

5. Assessment of Waste Reduction and Management Programs

North Carolina's revised Solid Waste Management Act requires local governments to assess the adequacy of local solid waste collection services and disposal capacity to meet current needs and protect human health and the environment, and to take actions as necessary to address identified service or capacity deficiencies. In addition, the State has specified that local governments assess current programs and identify intended actions with respect to:

- source reduction;
- collection, recycling and reuse;
- composting and mulching;
- incineration with and without energy recovery;
- transfer of waste outside the geographic planning region;
- disposal;
- education with the community and through the schools;
- management of special wastes;
- prevention of illegal disposal and litter management;
- purchase of recycled materials and products made with recycled materials; and
- Disaster response.

The County jurisdictions have identified, assessed, and planned "intended actions" to meet these planning requirements, means of addressing solid waste collection and disposal needs and further reducing the amount of solid waste requiring disposal. The jurisdictions responsible for implementing each intended action are listed along with the general time frame for implementation. Action time frames are described as either short term (1-3 years), mid term (4-7 years), or long term (8-10 years).

5.1 Solid Waste Collection

5.1.1 Assessment

More than "adequate" as specified by State law, Rockingham County's municipalities are proud to be offering the quality and level of solid waste collection service that they provide. With regard to garbage and trash collection operations, the Cities of Eden and Reidsville and the Town of Mayodan upgraded to fully automated collection vehicles. In addition, Mayodan privatized its commercial bulk collection operations. These measures have resulted in a greater collection efficiency and lower cost, while maintaining high

service quality. These municipalities also provide for the collection of bulky items and white goods. Eden and Reidsville operate transfer stations, which provide for efficient transport of collected materials to disposal at the Rockingham County landfill and provide the cities with flexibility to use out-of-county disposal facilities in emergencies. Eden currently utilizes its transfer station for the transfer and transport of residential solid waste and only transfers commercial waste at the facility in emergencies and holiday collection operations. Normally Eden's commercial waste is transported directly to the landfill and the City normally transports its bulky waste collections to the landfill for improved efficiency and reduced cost. The Towns of Madison and Stoneville each provide for weekly collection of solid waste from residences and commercial establishments as well as provide some form of bulky items and white goods collection. The town of Wentworth utilizes the Rockingham County Franchise collection services. All six municipalities have written agreements providing for the disposal of solid waste in permitted landfills/Rockingham County landfill. While there are no notable deficiencies in these municipal solid waste collection operations, there are always opportunities to seek means of improving customer service, improving operational efficiencies, and further reducing/controlling costs.

To serve the unincorporated areas, Rockingham County has franchised residential solid waste collection in an effort to control service quality and keep service costs to a minimum. This franchised service also provides bulky item pick-up for residential subscribers. In addition, the County provides a staffed site at the landfill for convenient and safe disposal of solid waste brought in by private citizens. Nearly three-fifths of all non-municipal rural residents are now using the franchise service (approximately 61% of households). Some citizens elect to haul their waste to the County landfill themselves, but this is a small percentage. Given that there are still many residents who do not have any apparent means of disposing of their waste, illegal disposal of solid waste in the County remains a significant cause for concern.

5.1.2 Intended Actions

Following are intended actions for implementation by Rockingham County jurisdictions to further enhance existing solid waste collection programs and to address collection needs which may arise over the course of the planning period. Additional actions pertaining to addressing the County's illegal disposal problem are provided in Section 5.2.

Solid Waste Collection

Time Frame

- All jurisdictions – Monitor service and take advantage of opportunities to improve customer service, improve operational efficiencies, and further reduce costs if and when such opportunities arise. *(Eden, Reidsville and the County continuously work to increase program efficiencies, control costs, and improve customer services.)*

Continuous

- Rockingham County – Move toward mandatory pay system and 100% utilization of County’s franchise solid waste collection service. (*Citizen participation and support of curbside services remains strong as the County continues to enhance services and promote citizen utilization of franchised collection services by eligible household – a slowed economy and high unemployment has hampered mandatory improvement efforts.*)
Continuous

- Rockingham County – Continue periodically to evaluate and/or re-bid the solid waste collection franchise and award franchise to the most qualified and cost effective bidder. *Enhancements to franchise collection service agreement are reviewed periodically and evaluated for inclusion as subscriber services –current franchise for curbside collection and disposal services are under review for renewal to be effective September 2012.*
Short term

