. Griffin Farms C&D Landfill, Union Co. Mecklenburg Co. Landfill Piedmont Sanitary Landfill, Forsyth Co. Upper Piedmont Regional Landfill, Person Co Waste Management of Carolinas, Gaston Co.	11,645 48,368 199 486 60 888 49,305 2,784 4,246
<b>2000-2001</b>	<b>900,743</b>	Brunswick Landfill, VA Palmetto Landfill, SC Iris Glenn Landfill, TN Atlantic Waste, VA Maplewood Landfill, VA Bristol Landfill, VA Lee Co. Landfill, SC Pinebluff Landfill, GA R & B Landfill, GA	436,264 340,782 44,863 30,275 18,541 13,121 9,912 6,809 176	<b>21,614</b>	Chambers Development Landfill, Anson Co. Waste Management, Gaston Co. (transfer) Addington Upper Piedmont Landfill, Person Mecklenburg Co. Landfill (CDLF) Gaston Co. Landfill Griffin Farms C&D Landfill, Union Co. GDS Recycling Services, Catawba Co. Uwharrie Env. MRF, Montgomery Co.	10,328 4,659 2,417 2,407 664 639 441 59
<b>1999-2000</b>	<b>1,106,897</b>	Palmetto Landfill, SC Brunswick Landfill, VA Lee Co. Landfill, SC Iris Glenn Landfill, TN Bristol Landfill, VA Pinebluff Landfill, GA	463,587 432,645 148,412 43,680 14,001 4,572	<b>41,840</b>	Addington Upper Piedmont Landfill, Person Co. Piedmont Sanitary Landfill, Forsyth Co. Gaston Co. Landfill Griffin Farms C&D Landfill, Union Co. GDS Recycling Services, Catawba Co. Uwharrie Env. MRF, Montgomery Co Mecklenburg Co. Landfill Uwharrie Env. Landfill, Montgomery Co.	32,976 (VA) 7,158 (VA) 640 (SC) 565 (SC) 377 (SC) 101 (SC) 15 (SC) 8 (SC)

<b>1998-1999</b>	<b>1,166,875</b>	Palmetto Landfill, SC Brunswick Landfill, VA Lee Co. Landfill, SC Iris Glenn Landfill, TN Bristol Landfill, VA Pinebluff Landfill, GA	446,858 382,479 277,246 41,612 14,766 3,914	<b>74,185</b>	Addington Upper Piedmont Landfill, Person Piedmont Sanitary Landfill, Forsyth Co. Griffin Farms C&D, Union Co. Gaston Co. Landfill Uwharrie Env. MRF, Montgomery Co. New Hanover Waste to Energy	53,798 (VA) 19,251 (VA) 594 (SC) 418 (SC) 67 (SC) 57 (MD)
<b>1997-1998</b>	<b>629,415</b>	Palmetto Landfill, SC Brunswick Landfill, VA Lee Co. Landfill, SC	422,248 190,890 16,277	<b>87,393</b>	Piedmont Sanitary Landfill, Forsyth Co. Addington Upper Piedmont Landfill, Person Co. Union Co. Landfill	80,570 (VA) 6,194 (VA) 629 (SC)
<b>1996-1997</b>	<b>280,400</b>	Palmetto Landfill, SC	280,400	<b>103,510</b>	Piedmont Sanitary Landfill, Forsyth Co. Union County Landfill	103,120 (VA) 390 (SC)
<b>1995-1996</b>	<b>111,097</b>	Palmetto Landfill, SC	111,097	<b>88,982</b>	Piedmont Sanitary Landfill, Forsyth Co.	88,982 (VA)

(1) This does not include 73,911 tons from Mecklenburg County that were exported to the Fort Mill Transfer Station in South Carolina and then imported to a landfill in North Carolina.

(2) This does not including 77,217 tons from Mecklenburg County that was exported to the Fort Mill Transfer Station in South Carolina and imported back to landfills in North Carolina.

(3) This does not include 99,065 tons of Municipal Solid Waste from Mecklenburg County that was exported to the Fort Mill Transfer Station in South Carolina and then imported back into North Carolina to the BFI- Charlotte Motor Speedway Landfill. The Total also does not include an additional 16,847 tons of construction and demolition material from Mecklenburg County sent to the Fort Mill Transfer Station and imported back to North Carolina to the BFI- Lake Norman Construction and Demolition Landfill.

(4) This does not include 107,888 tons from Mecklenburg County that was exported to the Fort Mill Transfer station in South Carolina and then imported back into NC to the Charlotte Motor Speedway Landfill.

## **APPENDIX D – Municipal Solid Waste Landfill Capacity by Facility**

Austin Quarter SWM Facility (01-04).....	D-1
Chambers Development MSWLF (04-03).....	D-2
Ashe County Landfill (05-01).....	D-3
East Carolina Regional Landfill (08-03).....	D-4
Buncombe County MSW Landfill (11-07).....	D-5
Charlotte Motor Speedway Landfill V (13-04).....	D-6
Foothills Environmental Landfill (14-03).....	D-7
Catawba County Landfill (18-03).....	D-8
Cherokee County MSW Facility (20-02).....	D-9
Cleveland County Landfill (23-01).....	D-10
CRSWMA-Long-term Regional Landfill (25-09).....	D-11
Cumberland County Landfill (26-01).....	D-12
Davidson County MSW Lined Landfill (29-06).....	D-13
Hanes Mill Road Landfill (34-02).....	D-14
Gaston County Landfill (36-06).....	D-15
City of High Point Landfill (41-04).....	D-16
City of Greensboro (41-12).....	D-17
Haywood County – White Oak Landfill (44-07).....	D-18
Iredell County Sanitary Landfill (49-03).....	D-19
Johnston County Landfill (51-03).....	D-20
Lenoir County MSW Landfill (54-09).....	D-21
Lincoln County Landfill (55-03).....	D-22
Macon County Landfill (57-03).....	D-23
Mecklenburg County Landfill (60-19).....	D-24
Uwharrie Environmental Landfill (62-04).....	D-25
New Hanover County Landfill (65-04).....	D-26
Camp Lejeune MSW Landfill (67-08).....	D-27
Onslow County Subtitle D Landfill (67-09).....	D-28
Orange County Landfill (68-01).....	D-29
Upper Piedmont Regional Landfill (73-04).....	D-30
Robeson County Landfill (78-03).....	D-31
Rockingham County Landfill (79-04).....	D-32
Rowan County Landfill (80-03).....	D-33
Waste Industries – Sampson County Disposal, Inc. (82-02).....	D-34
City of Albemarle (84-01).....	D-35
Surry County MSWLF (86-06).....	D-36
Transylvania County Landfill (88-07).....	D-37
Wake County Landfill – North (92-09).....	D-38
Wayne County Landfill (96-06).....	D-39
Wilkes County MSWLF (97-04).....	D-40





# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## AUSTIN QUARTER SWM FACILITY

01-04

County: ALAMANCE

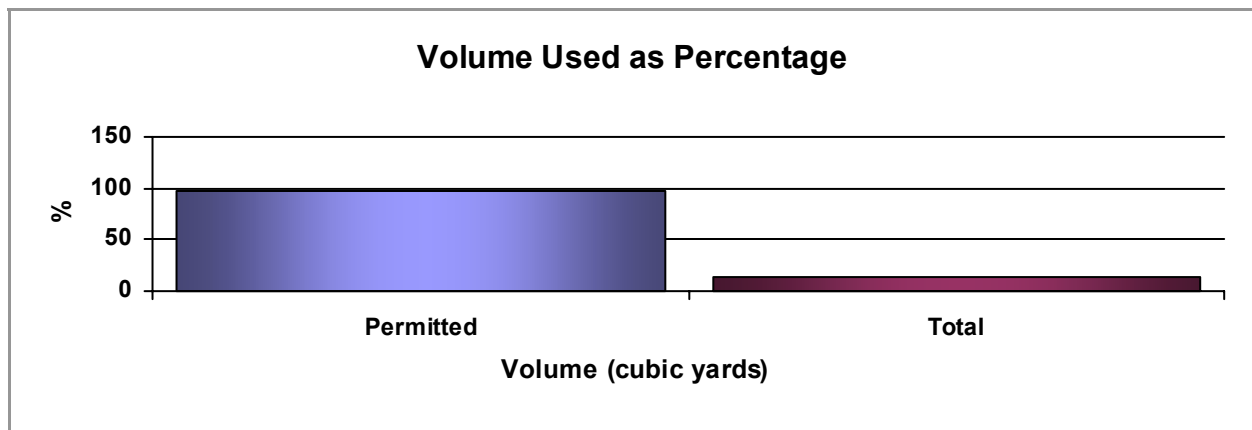
<b>Dates</b>	<b>Opened:</b> 3/18/1994	<b>Surveyed:</b> 2/3/2006	<b>Years Open:</b> 11.9
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<b>Tons Disposed</b>	<b>Total:</b> 959,004.00	<b>Avg per Year:</b> 80,653.56	<b>2005-2006:</b> 74,163.08
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,448,586.00	<b>Permitted:</b> 1,492,281.00	<b>Total:</b> 10,000,000.00
<b>Remaining Airspace (cubic yard)</b>		43,695.00	8,551,414.00

<b>Utilization Factor:</b>	0.66
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 28,927.30	<b>Total:</b> 5,661,272.60
<b>Remaining Capacity in Years (Avg TPY):</b>	0.36	70.19
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	0.39	76.34



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## CHAMBERS DEVELOPMENT MSWLF

04-03

County: ANSON

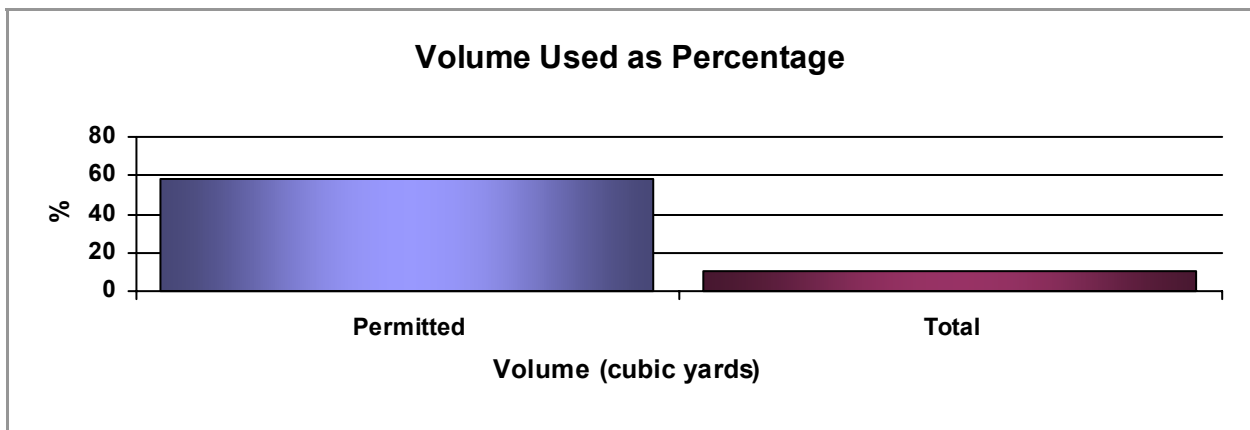
<b>Dates</b>	<b>Opened:</b> 12/12/2000	<b>Surveyed:</b> 6/15/2006	<b>Years Open:</b> 5.5
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<b>Tons Disposed</b>	<b>Total:</b> 1,292,190.00	<b>Avg per Year:</b> 234,534.73	<b>2005-2006:</b> 262,093.00
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,919,200.00	<b>Permitted:</b> 3,300,000.00	<b>Total:</b> 19,310,000.00
<b>Remaining Airspace (cubic yard)</b>		1,380,800.00	17,390,800.00

**Utilization Factor:** 0.67

<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 929,687.34	<b>Total:</b> 11,709,158.95
<b>Remaining Capacity in Years (Avg TPY):</b>	3.96	49.93
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	3.55	44.68



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

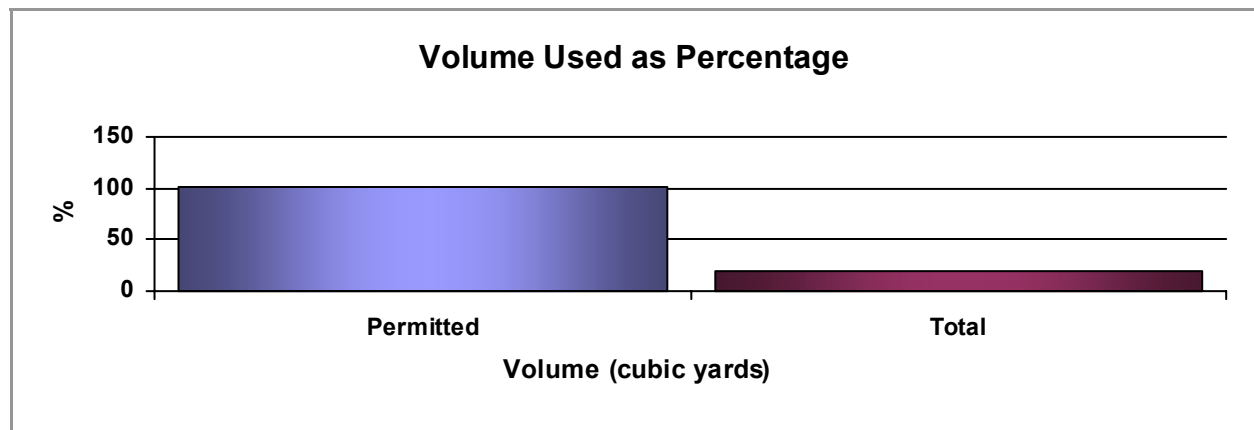
Analysis Date: April 23, 2007

## ASHE COUNTY LANDFILL

05-01

County: ASHE

<b>Dates</b>	<b>Opened:</b> 11/1/1993	<b>Surveyed:</b> 6/14/2006	<b>Years Open:</b> 12.6
<b>Tons Disposed</b>	<b>Total:</b> 211,332.64	<b>Avg per Year:</b> 16,739.67	<b>2005-2006:</b> 22,642.88
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 436,251.00	<b>Permitted:</b> 427,000.00	<b>Total:</b> 2,340,000.00
<b>Remaining Airspace (cubic yard)</b>		-9,251.00	1,903,749.00
<b>Utilization Factor:</b>	0.48		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> -4,481.45	<b>Total:</b> 922,231.24
<b>Remaining Capacity in Years (Avg TPY):</b>		-0.27	55.09
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		-0.20	40.73



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

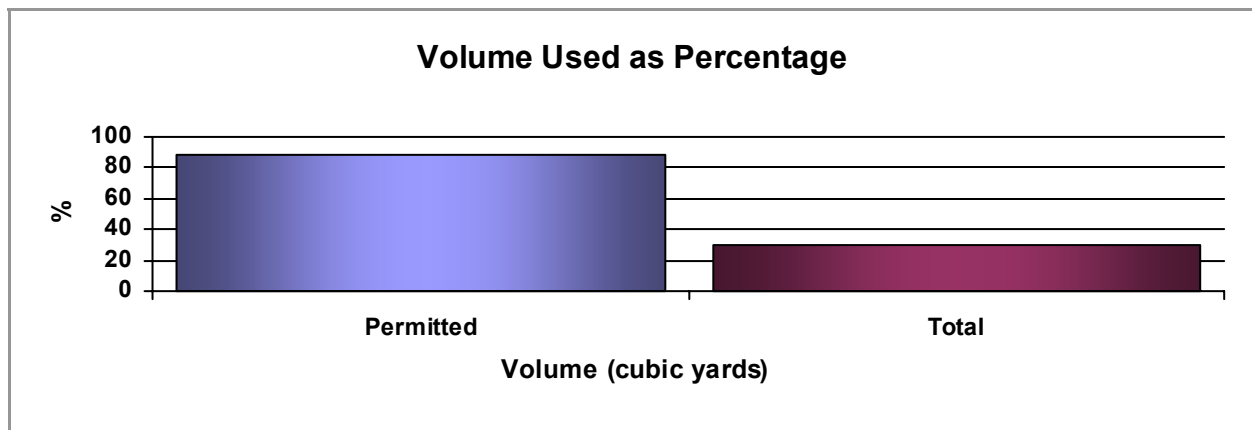
## EAST CAROLINA REG LANDFILL

08-03

County: BERTIE

<b>Dates</b>	<b>Opened:</b> 8/6/1993	<b>Surveyed:</b> 3/18/2006	<b>Years Open:</b> 12.6
<b>Tons Disposed</b>	<b>Total:</b> 5,412,094.69	<b>Avg per Year:</b> 428,785.45	<b>2005-2006:</b> 519,757.76
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 7,303,661.00	<b>Permitted:</b> 8,267,000.00	<b>Total:</b> 24,200,000.00
<b>Remaining Airspace (cubic yard)</b>		963,339.00	16,896,339.00
<b>Utilization Factor:</b>	0.74		

<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 713,845.00	<b>Total:</b> 12,520,376.64
<b>Remaining Capacity in Years (Avg TPY):</b>	1.66	29.20
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	1.37	24.09



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## BUNCOMBE COUNTY MSW LANDFILL

11-07

County: BUNCOMBE

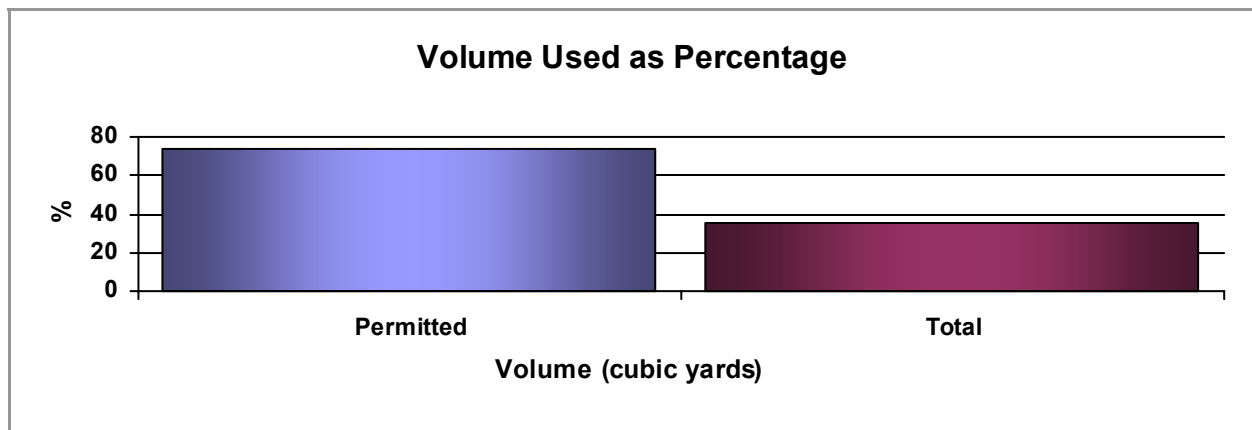
<b>Dates</b>	<b>Opened:</b> 9/29/1997	<b>Surveyed:</b> 6/15/2006	<b>Years Open:</b> 8.7
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<b>Tons Disposed</b>	<b>Total:</b> 1,207,090.00	<b>Avg per Year:</b> 138,506.08	<b>2005-2006:</b> 122,033.59
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 2,415,464.00	<b>Permitted:</b> 3,255,999.00	<b>Total:</b> 6,803,056.00
<b>Remaining Airspace (cubic yard)</b>		840,535.00	4,387,592.00

<b>Utilization Factor:</b>	0.50
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 420,044.10	<b>Total:</b> 2,192,629.83
<b>Remaining Capacity in Years (Avg TPY):</b>	3.03	15.83
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	3.44	17.97



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity Analysis Date: April 23, 2007

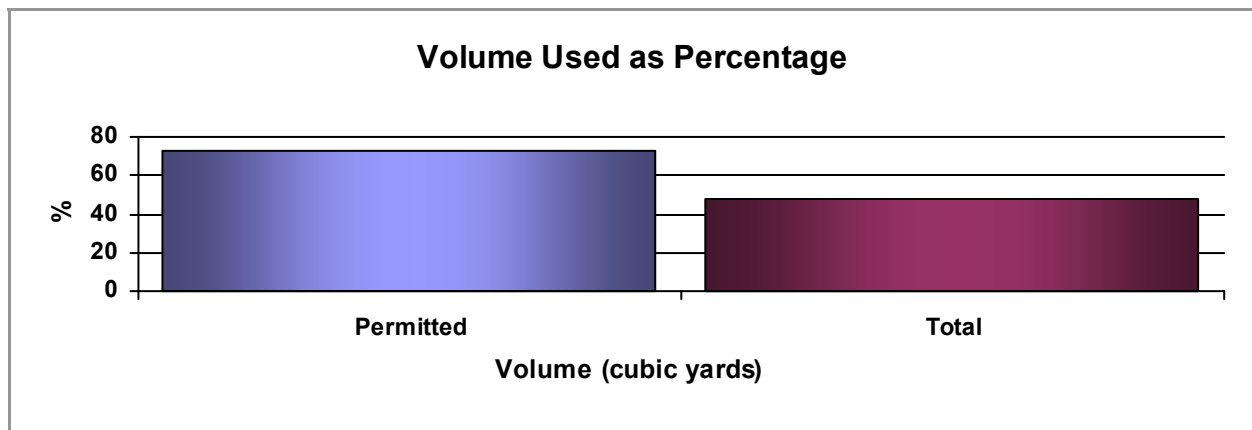
## CHARLOTTE MOTOR SPEEDWAY LANDFILL V

13-04

County: CABARRUS

<b>Dates</b>	<b>Opened:</b> 3/6/1992	<b>Surveyed:</b> 6/15/2006	<b>Years Open:</b> 14.3
<b>Tons Disposed</b>	<b>Total:</b> 12,840,000.00	<b>Avg per Year:</b> 898,849.25	<b>2005-2006:</b> 1,255,717.00
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 22,195,775.00	<b>Permitted:</b> 30,731,035.00	<b>Total:</b> 46,331,035.00
<b>Remaining Airspace (cubic yard)</b>		8,535,260.00	24,135,260.00
<b>Utilization Factor:</b>	0.58		

<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 4,937,549.53	<b>Total:</b> 13,961,969.72
<b>Remaining Capacity in Years (Avg TPY):</b>	5.49	15.53
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	3.93	11.12



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity Analysis Date: April 23, 2007

## FOOTHILLS ENVIRONMENTAL LANDFILL

14-03

County: CALDWELL

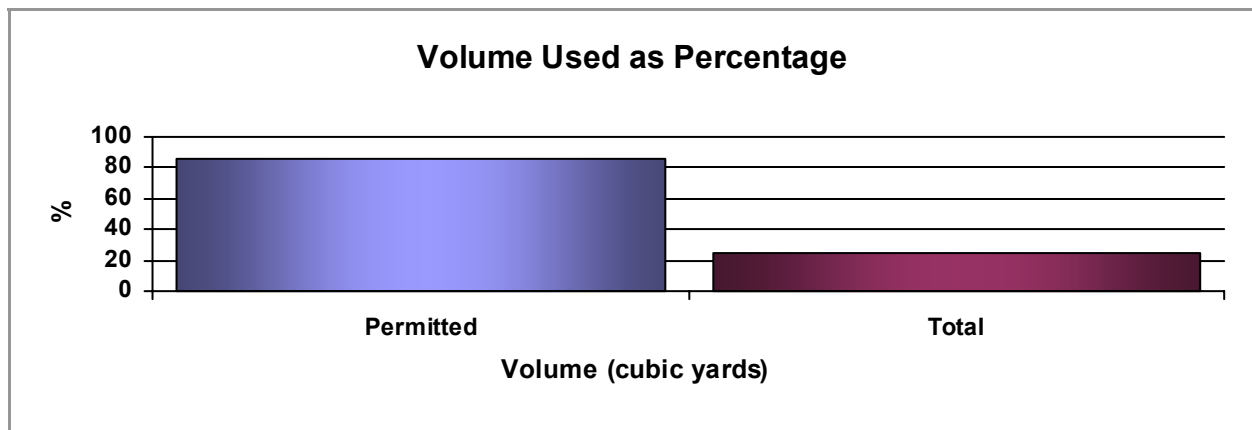
<b>Dates</b>	<b>Opened:</b> 8/26/1998	<b>Surveyed:</b> 3/8/2006	<b>Years Open:</b> 7.5
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<b>Tons Disposed</b>	<b>Total:</b> 1,030,474.00	<b>Avg per Year:</b> 136,722.29	<b>2005-2006:</b> 219,353.20
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 2,394,408.00	<b>Permitted:</b> 2,800,000.00	<b>Total:</b> 9,680,000.00
<b>Remaining Airspace (cubic yard)</b>		405,592.00	7,285,592.00

<b>Utilization Factor:</b>	0.43
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 174,553.38	<b>Total:</b> 3,135,477.80
<b>Remaining Capacity in Years (Avg TPY):</b>	1.28	22.93
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	0.80	14.29



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## CATAWBA COUNTY LANDFILL

18-03

County: CATAWBA

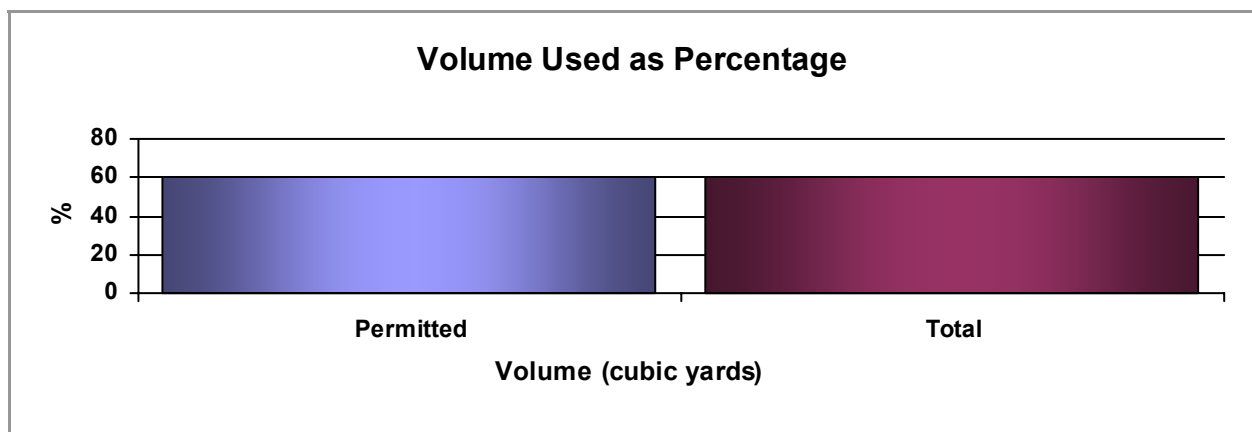
<b>Dates</b>	<b>Opened:</b> 12/30/1997	<b>Surveyed:</b> 5/6/2006	<b>Years Open:</b> 8.4
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<b>Tons Disposed</b>	<b>Total:</b> 1,399,476.04	<b>Avg per Year:</b> 167,533.21	<b>2005-2006:</b> 167,988.23
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 2,707,819.00	<b>Permitted:</b> 4,515,000.00	<b>Total:</b> 4,515,000.00
<b>Remaining Airspace (cubic yard)</b>		1,807,181.00	1,807,181.00

<b>Utilization Factor:</b>	0.52
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 934,001.32	<b>Total:</b> 934,001.32
<b>Remaining Capacity in Years (Avg TPY):</b>	5.58	5.58
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	5.56	5.56