5.2 Prevention of Illegal Disposal and Litter Management

5.2.1 Assessment

As mentioned above, Rockingham County has a problem with litter and illegal dumping of waste. The County assessed the magnitude of this problem and determined that close to one fourth of the entire county population, or 35% to 39% of rural households are without solid waste curbside collection and disposal service. While down from one-third and 52% in 1995, these figures are still higher than optimal. Some of these households are properly disposing of their solid waste by bringing directly to the County landfill themselves, but many are believed to be illegally disposing of their wastes through such means as burning, open dumping, or unauthorized use of waste containers located at area businesses. In addition to unincorporated residents, some businesses also illegally dispose of their waste as do some residents living within municipal boundaries.

The County, its municipalities, and the state have strong ordinances prohibiting such illegal means of disposal; however monitoring and enforcement efforts to date have not been sufficient to control this problem. The County after investigating strategies used in other North Carolina jurisdictions evaluated options for addressing littering and illegal disposal in Rockingham County. Options considered for implementation included:

1. Mandating use of the franchised hauler collection service by unincorporated residents;
2. Direct County provision of solid waste collection service to unincorporated residences via contract with a private hauler;
3. Establishment of convenience centers for waste disposal throughout the county;
4. Provision of incentives to encourage use of the County landfill and/or the franchised hauling service, and clean-up of dump sites or problem areas; and
5. Hiring of more enforcement personnel.

The first three options remain items for future consideration; however, options 4 and 5 have been enacted and are in use. As mentioned earlier, the County has two Code

Enforcement officers to provide solid waste enforcement and the County adopted a revised solid waste ordinance containing stronger enforcement provisions. In October 2005, Rockingham County revised the Solid Waste Disposal Ordinance to increase fines for improper waste disposal. After a successful pilot program testing rural bulky item collection, the County incorporated a once per month bulky items collection in the franchise services. Additionally, the County and its municipalities have identified the need for more education and promotion of proper waste preparation and management methods. The Rockingham Landfill in joint effort with NC DOT/KAB promotes anti-littering by periodically conducting Tarp Day events and also the Landfill participates in annual County Spring Clean, Big Sweep, and DOT Litter Sweeps events.

Eden continues to promote its litter and illegal dumping abatement efforts. Also, Eden's educational efforts are on-going to promote proper waste preparation for collection and disposal. Eden promotes and participates in the annual Spring Clean and Big Sweep campaigns by collecting, processing, and transporting waste derived from these campaigns. The City utilizes inmates and community service workers when available to assist in clean-up efforts of illegal dump sites and roadside litter. Eden employs a staff member that serves as a Solid Waste Enforcement Officer and Operations Coordinator.

The City of Reidsville works with members of the Reidsville Appearance Committee through Community Watch meetings and other events to promote and increase public awareness of the need to reduce waste and prevent litter. Reidsville utilizes community service labor for assistance in roadside litter collection and continues annual participation in Rockingham County Big Sweep by promoting the event and disposing of waste collected by event volunteers.

5.2.2 Intended Actions

In addition to the related collection service actions listed in 5.1.2, Rockingham County jurisdictions intend to implement the following actions during the planning period to address littering and illegal disposal.

Illegal Disposal and Litter Management

Time Frame

- | | |
|--|------------|
| <ul style="list-style-type: none"> • All jurisdictions – Enhance/develop public education and ordinance enforcement programs to combat littering and illegal dumping and to promote proper preparation of waste for collection and proper disposal. <i>(Eden and Reidsville have expanded enforcement and education efforts; the County has strengthened its solid waste ordinance, stepped up enforcement, increased fines, expanded its education efforts and employs two County Code Enforcement Offices that address solid waste issues.)</i> | Continuous |
| <ul style="list-style-type: none"> • Rockingham County – Utilize multi-agency task force to clean up illegal dump sites. <i>(The County Environmental & Engineering Services and Sheriff Departments support Code Enforcement Officers; Health Department Specialists identify/enforce violations; and the Legal Department processes enforcement procedures against violators).</i> | Continuous |

- Rockingham County – Established/supports the Rockingham County Beautification Council to sponsor/promote an annual countywide cleanup week and other events to involve citizens, businesses, and industries in identifying and addressing littering/recycling issues throughout the County. Continuous
- Eden – Revised its Solid Waste Ordinance to enhance enforcement capabilities of City solid waste regulations. Eden continues to evaluate an Environmental Court System as a key element in an effective tool to combat waste and other environmental code violations. Continuous