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open

Remaining Airspace = Total Volume Airspace – Volume of Airspace Used

Utilization Factor = Total Tons Disposed / Volume of Airspace Used

Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor

Remaining Capacity in Years =

Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year

Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed

Permitted = Landfill Volume Constructed and Permitted to Operate

Total = Total Volume for the Landfill Site at Final Design





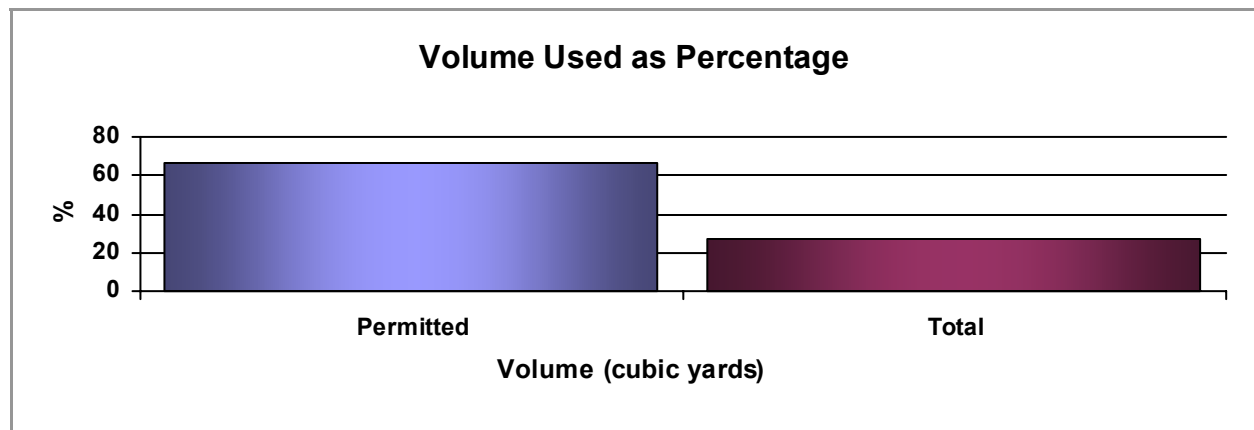
# Municipal Solid Waste Landfill Capacity Analysis Date: April 23, 2007

## CHEROKEE COUNTY MSW FACILITY

20-02

County: CHEROKEE

<b>Dates</b>	<b>Opened:</b> 1/9/1998	<b>Surveyed:</b> 6/6/2006	<b>Years Open:</b> 8.4
<b>Tons Disposed</b>	<b>Total:</b> 160,721.00	<b>Avg per Year:</b> 19,108.52	<b>2005-2006:</b> 20,113.00
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 309,560.00	<b>Permitted:</b> 465,479.00	<b>Total:</b> 1,127,940.00
<b>Remaining Airspace (cubic yard)</b>		155,919.00	818,380.00
<b>Utilization Factor:</b>	0.52		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 80,951.86	<b>Total:</b> 424,896.15
<b>Remaining Capacity in Years (Avg TPY):</b>		4.24	22.24
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		4.02	21.13



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## CLEVELAND COUNTY LANDFILL

23-01

County: CLEVELAND

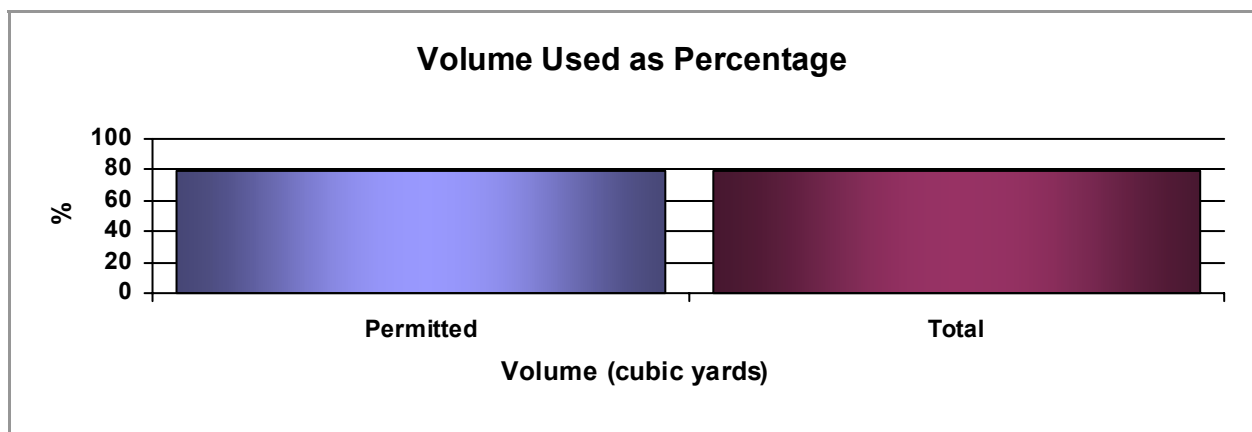
<b>Dates</b>	<b>Opened:</b> 7/27/1998	<b>Surveyed:</b> 6/12/2006	<b>Years Open:</b> 7.9
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<b>Tons Disposed</b>	<b>Total:</b> 636,352.80	<b>Avg per Year:</b> 80,732.98	<b>2005-2006:</b> 90,761.05
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,284,048.00	<b>Permitted:</b> 1,613,364.00	<b>Total:</b> 1,613,364.00
<b>Remaining Airspace (cubic yard)</b>		329,316.00	329,316.00

<b>Utilization Factor:</b>	0.50
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 163,203.52	<b>Total:</b> 163,203.52
<b>Remaining Capacity in Years (Avg TPY):</b>	2.02	2.02
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	1.80	1.80



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open

Remaining Airspace = Total Volume Airspace – Volume of Airspace Used

Utilization Factor = Total Tons Disposed / Volume of Airspace Used

Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor

Remaining Capacity in Years =

Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year

Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed

Permitted = Landfill Volume Constructed and Permitted to Operate

Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity Analysis Date: April 23, 2007

## CRSWMA - LONG TERM REGIONAL LANDFILL

**25-09**

**County:** CRAVEN

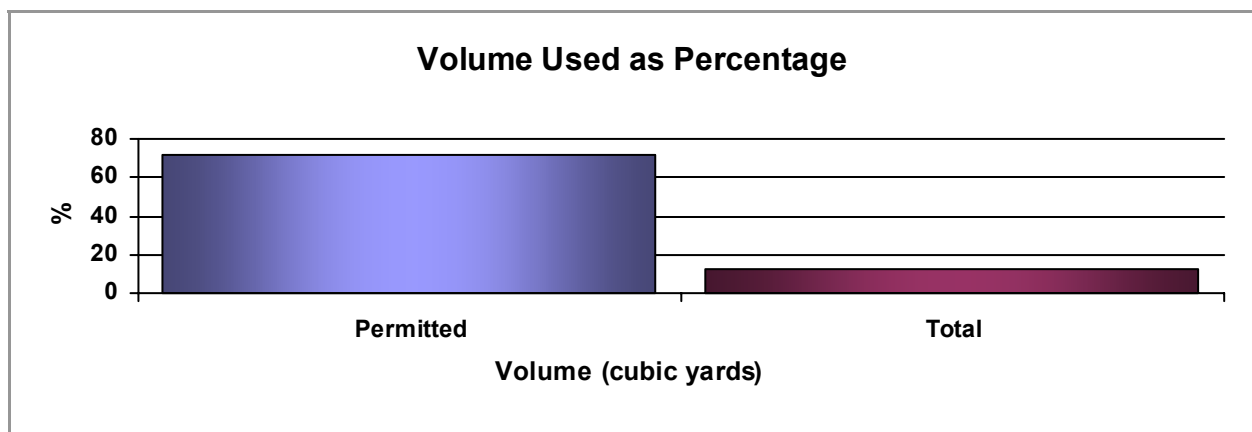
<b>Dates</b>	<b>Opened:</b> 8/25/1999	<b>Surveyed:</b> 7/7/2006	<b>Years Open:</b> 6.9
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<b>Tons Disposed</b>	<b>Total:</b> 1,292,109.00	<b>Avg per Year:</b> 188,046.17	<b>2005-2006:</b> 236,435.94
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,878,388.00	<b>Permitted:</b> 2,614,777.00	<b>Total:</b> 15,500,000.00
<b>Remaining Airspace (cubic yard)</b>		736,389.00	13,621,612.00

<b>Utilization Factor:</b>	0.69
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 506,548.62	<b>Total:</b> 9,370,059.57
<b>Remaining Capacity in Years (Avg TPY):</b>	2.69	49.83
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	2.14	39.63



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## CUMBERLAND COUNTY LANDFILL

26-01

County: CUMBERLAND

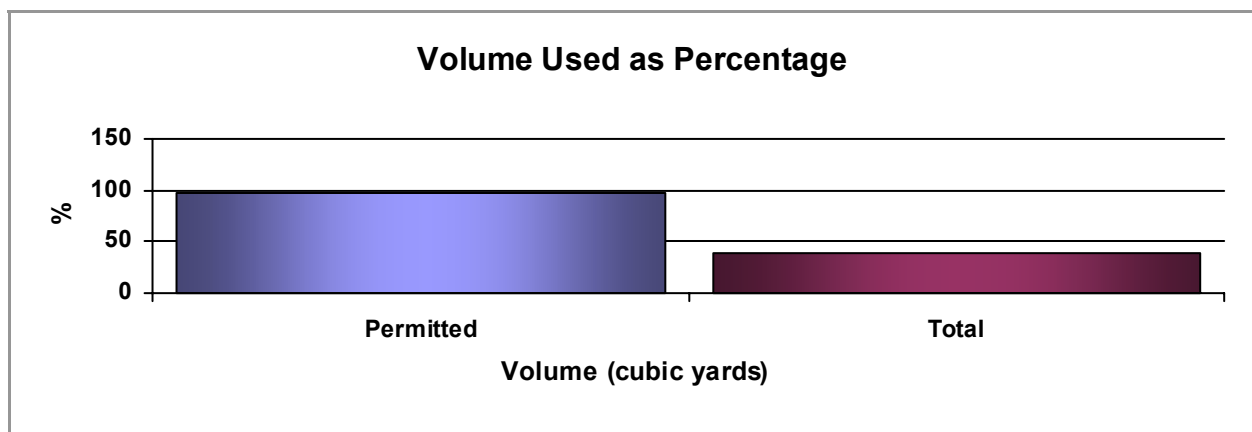
<b>Dates</b>	<b>Opened:</b> 12/17/1997	<b>Surveyed:</b> 6/22/2006	<b>Years Open:</b> 8.5
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<b>Tons Disposed</b>	<b>Total:</b> 1,412,490.00	<b>Avg per Year:</b> 165,827.87	<b>2005-2006:</b> 171,150.72
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 2,286,176.00	<b>Permitted:</b> 2,350,400.00	<b>Total:</b> 5,782,175.00
<b>Remaining Airspace (cubic yard)</b>		64,224.00	3,495,999.00

<b>Utilization Factor:</b>	0.62
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 39,680.13	<b>Total:</b> 2,159,966.52
<b>Remaining Capacity in Years (Avg TPY):</b>	0.24	13.03
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	0.23	12.62



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



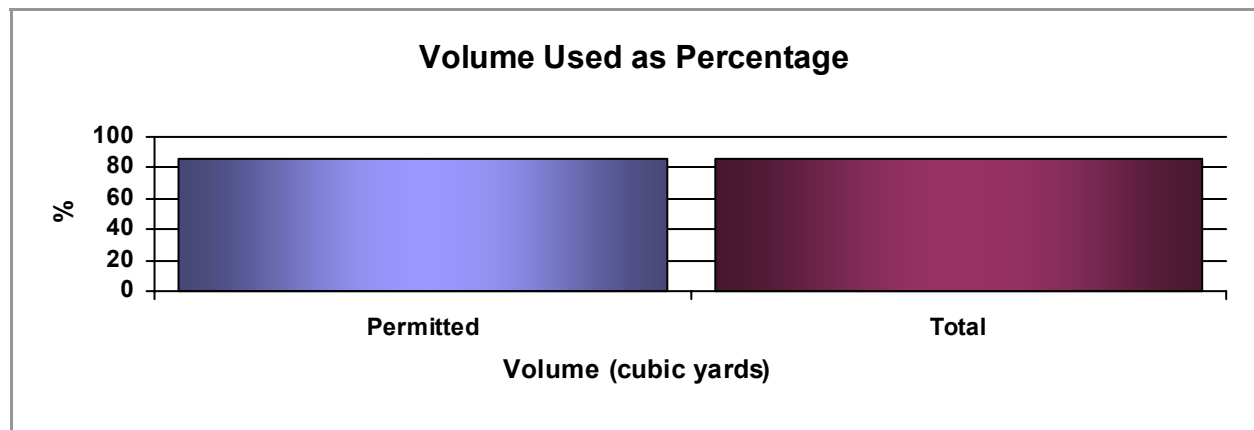
# Municipal Solid Waste Landfill Capacity Analysis Date: April 23, 2007

## DAVIDSON CO MSW LINED LANDFILL

29-06

County: DAVIDSON

<b>Dates</b>	<b>Opened:</b> 10/1/1994	<b>Surveyed:</b> 5/13/2006	<b>Years Open:</b> 11.6
<b>Tons Disposed</b>	<b>Total:</b> 1,110,745.00	<b>Avg per Year:</b> 95,573.30	<b>2005-2006:</b> 100,573.80
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 2,084,985.00	<b>Permitted:</b> 2,425,000.00	<b>Total:</b> 2,425,000.00
<b>Remaining Airspace (cubic yard)</b>		340,015.00	340,015.00
<b>Utilization Factor:</b>	0.53		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 181,137.98	<b>Total:</b> 181,137.98
<b>Remaining Capacity in Years (Avg TPY):</b>		1.90	1.90
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		1.80	1.80



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## HANES MILL ROAD LANDFILL

34-02

County: FORSYTH

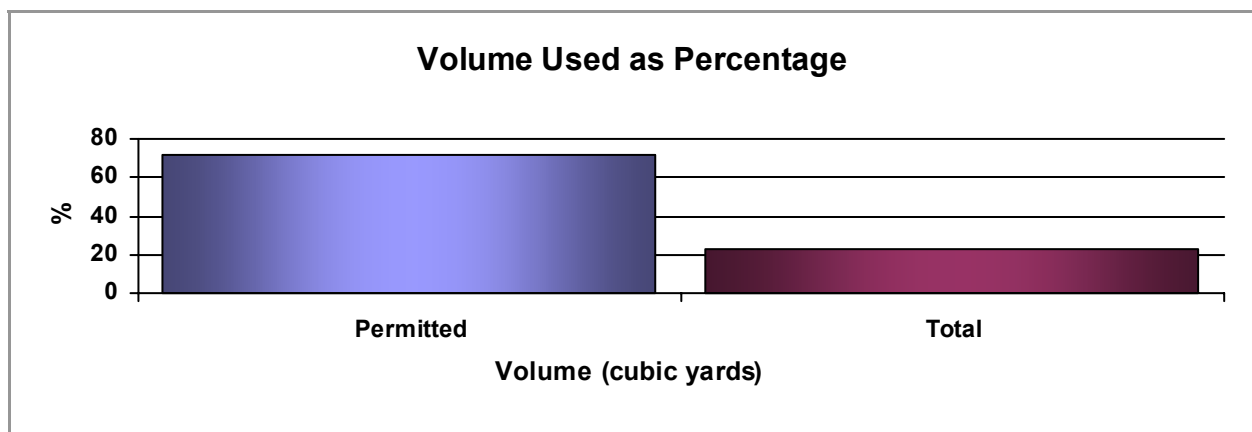
<b>Dates</b>	<b>Opened:</b> 4/7/1997	<b>Surveyed:</b> 1/7/2006	<b>Years Open:</b> 8.8
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<b>Tons Disposed</b>	<b>Total:</b> 2,521,531.71	<b>Avg per Year:</b> 287,882.10	<b>2005-2006:</b> 266,503.88
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 3,700,000.00	<b>Permitted:</b> 5,170,216.00	<b>Total:</b> 16,446,816.00
<b>Remaining Airspace (cubic yard)</b>		1,470,216.00	12,746,816.00

<b>Utilization Factor:</b>	0.68
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 1,001,944.94	<b>Total:</b> 8,686,892.09
<b>Remaining Capacity in Years (Avg TPY):</b>	3.48	30.18
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	3.76	32.60



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## GASTON COUNTY LANDFILL

**36-06**

County: GASTON

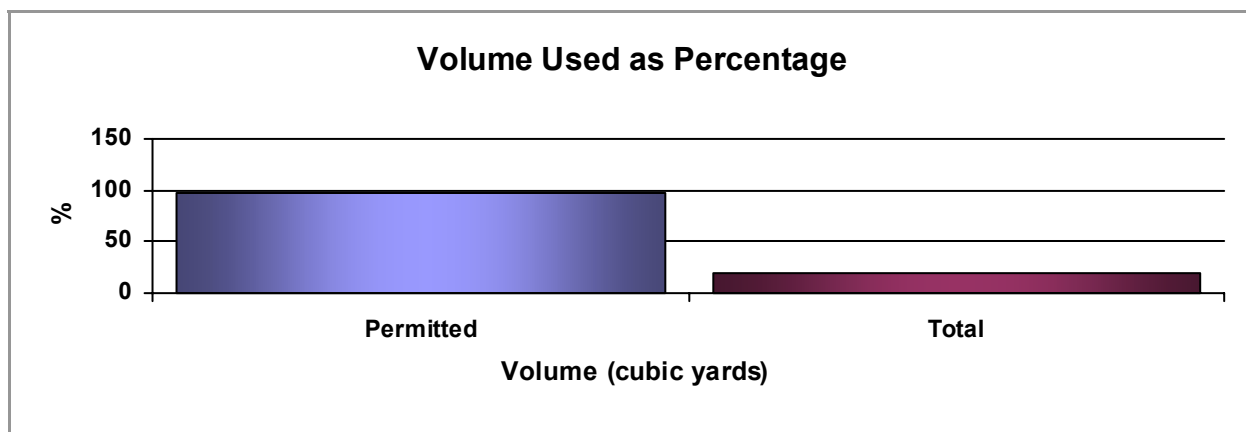
<b>Dates</b>	<b>Opened:</b> 7/1/1997	<b>Surveyed:</b> 6/5/2006	<b>Years Open:</b> 8.9
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<b>Tons Disposed</b>	<b>Total:</b> 749,199.64	<b>Avg per Year:</b> 83,857.06	<b>2005-2006:</b> 97,158.59
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,394,609.00	<b>Permitted:</b> 1,428,000.00	<b>Total:</b> 7,441,200.00
<b>Remaining Airspace (cubic yard)</b>		33,391.00	6,046,591.00

<b>Utilization Factor:</b>	0.54
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 17,938.02	<b>Total:</b> 3,248,296.69
<b>Remaining Capacity in Years (Avg TPY):</b>	0.21	38.74
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	0.18	33.43



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

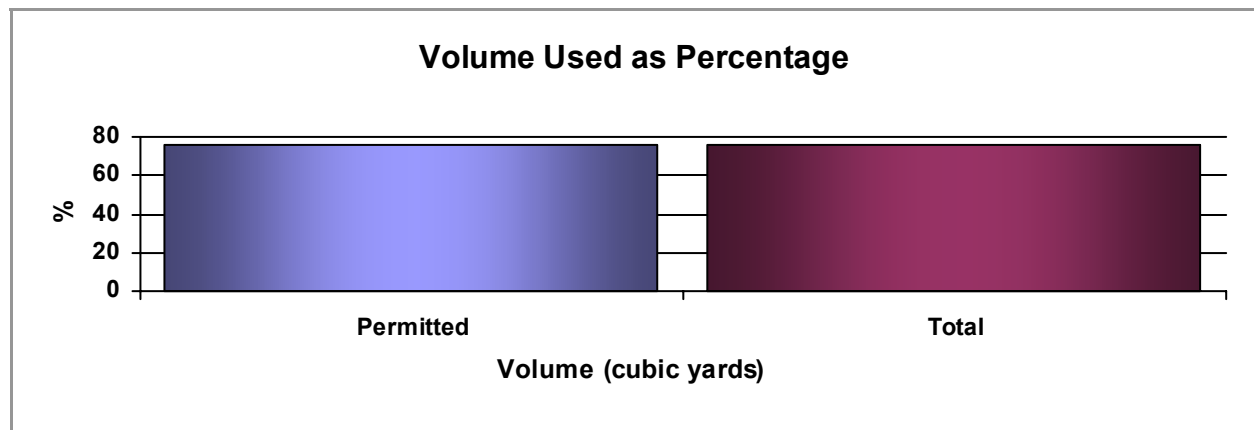
Analysis Date: April 23, 2007

## CITY OF HIGH POINT LANDFILL

41-04

County: GUILFORD

<b>Dates</b>	<b>Opened:</b> 10/1/1993	<b>Surveyed:</b> 5/13/2006	<b>Years Open:</b> 12.6
<b>Tons Disposed</b>	<b>Total:</b> 1,517,013.00	<b>Avg per Year:</b> 120,188.79	<b>2005-2006:</b> 85,891.30
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 2,605,728.00	<b>Permitted:</b> 3,442,281.00	<b>Total:</b> 3,442,281.00
<b>Remaining Airspace (cubic yard)</b>		836,553.00	836,553.00
<b>Utilization Factor:</b>	0.58		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 487,027.72	<b>Total:</b> 487,027.72
<b>Remaining Capacity in Years (Avg TPY):</b>		4.05	4.05
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		5.67	5.67



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design





# Municipal Solid Waste Landfill Capacity

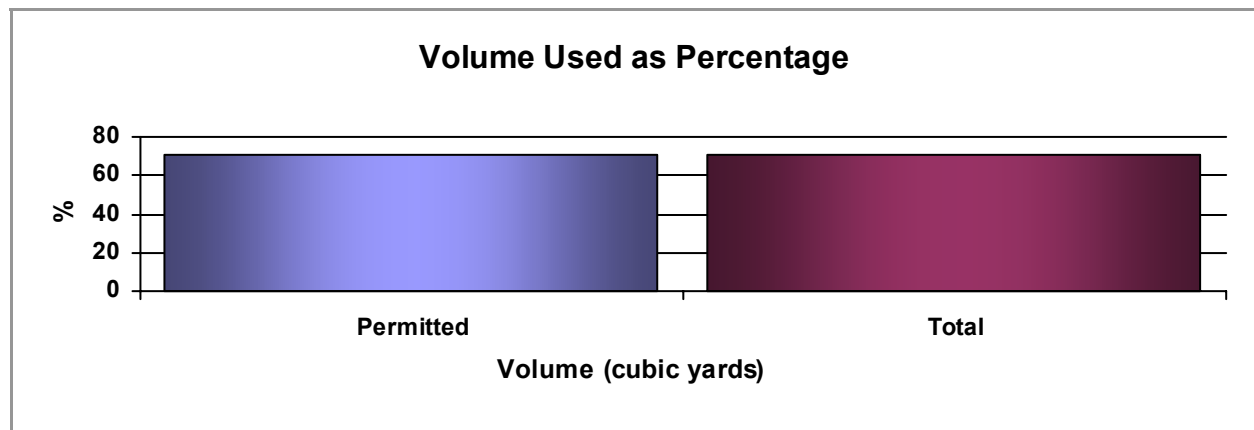
Analysis Date: April 23, 2007

**CITY OF GREENSBORO**

**41-12**

**County:** GUILFORD

<b>Dates</b>	<b>Opened:</b> 12/9/1997	<b>Surveyed:</b> 7/12/2006	<b>Years Open:</b> 8.6
<b>Tons Disposed</b>	<b>Total:</b> 2,070,917.00	<b>Avg per Year:</b> 240,957.83	<b>2005-2006:</b> 201,396.35
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 3,600,000.00	<b>Permitted:</b> 5,113,682.00	<b>Total:</b> 5,113,682.00
<b>Remaining Airspace (cubic yard)</b>		1,513,682.00	1,513,682.00
<b>Utilization Factor:</b>	0.58		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 870,752.72	<b>Total:</b> 870,752.72
<b>Remaining Capacity in Years (Avg TPY):</b>		3.61	3.61
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		4.32	4.32



## Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open

Remaining Airspace = Total Volume Airspace – Volume of Airspace Used

Utilization Factor = Total Tons Disposed / Volume of Airspace Used

Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor

Remaining Capacity in Years =

Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year

Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed

Permitted = Landfill Volume Constructed and Permitted to Operate

Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity Analysis Date: April 23, 2007

## HAYWOOD CO WHITE OAK LANDFILL

44-07

County: HAYWOOD

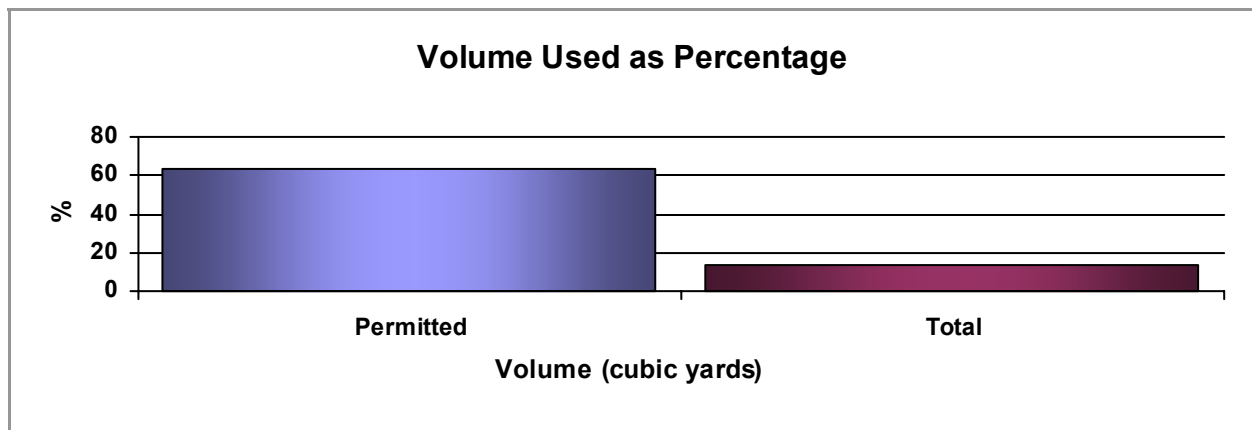
<b>Dates</b>	<b>Opened:</b> 10/15/1993	<b>Surveyed:</b> 6/5/2006	<b>Years Open:</b> 12.6
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<b>Tons Disposed</b>	<b>Total:</b> 552,424.23	<b>Avg per Year:</b> 43,681.73	<b>2005-2006:</b> 42,790.16
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,156,622.00	<b>Permitted:</b> 1,819,337.00	<b>Total:</b> 8,335,231.00
<b>Remaining Airspace (cubic yard)</b>		662,715.00	7,178,609.00

<b>Utilization Factor:</b>	0.48
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 316,525.04	<b>Total:</b> 3,428,637.49
<b>Remaining Capacity in Years (Avg TPY):</b>	7.25	78.49
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	7.40	80.13



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

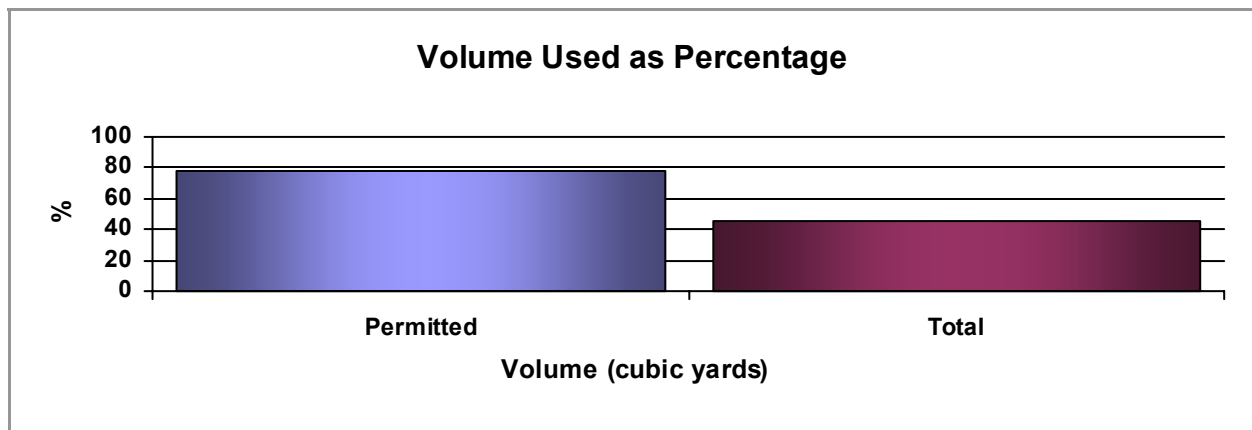
## IREDELL COUNTY SANITARY LANDFILL

49-03

County: IREDELL

<b>Dates</b>	<b>Opened:</b> 10/8/1993	<b>Surveyed:</b> 6/22/2006	<b>Years Open:</b> 12.7
<b>Tons Disposed</b>	<b>Total:</b> 1,607,700.00	<b>Avg per Year:</b> 126,467.78	<b>2005-2006:</b> 162,636.75
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 2,999,744.00	<b>Permitted:</b> 3,863,570.00	<b>Total:</b> 6,661,380.00
<b>Remaining Airspace (cubic yard)</b>		863,826.00	3,661,636.00
<b>Utilization Factor:</b>	0.54		