5.3 Solid Waste Incineration, Transfer Out-of-County, and Disposal

5.3.1 Assessment

In Rockingham County, actions have been implemented to provide for future waste disposal capacity through construction of the County's lined landfill discussed in Section 3.6. The current 5-year Phase III was placed in service in late 2007, and a request to expand air space by increasing the Subtitle "D" landfill side slopes from 4:1 to 3:1 was approved by NC DENR in April 2009. Using current waste flows, the County landfill has a projected life expectancy of more than 20 years. The decision to construct a County Subtitle "D" landfill resulted after evaluating a variety of solid waste disposal alternatives including incineration with/without energy recovery as well as municipal solid waste composting. These evaluations involved participation from all Rockingham County municipalities and all of the County municipalities currently using the Landfill for waste disposal.

Table 5-1 provides total monthly tonnage estimates for solid waste received at the landfill from weighed/unweighed vehicles during FY 2010-11 and landfill disposal rates averaging approximately 286 tons per day or 7,216 tons per month based on 6 operating days per week. The County regularly evaluates current and future projected rates of fill and tipping fee structure for determining means of ensuring the waste flow and resultant revenue stream will be adequate to cover costs of maintaining and constructing future landfill cells.

Table 5-1: Solid Waste Disposed in Rockingham County Landfill – FY 10-11

Month	Total Tonnage
Jul 10	7603
Aug 10	7612
Sept 10	7082
Oct 10	7114
Nov 10	6833
Dec 10	6579

Month	Total Tonnage
Jan 11	6514
Feb 11	6354
Mar 11	7769
Apr 11	7838
May 11	7430
Jun 11	7861
Total	86589
Ave/Month	7449

5.3.2 Intended Actions

Rockingham County and the County Solid Waste Committee (comprised of representatives from the County and municipal users of the landfill) routinely review these evaluations to address any needs as described in the action statements below.

Solid Waste Disposal

Time Frame

- Rockingham County – Conduct market studies to determine competitive rates for the tipping fee at the County landfill and set fees accordingly. *(The County annually conducts financial studies to look at various tipping fee options. MSW Tipping fees were last adjusted July 2005)*

Continuous
- Rockingham County – Continue enhancing efforts to promote in-county waste management. *(Continue Semi-annual Cleanup Weeks - Spring Clean and spring/fall Big Sweep events. Utilize the Rockingham County Beautification Council as an official committee for promoting litter clean-up campaigns plus other County-wide waste management and appearance improvement projects in co-ordination with Code Enforcement).*

Short term
- Rockingham County – Assess needs and implement strategies for in-county waste management involving all jurisdictions by utilizing input from the Rockingham County Solid Waste Committee.

Short-long term
- Eden – Work to acquire additional markets for recycled wood waste including boiler fuel and commercial uses. Markets for compost material is being strengthened and expanded for increased residential and commercial use.

Continuous

5.4 Source Reduction

5.4.1 Assessment

Source reduction programs include in-house source reduction efforts as well as educational efforts and incentives to promote source reduction by residents, businesses, and institutions. The backyard composter on display at the County landfill illustrates a source reduction option for yard wastes. Simply not providing collection service for yard wastes as exists in unincorporated areas and no collection for bagged yard waste in Eden, Madison and Stoneville promotes source reduction of yard wastes. Reducing the amount of yard waste set out at the curb for collection represents the lowest cost management alternative for residential yard waste. In Rockingham County, additional yard waste source reduction programs can be directed at landscape contractors as well as residents. Furthermore, there are numerous other promotional, educational and incentive strategies that can be implemented to encourage businesses and residents to reduce generation of other types of waste products.

Eden City Council discontinued the Pay as You Throw (PayT) user fee system in July 2010 due to cost inefficiencies and began assessing a flat monthly rate per household(\$18.75/month) for basic residential solid waste services.

The City of Reidsville provides and publicizes tips on "grass cycling".

5.4.2 Intended Actions

Rockingham County jurisdictions have identified the following intended actions to address opportunities for reducing waste at the source.