<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 462,963.86	<b>Total:</b> 1,962,438.19
<b>Remaining Capacity in Years (Avg TPY):</b>	3.66	15.52
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	2.85	12.07



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

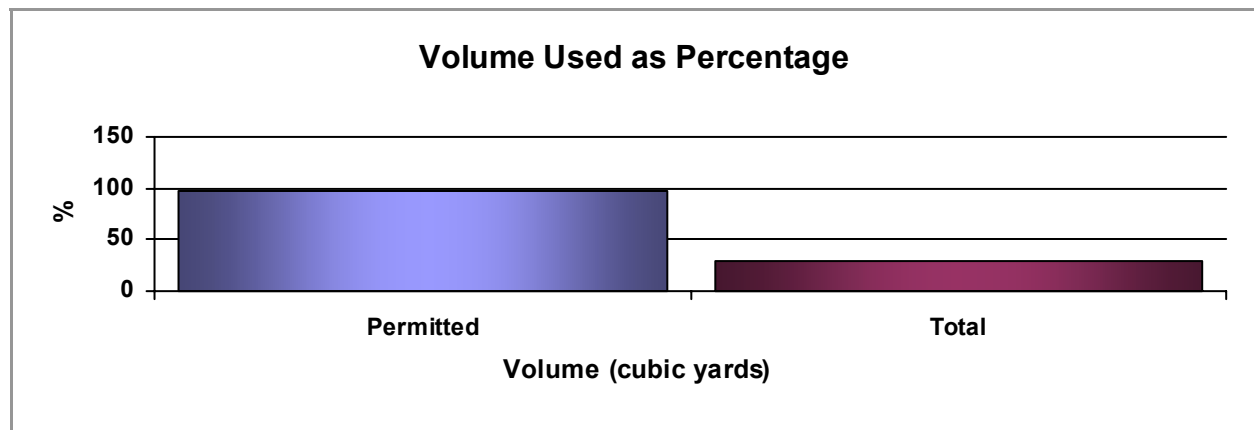
Analysis Date: April 23, 2007

## JOHNSTON COUNTY LANDFILL

51-03

County: JOHNSTON

<b>Dates</b>	<b>Opened:</b> 10/1/1997	<b>Surveyed:</b> 6/4/2006	<b>Years Open:</b> 8.7
<b>Tons Disposed</b>	<b>Total:</b> 874,469.00	<b>Avg per Year:</b> 100,751.64	<b>2005-2006:</b> 109,822.31
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,890,314.00	<b>Permitted:</b> 1,933,819.00	<b>Total:</b> 6,347,780.00
<b>Remaining Airspace (cubic yard)</b>		43,505.00	4,457,466.00
<b>Utilization Factor:</b>	0.46		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 20,125.64	<b>Total:</b> 2,062,046.75
<b>Remaining Capacity in Years (Avg TPY):</b>		0.20	20.47
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		0.18	18.78



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

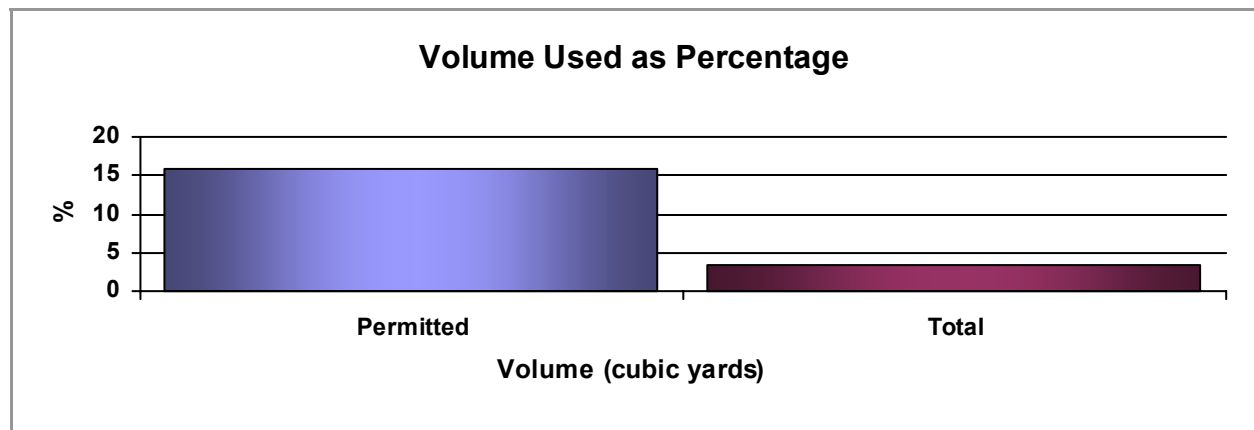
Analysis Date: April 23, 2007

## LENOIR COUNTY MSW LANDFILL

54-09

County: LENOIR

<b>Dates</b>	<b>Opened:</b> 7/1/2004	<b>Surveyed:</b> 6/22/2006	<b>Years Open:</b> 2.0
<b>Tons Disposed</b>	<b>Total:</b> 80,939.33	<b>Avg per Year:</b> 40,974.83	<b>2005-2006:</b> 43,599.93
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 99,981.00	<b>Permitted:</b> 635,000.00	<b>Total:</b> 3,000,000.00
<b>Remaining Airspace (cubic yard)</b>		535,019.00	2,900,019.00
<b>Utilization Factor:</b>	0.81		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 433,123.09	<b>Total:</b> 2,347,702.01
<b>Remaining Capacity in Years (Avg TPY):</b>		10.57	57.30
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		9.93	53.85



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

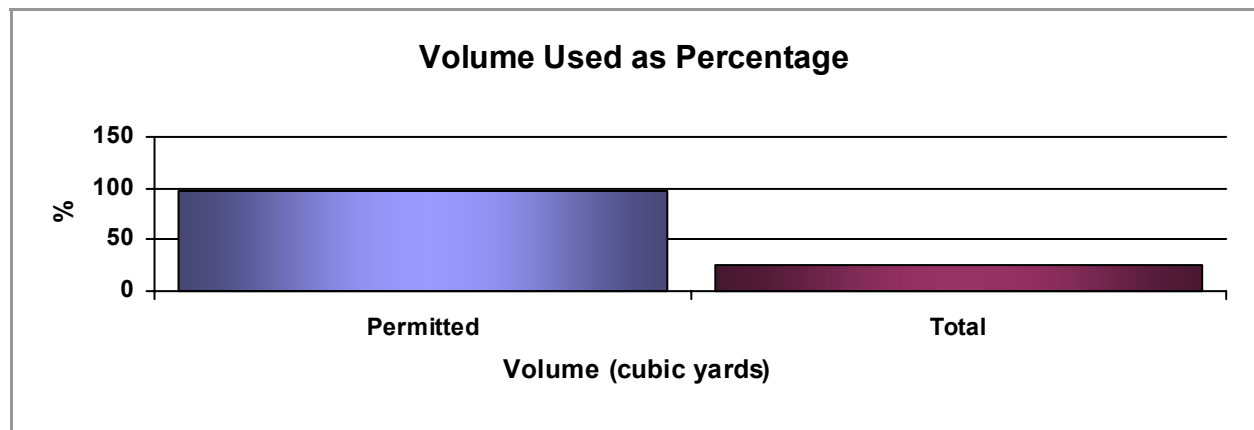
Analysis Date: April 23, 2007

## LINCOLN COUNTY LANDFILL

55-03

County: LINCOLN

<b>Dates</b>	<b>Opened:</b> 10/4/1993	<b>Surveyed:</b> 7/6/2006	<b>Years Open:</b> 12.8
<b>Tons Disposed</b>	<b>Total:</b> 544,287.06	<b>Avg per Year:</b> 42,650.23	<b>2005-2006:</b> 45,934.95
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,226,400.00	<b>Permitted:</b> 1,270,000.00	<b>Total:</b> 4,889,800.00
<b>Remaining Airspace (cubic yard)</b>		43,600.00	3,663,400.00
<b>Utilization Factor:</b>	0.44		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 19,350.06	<b>Total:</b> 1,625,849.00
<b>Remaining Capacity in Years (Avg TPY):</b>		0.45	38.12
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		0.42	35.39



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

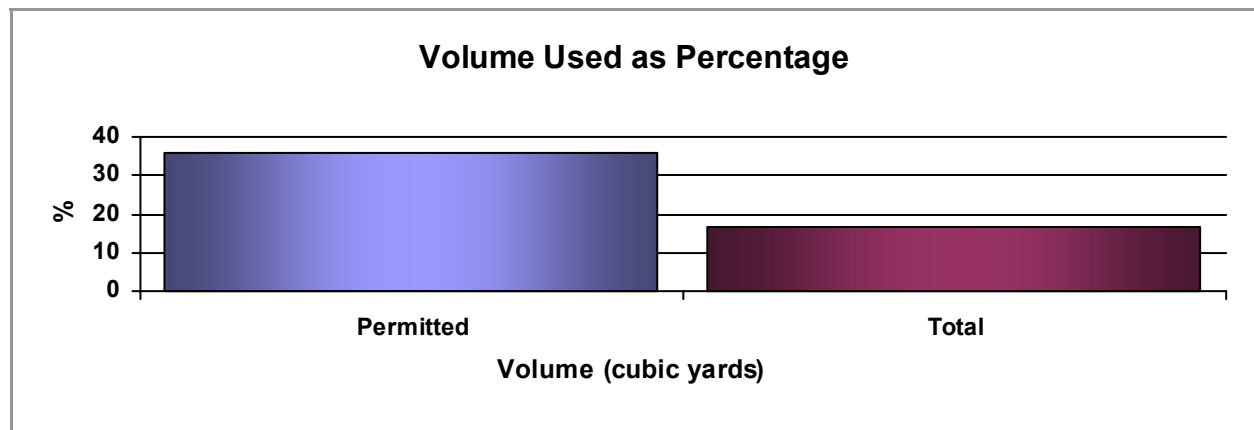
Analysis Date: April 23, 2007

## MACON COUNTY LANDFILL OPEN

57-03

County: MACON

<b>Dates</b>	<b>Opened:</b> 5/1/1992	<b>Surveyed:</b> 5/11/2006	<b>Years Open:</b> 14.0
<b>Tons Disposed</b>	<b>Total:</b> 242,024.96	<b>Avg per Year:</b> 17,243.63	<b>2005-2006:</b> 27,783.49
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 456,539.00	<b>Permitted:</b> 1,279,949.00	<b>Total:</b> 2,723,049.00
<b>Remaining Airspace (cubic yard)</b>		823,410.00	2,266,510.00
<b>Utilization Factor:</b>	0.53		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 436,514.23	<b>Total:</b> 1,201,544.65
<b>Remaining Capacity in Years (Avg TPY):</b>		25.31	69.68
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		15.71	43.25



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
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# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

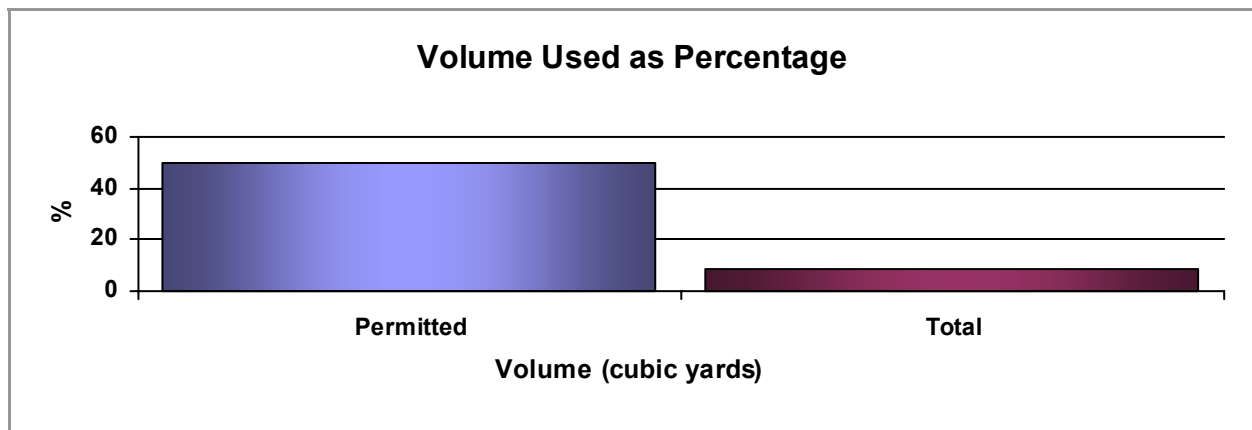
## MECKLENBURG COUNTY LANDFILL

60-19

County: MECKLENBURG

<b>Dates</b>	<b>Opened:</b> 4/11/2000	<b>Surveyed:</b> 2/15/2006	<b>Years Open:</b> 5.9
<b>Tons Disposed</b>	<b>Total:</b> 628,778.00	<b>Avg per Year:</b> 107,445.68	<b>2005-2006:</b> 158,035.00
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,189,044.00	<b>Permitted:</b> 2,400,000.00	<b>Total:</b> 14,000,000.00
<b>Remaining Airspace (cubic yard)</b>		1,210,956.00	12,810,956.00
<b>Utilization Factor:</b>	0.53		

<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 640,365.28	<b>Total:</b> 6,774,557.79
<b>Remaining Capacity in Years (Avg TPY):</b>	5.96	63.05
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	4.05	42.87



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design





# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

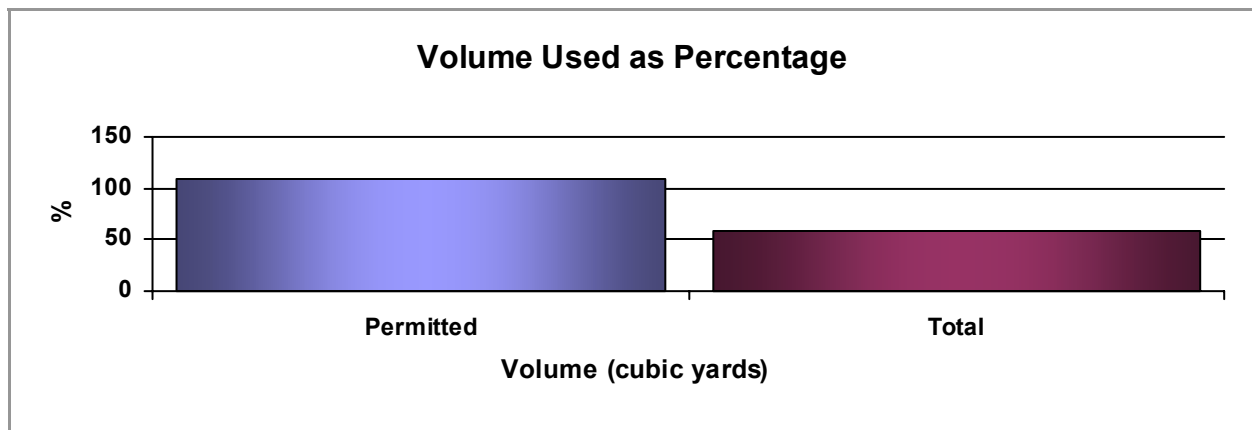
## UWHARRIE ENVIRONMENTAL LANDFILL

62-04

County: MONTGOMERY

<b>Dates</b>	<b>Opened:</b> 12/11/1995	<b>Surveyed:</b> 4/4/2006	<b>Years Open:</b> 10.3
<b>Tons Disposed</b>	<b>Total:</b> 5,424,251.00	<b>Avg per Year:</b> 525,577.81	<b>2005-2006:</b> 760,703.90
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 8,555,211.00	<b>Permitted:</b> 7,889,000.00	<b>Total:</b> 14,402,000.00
<b>Remaining Airspace (cubic yard)</b>		-666,211.00	5,846,789.00
<b>Utilization Factor:</b>	0.63		

<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> -422,397.03	<b>Total:</b> 3,707,033.18
<b>Remaining Capacity in Years (Avg TPY):</b>	-0.80	7.05
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	-0.56	4.87



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
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 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## NEW HANOVER COUNTY LANDFILL

65-04

County: NEW HANOVER

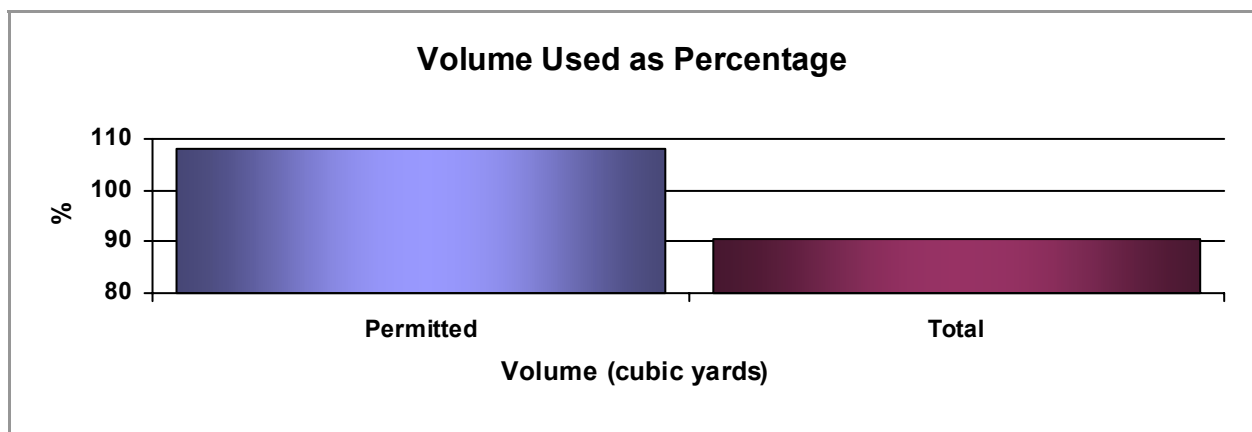
<b>Dates</b>	<b>Opened:</b> 8/24/1981	<b>Surveyed:</b> 8/21/2006	<b>Years Open:</b> 25.0
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<b>Tons Disposed</b>	<b>Total:</b> 3,675,992.00	<b>Avg per Year:</b> 146,991.35	<b>2005-2006:</b> 333,313.00
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 5,130,916.00	<b>Permitted:</b> 4,740,020.00	<b>Total:</b> 5,666,734.00
<b>Remaining Airspace (cubic yard)</b>		-390,896.00	535,818.00

<b>Utilization Factor:</b>	0.72
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> -280,053.42	<b>Total:</b> 383,881.30
<b>Remaining Capacity in Years (Avg TPY):</b>	-1.91	2.61
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	-0.84	1.15



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity Analysis Date: April 23, 2007

## CAMP LEJEUNE MSW LANDFILL

67-08

County: ONSLOW

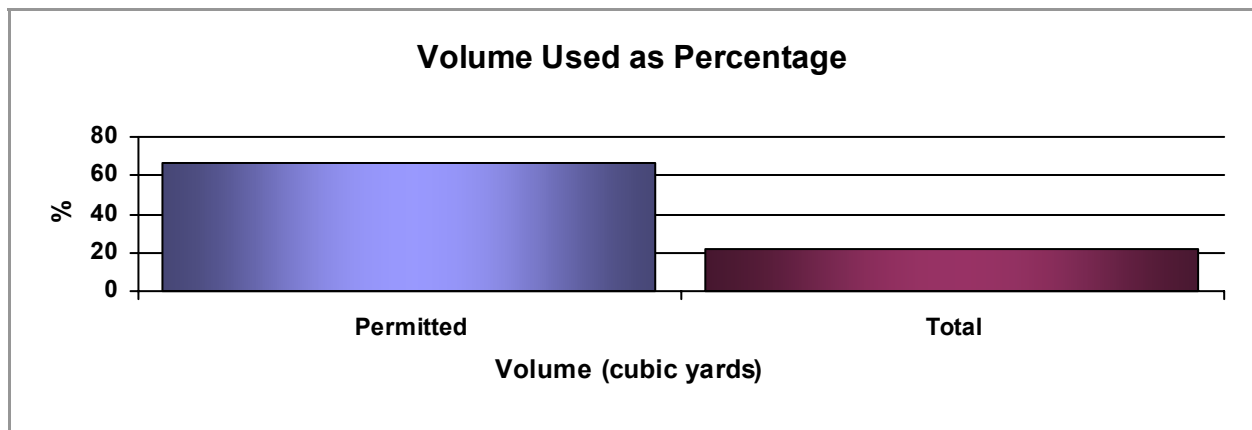
<b>Dates</b>	<b>Opened:</b> 1/1/1998	<b>Surveyed:</b> 6/30/2006	<b>Years Open:</b> 8.5
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<b>Tons Disposed</b>	<b>Total:</b> 387,384.24	<b>Avg per Year:</b> 45,581.96	<b>2005-2006:</b> 50,802.23
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 879,197.00	<b>Permitted:</b> 1,331,000.00	<b>Total:</b> 4,089,000.00
<b>Remaining Airspace (cubic yard)</b>		451,803.00	3,209,803.00

<b>Utilization Factor:</b>	0.44
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 199,069.56	<b>Total:</b> 1,414,275.86
<b>Remaining Capacity in Years (Avg TPY):</b>	4.37	31.03
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	3.92	27.84



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## ONSLOW COUNTY SUBTITLE D LANDFILL

67-09

County: ONSLOW

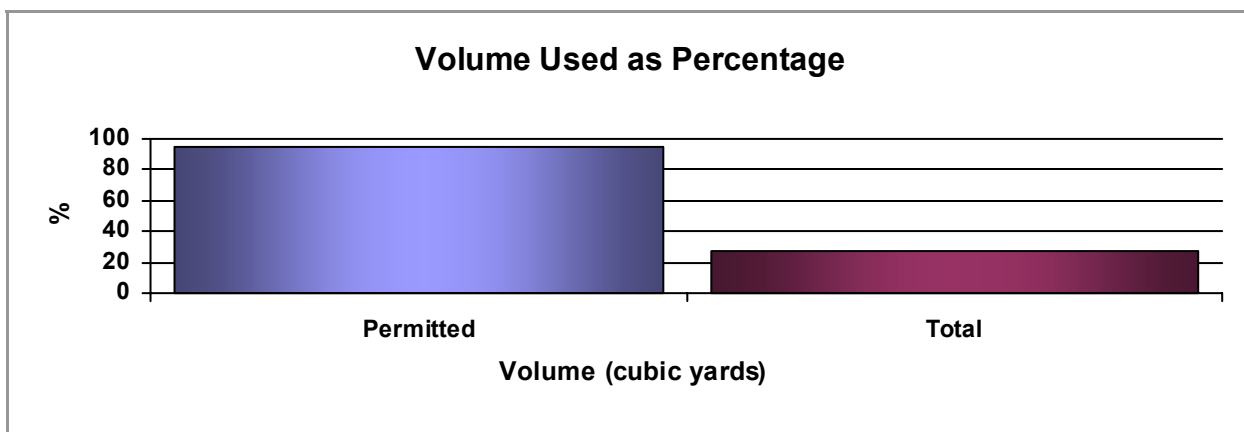
<b>Dates</b>	<b>Opened:</b> 1/1/1998	<b>Surveyed:</b> 5/25/2006	<b>Years Open:</b> 8.4
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<b>Tons Disposed</b>	<b>Total:</b> 962,058.00	<b>Avg per Year:</b> 114,530.71	<b>2005-2006:</b> 141,239.00
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,573,512.00	<b>Permitted:</b> 1,658,328.00	<b>Total:</b> 5,712,666.00
<b>Remaining Airspace (cubic yard)</b>		84,816.00	4,139,154.00

<b>Utilization Factor:</b>	0.61
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 51,857.19	<b>Total:</b> 2,530,712.33
<b>Remaining Capacity in Years (Avg TPY):</b>	0.45	22.10
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	0.37	17.92



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

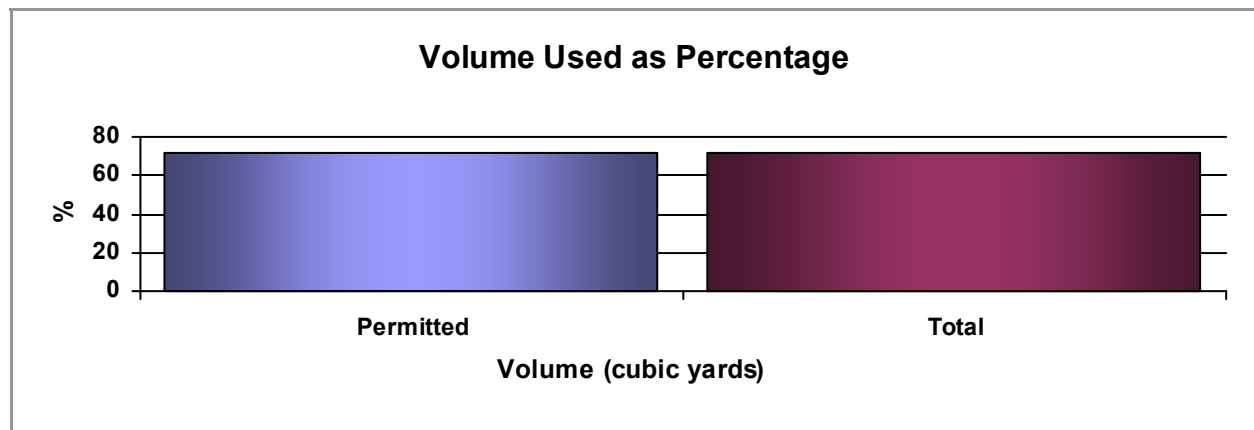
Analysis Date: April 23, 2007

## ORANGE COUNTY LANDFILL

68-01

County: ORANGE

<b>Dates</b>	<b>Opened:</b> 7/1/1995	<b>Surveyed:</b> 6/5/2006	<b>Years Open:</b> 10.9
<b>Tons Disposed</b>	<b>Total:</b> 629,824.00	<b>Avg per Year:</b> 57,586.61	<b>2005-2006:</b> 57,569.72
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,152,000.00	<b>Permitted:</b> 1,604,000.00	<b>Total:</b> 1,604,000.00
<b>Remaining Airspace (cubic yard)</b>		452,000.00	452,000.00
<b>Utilization Factor:</b>	0.55		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 247,118.44	<b>Total:</b> 247,118.44
<b>Remaining Capacity in Years (Avg TPY):</b>		4.29	4.29
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		4.29	4.29



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
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     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## UPPER PIEDMONT REGIONAL LANDFILL

73-04

County: PERSON

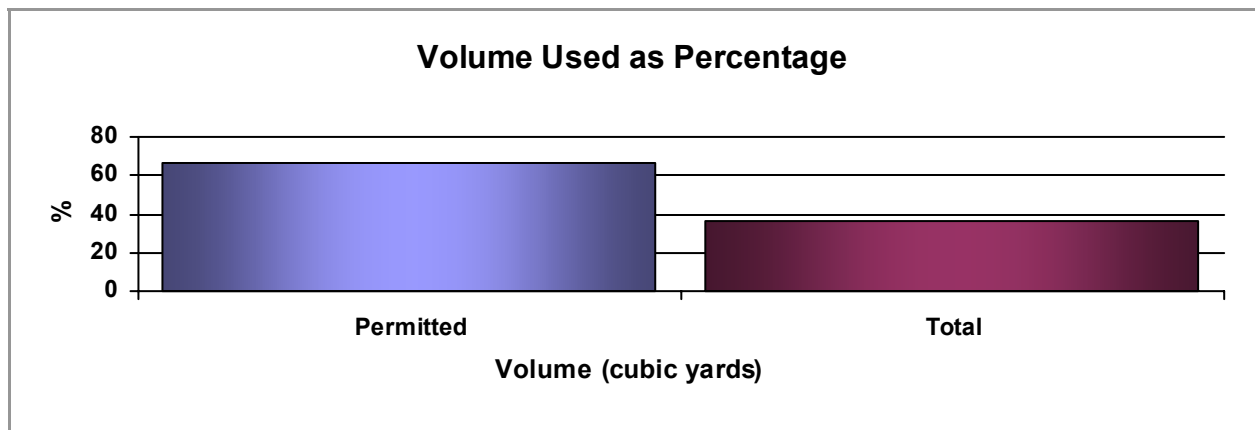
<b>Dates</b>	<b>Opened:</b> 7/30/1997	<b>Surveyed:</b> 3/3/2006	<b>Years Open:</b> 8.6
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<b>Tons Disposed</b>	<b>Total:</b> 1,903,177.00	<b>Avg per Year:</b> 221,370.17	<b>2005-2006:</b> 237,291.00
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 3,060,711.00	<b>Permitted:</b> 4,600,000.00	<b>Total:</b> 8,500,000.00
<b>Remaining Airspace (cubic yard)</b>		1,539,289.00	5,439,289.00