Source Reduction

Time Frame

All jurisdictions – Identify potential strategies that impact source reduction and implement activities that are economically viable. This may involve advocating state legislation to control packaging of commodities, working with the League of Municipalities, Association of County Commissioners, and/or the Institute of Government in drafting such legislation and working with surrounding local governments on joint activities in an effort to reduce the waste stream. *(The County continues working with other regional county/municipal governments to co-sponsor workshops such as wood pallet recycling for business/industry and works to promote regional recycling and waste reduction efforts).*

Short term

All jurisdictions – Promote source reduction practices for implementation by residents, institutions, and businesses that have the greatest likelihood for success; solicit support from the Cooperative Extension Service in source reduction education efforts.

Short term

All jurisdictions – Continue to strengthen in-house source reduction efforts. *(Reidsville instituted purchasing in bulk quantities to reduce packaging waste. Eden promotes in-house source reduction thru revised procurement practices).* Short term

All jurisdictions – Implement a public awareness and education campaign to promote backyard composting and mulching grass clippings on the lawn. For jurisdictions already having such programs, strengthen existing efforts. *(The County participates in events/competitions such as the Carolinas Composting Council composting poster design contest for middle schools and provides a composter on display at the Landfill).* Short term

All municipalities – Consider instituting a “Pay as You Throw” user fee system for residential as well as commercial customers. Jurisdictions with no user fees – consider establishing flat rate fees as a step toward a variable rate system. *(In July 2002, Mayodan instituted charging a monthly collection fee).* Mid-long term

5.5 Waste Diversion Programs

5.5.1 Recycling and Reuse

Since adopting the 1997 Solid Waste Management Plan, Rockingham County jurisdictions have expanded/initiated a number of reuse and recycling programs as well as increased their promotion efforts to encourage greater participation. Key advancements that have been made are as follows:

- Eden continues to maintain the paint exchange program at the Household Hazardous Waste Facility. School and governmental recycling program volumes have increased through greater participation rates.
- Mayodan implemented a curbside recycling program and joined Stoneville and Madison as municipalities offering curbside recycling. In September 2002, Mayodan discontinued curbside recycling due to cost and a low participation rate and begin offering a recycling drop-off center at 500 Utility Street. The Mayodan drop-off center added cardboard collection to recycling.
- In 2007, Stoneville discontinued curbside recycling due to low participation and increases in costs and has since added a recycling box for drop-off recycling by town residents.
- Reidsville, Eden, and the County have expanded their in house reuse and recycling programs; and Eden continues working to expand efforts in the school system as well as all City offices.
- Rockingham County through the Solid Waste Enforcement Officers provides educational assistance in the schools for all jurisdictions to develop and promote their recycling efforts. The Rockingham County Beautification Council also promotes recycling efforts in the schools.
- Rockingham County Purchasing Department uses Executive Order 156 as a guide to procure environmental preferable products such as printing paper containing recycled contents. The County also encourages printing and copying on both sides of paper where applicable.
- Rockingham County included a pilot curbside recycling project in the new 2008 Solid Waste Collection Franchise Agreement to evaluate the feasibility of including curbside recycling as part of the franchised waste collection service in the County. Due to a slow economy and high unemployment, countywide implementation has been delayed because of the additional costs.

- Rockingham County implemented a mobile recycling program that utilizes recycling trailers to provide weekly community recycling one day per week at six selected rural sites across the County. The mobile recycling program expands recycling opportunities for citizens while curbside recycling feasibility continues to be evaluated.
- Rockingham County and Eden implemented electronic recycling programs for televisions and computer equipment. See additional electronic recycling program information in section 5.6.1.

Table 5-2 shows the amounts and types of materials recycled by jurisdiction in FY 2010-2011 with a comparison of recycled tonnages to those of FY 2007-2008 by jurisdiction. As the figures indicate, the total amount of material recovered decreased over the past three years with Stoneville showing increased recycling tonnage and Eden, Madison, Mayodan, Reidsville and the County showing fewer tons of recyclables collected. In comparing the County with other North Carolina counties, the State estimates for FY 2010-2011 that the average annual per capita recovery rate in North Carolina counties is 276.38 pounds, while in Rockingham County it is 240.22 pounds. It is believed that the continued high prices paid for recyclable metals combined with additional metal recycler locations in Rockingham County caused County recycling programs to experience sharp declines in white goods/metals collections.