<b>Utilization Factor:</b>	0.62
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 957,143.43	<b>Total:</b> 3,382,197.71
<b>Remaining Capacity in Years (Avg TPY):</b>	4.32	15.28
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	4.03	14.25



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

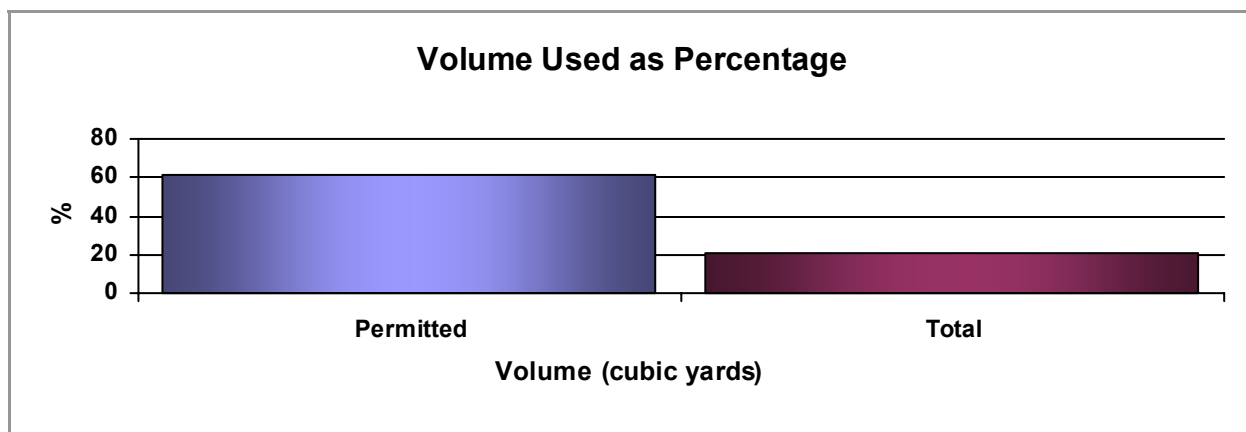
Analysis Date: April 23, 2007

## ROBESON COUNTY LANDFILL

78-03

County: ROBESON

<b>Dates</b>	<b>Opened:</b> 1/1/1998	<b>Surveyed:</b> 6/4/2006	<b>Years Open:</b> 8.4
<b>Tons Disposed</b>	<b>Total:</b> 796,196.00	<b>Avg per Year:</b> 94,477.09	<b>2005-2006:</b> 89,296.08
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,221,253.00	<b>Permitted:</b> 2,000,000.00	<b>Total:</b> 6,000,000.00
<b>Remaining Airspace (cubic yard)</b>		778,747.00	4,778,747.00
<b>Utilization Factor:</b>	0.65		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 507,704.17	<b>Total:</b> 3,115,504.52
<b>Remaining Capacity in Years (Avg TPY):</b>		5.37	32.98
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		5.69	34.89



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity Analysis Date: April 23, 2007

## ROCKINGHAM COUNTY LANDFILL

79-04

County: ROCKINGHAM

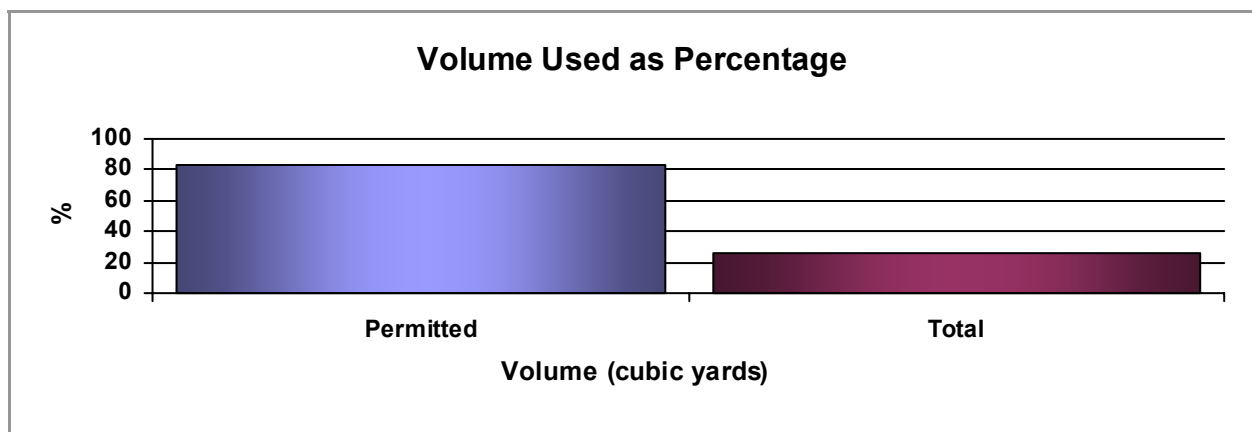
<b>Dates</b>	<b>Opened:</b> 5/5/1995	<b>Surveyed:</b> 12/21/2005	<b>Years Open:</b> 10.6
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<b>Tons Disposed</b>	<b>Total:</b> 793,144.00	<b>Avg per Year:</b> 74,555.13	<b>2005-2006:</b> 89,212.00
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,562,244.00	<b>Permitted:</b> 1,865,268.00	<b>Total:</b> 5,870,000.00
<b>Remaining Airspace (cubic yard)</b>		303,024.00	4,307,756.00

<b>Utilization Factor:</b>	0.51
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 153,843.87	<b>Total:</b> 2,187,027.65
<b>Remaining Capacity in Years (Avg TPY):</b>	2.06	29.33
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	1.72	24.51



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design





# Municipal Solid Waste Landfill Capacity

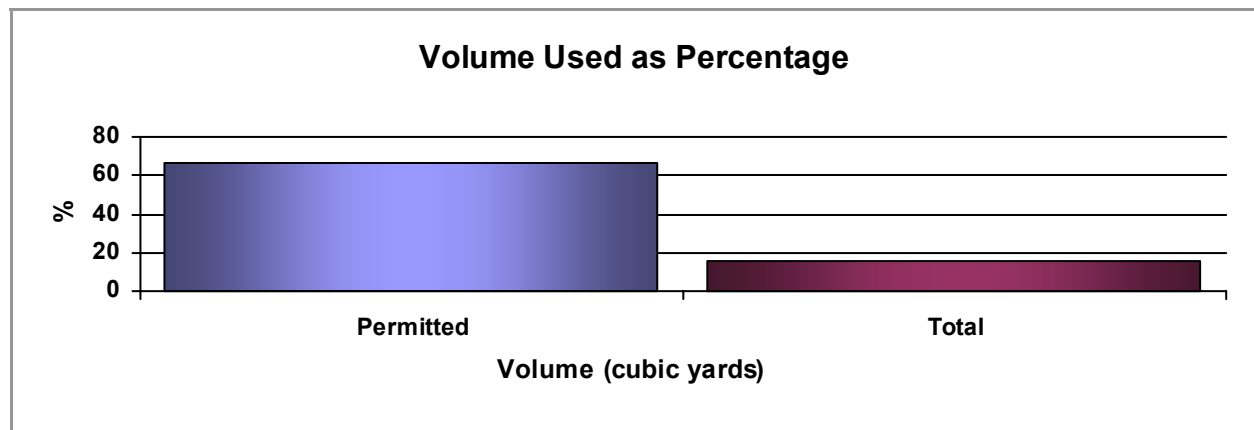
Analysis Date: April 23, 2007

## ROWAN COUNTY LANDFILL

80-03

County: ROWAN

<b>Dates</b>	<b>Opened:</b> 12/1/1989	<b>Surveyed:</b> 6/15/2006	<b>Years Open:</b> 16.5
<b>Tons Disposed</b>	<b>Total:</b> 1,221,118.00	<b>Avg per Year:</b> 73,792.73	<b>2005-2006:</b> 38,835.28
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 2,287,140.60	<b>Permitted:</b> 3,451,834.00	<b>Total:</b> 15,071,000.00
<b>Remaining Airspace (cubic yard)</b>		1,164,693.40	12,783,859.40
<b>Utilization Factor:</b>	0.53		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 621,836.75	<b>Total:</b> 6,825,378.74
<b>Remaining Capacity in Years (Avg TPY):</b>		8.43	92.49
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		16.01	175.75



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## WI-SAMPSON COUNTY DISPOSAL INC

82-02

County: SAMPSON

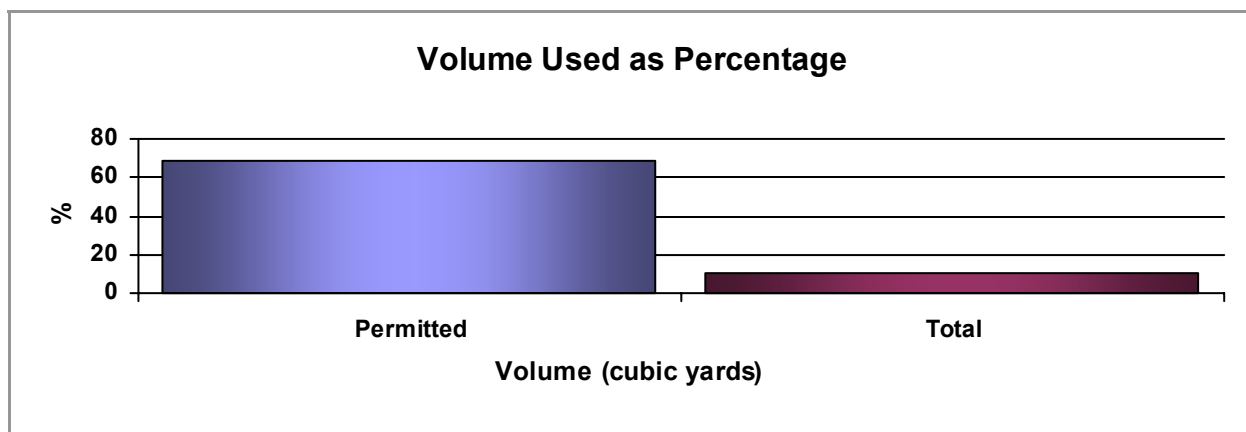
<b>Dates</b>	<b>Opened:</b> 2/22/1999	<b>Surveyed:</b> 12/22/2005	<b>Years Open:</b> 6.8
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<b>Tons Disposed</b>	<b>Total:</b> 4,395,093.00	<b>Avg per Year:</b> 642,969.52	<b>2005-2006:</b> 866,463.35
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 5,382,766.00	<b>Permitted:</b> 7,800,000.00	<b>Total:</b> 50,000,000.00
<b>Remaining Airspace (cubic yard)</b>		2,417,234.00	44,617,234.00

<b>Utilization Factor:</b>	0.82
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 1,973,700.55	<b>Total:</b> 36,430,506.70
<b>Remaining Capacity in Years (Avg TPY):</b>	3.07	56.66
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	2.28	42.05



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open

Remaining Airspace = Total Volume Airspace – Volume of Airspace Used

Utilization Factor = Total Tons Disposed / Volume of Airspace Used

Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor

Remaining Capacity in Years =

Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year

Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed

Permitted = Landfill Volume Constructed and Permitted to Operate

Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

**CITY OF ALBEMARLE**

**84-01**

**County:** STANLY

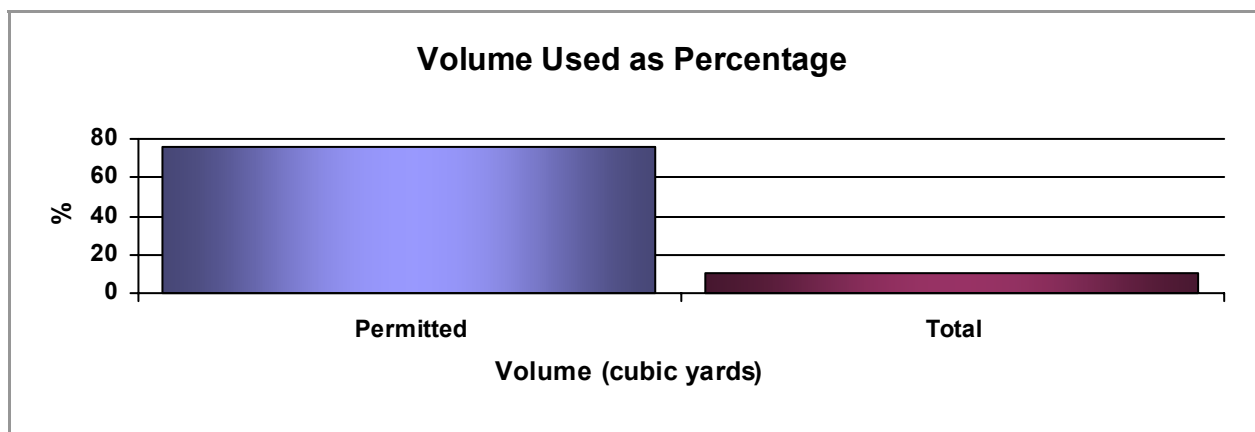
<b>Dates</b>	<b>Opened:</b> 5/20/1999	<b>Surveyed:</b> 6/20/2006	<b>Years Open:</b> 7.1
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<b>Tons Disposed</b>	<b>Total:</b> 305,831.00	<b>Avg per Year:</b> 43,133.04	<b>2005-2006:</b> 49,423.53
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 520,614.00	<b>Permitted:</b> 683,555.00	<b>Total:</b> 4,970,844.00
<b>Remaining Airspace (cubic yard)</b>		162,941.00	4,450,230.00

<b>Utilization Factor:</b>	0.59
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 95,718.53	<b>Total:</b> 2,614,256.03
<b>Remaining Capacity in Years (Avg TPY):</b>	2.22	60.61
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	1.94	52.89



## Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open

Remaining Airspace = Total Volume Airspace – Volume of Airspace Used

Utilization Factor = Total Tons Disposed / Volume of Airspace Used

Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor

Remaining Capacity in Years =

Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year

Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed

Permitted = Landfill Volume Constructed and Permitted to Operate

Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

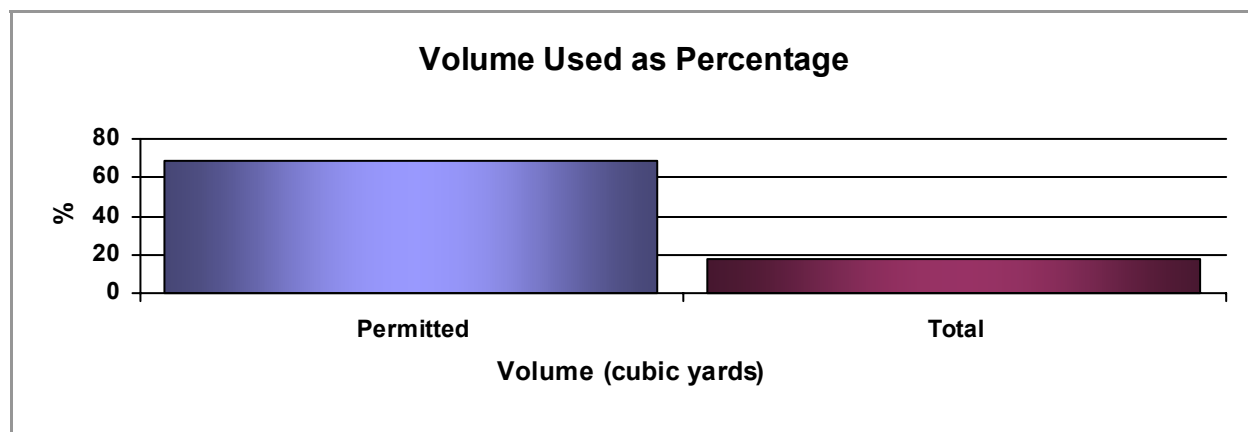
Analysis Date: April 23, 2007

## SURRY COUNTY MSWLF

86-06

County: SURRY

<b>Dates</b>	<b>Opened:</b> 12/1/1998	<b>Surveyed:</b> 6/16/2006	<b>Years Open:</b> 7.5
<b>Tons Disposed</b>	<b>Total:</b> 493,106.00	<b>Avg per Year:</b> 65,353.55	<b>2005-2006:</b> 80,985.00
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 896,832.00	<b>Permitted:</b> 1,301,000.00	<b>Total:</b> 5,212,000.00
<b>Remaining Airspace (cubic yard)</b>		404,168.00	4,315,168.00
<b>Utilization Factor:</b>	0.55		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 222,224.08	<b>Total:</b> 2,372,612.97
<b>Remaining Capacity in Years (Avg TPY):</b>		3.40	36.30
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		2.74	29.30



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



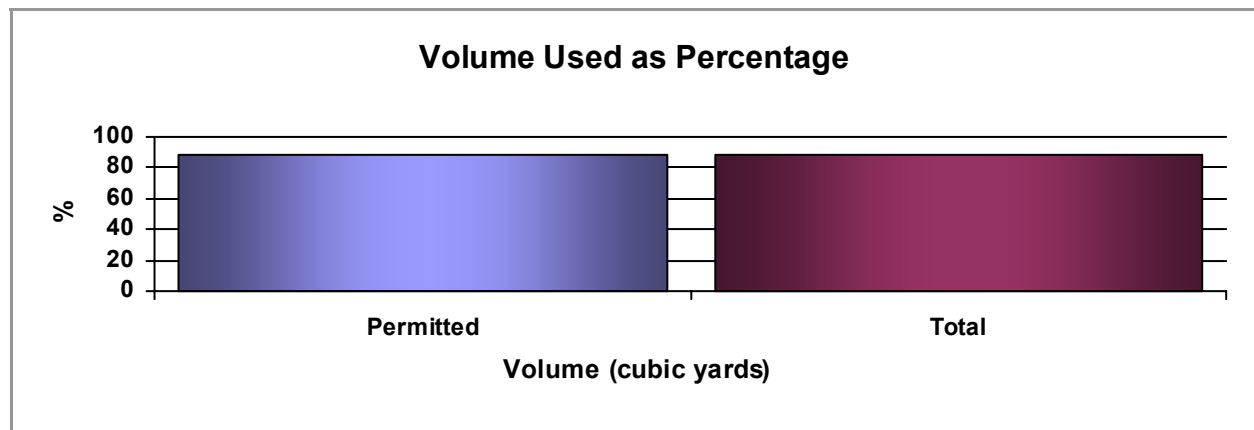
# Municipal Solid Waste Landfill Capacity Analysis Date: April 23, 2007

## TRANSYLVANIA COUNTY LANDFILL

88-07

County: TRANSYLVANIA

<b>Dates</b>	<b>Opened:</b> 6/13/1990	<b>Surveyed:</b> 9/29/2006	<b>Years Open:</b> 16.3
<b>Tons Disposed</b>	<b>Total:</b> 297,353.00	<b>Avg per Year:</b> 18,234.85	<b>2005-2006:</b> 26,732.00
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 462,009.00	<b>Permitted:</b> 522,000.00	<b>Total:</b> 522,000.00
<b>Remaining Airspace (cubic yard)</b>		59,991.00	59,991.00
<b>Utilization Factor:</b>	0.64		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 38,610.73	<b>Total:</b> 38,610.73
<b>Remaining Capacity in Years (Avg TPY):</b>		2.12	2.12
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		1.44	1.44



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

Analysis Date: April 23, 2007

## WAKE COUNTY LANDFILL-NORTH

92-09

County: WAKE

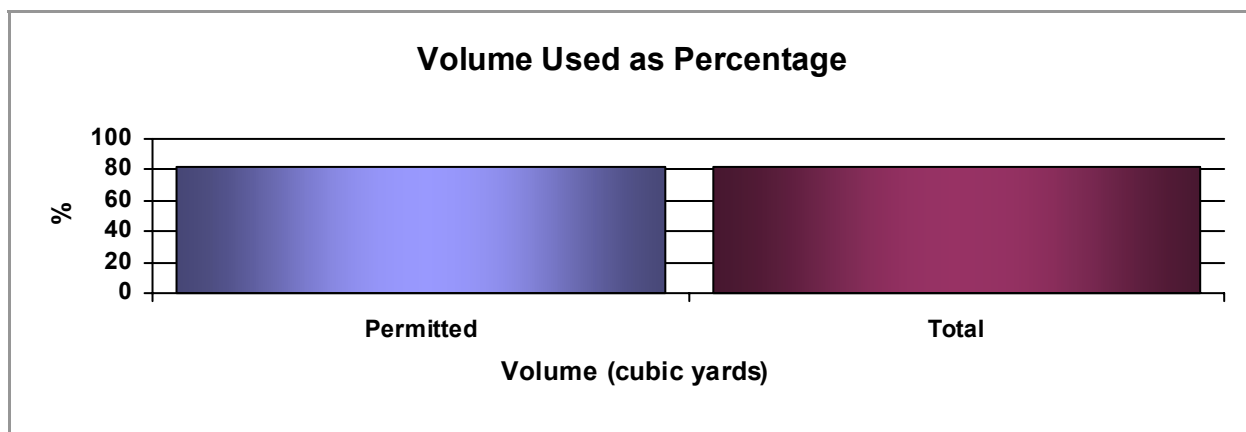
<b>Dates</b>	<b>Opened:</b> 7/1/1998	<b>Surveyed:</b> 7/8/2006	<b>Years Open:</b> 8.0
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<b>Tons Disposed</b>	<b>Total:</b> 4,077,844.02	<b>Avg per Year:</b> 508,164.24	<b>2005-2006:</b> 434,566.29
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<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 6,417,012.00	<b>Permitted:</b> 7,900,000.00	<b>Total:</b> 7,900,000.00
<b>Remaining Airspace (cubic yard)</b>		1,482,988.00	1,482,988.00

<b>Utilization Factor:</b>	0.64
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<b>Remaining Capacity for Tons of Waste:</b>	<b>Permitted:</b> 942,400.26	<b>Total:</b> 942,400.26
<b>Remaining Capacity in Years (Avg TPY):</b>	1.85	1.85
<b>Remaining Capacity in Years (2005-2006 TPY):</b>	2.17	2.17



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
     Remaining Capacity for Tons of Waste / Average Tons Disposed Per Year  
     Remaining Capacity for Tons of Waste / 2005-2006 Tons Disposed  
 Permitted = Landfill Volume Constructed and Permitted to Operate  
 Total = Total Volume for the Landfill Site at Final Design



# Municipal Solid Waste Landfill Capacity

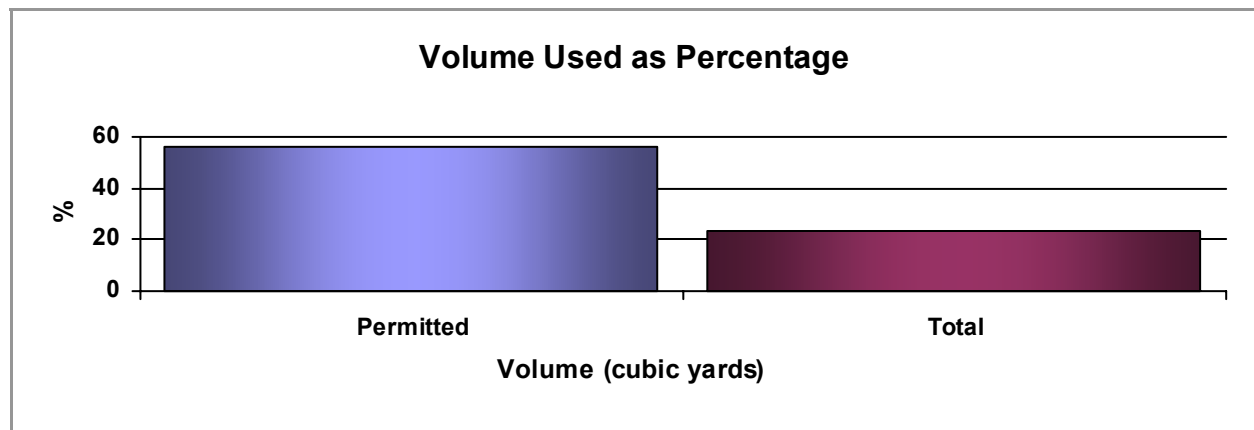
Analysis Date: April 23, 2007

## WAYNE COUNTY LANDFILL

96-06

County: WAYNE

<b>Dates</b>	<b>Opened:</b> 1/26/1998	<b>Surveyed:</b> 1/15/2006	<b>Years Open:</b> 8.0
<b>Tons Disposed</b>	<b>Total:</b> 726,284.72	<b>Avg per Year:</b> 91,066.27	<b>2005-2006:</b> 92,480.93
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,175,711.00	<b>Permitted:</b> 2,082,000.00	<b>Total:</b> 5,000,000.00
<b>Remaining Airspace (cubic yard)</b>		906,289.00	3,824,289.00
<b>Utilization Factor:</b>	0.62		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 559,851.74	<b>Total:</b> 2,362,419.56
<b>Remaining Capacity in Years (Avg TPY):</b>		6.15	25.94
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		6.05	25.54



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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# Municipal Solid Waste Landfill Capacity

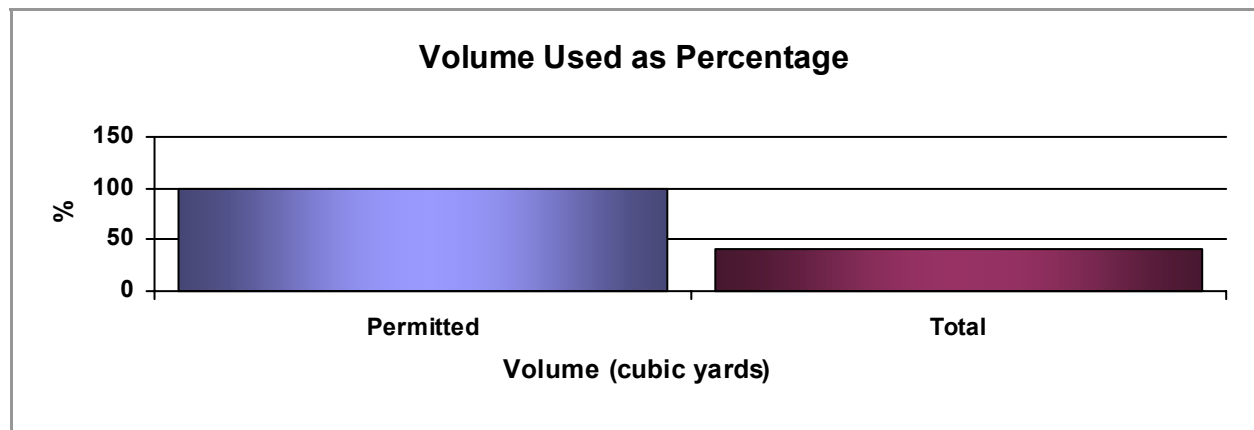
Analysis Date: April 23, 2007

## WILKES COUNTY MSWLF

97-04

County: WILKES

<b>Dates</b>	<b>Opened:</b> 10/7/1993	<b>Surveyed:</b> 7/18/2006	<b>Years Open:</b> 12.8
<b>Tons Disposed</b>	<b>Total:</b> 634,834.03	<b>Avg per Year:</b> 49,649.54	<b>2005-2006:</b> 57,391.00
<b>Volume Airspace (cubic yard)</b>	<b>Used:</b> 1,387,438.00	<b>Permitted:</b> 1,406,578.00	<b>Total:</b> 3,473,509.00
<b>Remaining Airspace (cubic yard)</b>		19,140.00	2,086,071.00
<b>Utilization Factor:</b>	0.46		
<b>Remaining Capacity for Tons of Waste:</b>		<b>Permitted:</b> 8,757.67	<b>Total:</b> 954,499.49
<b>Remaining Capacity in Years (Avg TPY):</b>		0.18	19.22
<b>Remaining Capacity in Years (2005-2006 TPY):</b>		0.15	16.63



### Calculations

Average Tons Disposed Per Year = Total Tons Disposed / Years Open  
 Remaining Airspace = Total Volume Airspace – Volume of Airspace Used  
 Utilization Factor = Total Tons Disposed / Volume of Airspace Used  
 Remaining Capacity for Tons of Waste = Remaining Airspace x Utilization Factor  
 Remaining Capacity in Years =  
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This report is available online at:  
<http://www.wastenotnc.org/swhome/AR05-06.pdf>

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