**Table 5-2
Recycling Tonnage by Material Type and Jurisdiction – FY 2010-2011**

	Eden	Madison	Mayodan	Reidsville	Stoneville	Wentworth	County	TOTAL
Glass Containers	0	4.9	6.3	35.3	0		17.3	63.8
PETE Bottles		0.9	3.9	11.8	0			16.6
HDPE Bottles		1.5	5.8	11.8	0			19.1
Mixed Plastic	39.7			2.6			15.3	57.6
Al Cans	7.5	0.6	.8	5.3	0		2.1	16.3
Steel Cans	7.5	0.9	1.0	3.5	0		3.1	16.0
White Goods/ Metal	36.5	Included in County	Included in County	(5.4) Included in County	Included in County		188.5	225.0
ONP	176.7	20.3	25.8	72.5	0			295.3
OCC	102.7		10.5				38.2	151.4
MPW	168.8			60.9			66.3	296.0
Freon							0.1	0.1
C&D Rubble							138.5	138.5
Electronics: Televisions							2.5	2.5
Others	24.0						2.5	26.5
Propane Tanks							0	0.0
Oil Filters							0.4	0.4
Commingled					31.9		88.2	120.1
Total FY 10-11 Recycled	563.4	29.1	54.1	203.7	31.9	0.0	563.0	1445.2
Total FY 07-08 Recycled	794.7	31.6	78.4	244.2	0.0	0.0	924.1	2073.0
%Change	(29.1%)	(7.9%)	(31.0%)	(16.6%)	++	0	(39.1%)	(30.3%)

Based on this assessment, it is evident that there is room for substantial growth in the recovery of recyclable materials within Rockingham County and further enhancements need to be made to existing residential recycling programs. Beginning September 2007, curbside recycling was provided only in Madison. Permanent drop-off centers in Rockingham County are located in Eden, Reidsville, Mayodan and Stoneville for municipal residents and the County landfill to serve all County residents. While most residents living in the municipal communities have less than a two-mile drive to a recycling center, some residents, particularly those living in unincorporated areas are further than three miles from any center. Many residents live even further away than five miles from the nearest center. If all residents in Rockingham County are to be provided with relatively convenient access to a recycling center or curbside recycling program, more centers are needed, especially in the eastern, southern and northwestern areas of the county and/or greater incentives are needed to motivate people to use the existing centers or curbside recycling collection services. In addition, the Cities of Eden and Reidsville appear to be in a position to provide curbside recycling service at a cost comparable to that typically experienced by other North Carolina communities however today's higher collection and transportation costs makes curbside collection more expensive to implement. As an alternative to establishing curbside recycling, Eden expanded its drop-off center program by adding six unmanned drop-port sites to make recycling more accessible to Eden residents.

Rockingham County began a pilot curbside recycling program in November 2008 as part of its Curbside Solid Waste Collection Franchise Agreement that services non-municipal County residents. This pilot recycling program has been used to evaluate the feasibility of making available rural curbside recycling opportunities for all Franchise subscribers. Although recyclable collections from participants in the pilot program have been successful, County officials have determined curbside recycling collection is currently not feasible due to the slow economy and high unemployment in Rockingham County. To increase recycling opportunities for rural communities, the County uses mobile recycling trailers to provide a one day per week drop-off site in six selected rural communities across the county. Recycling participation in the six communities have been well received by County citizens.

Opportunities also exist to further reduce the commercial, institutional and industrial (CII) waste stream. Those businesses that do recycle may contract with a private hauler for OCC collection, take their materials to one of the public drop-off centers, or have some type of corporate collection system upon which they rely. High-grade office paper and OCC are materials that normally are prevalent in waste streams that have high recycling potential. Many other materials in the CII waste stream also have recycling potential. Through implementation of promotional/educational programs targeting businesses and institutions, recycling a wider variety of material types can be encouraged and increased.

With regard to reuse, opportunities exist for Rockingham County jurisdictions to promote reuse of items at home and at work in addition to promoting source reduction and recycling.

To comply with House Bill 1465, Rockingham County and Reidsville have upgrade their 2009 recycling programs to include separation and collection of rigid plastics, used oil filters, and wood pallets for recycling instead of landfill disposal.

Composting/Mulching

Rockingham County jurisdictions have a number of effective yard and wood waste management programs in operation, which have resulted in diversion of a significant amount of waste from disposal. Table 5-3 provides the amount of yard waste recovered through each program in FY 2010-11. Primary opportunities are to enhance these programs, particularly with regard to marketing of the final products and in increasing the diversion of wood waste from construction and demolition activities. Since adoption of the 1997 Solid Waste Plan, the Town of Stoneville converted from burning its brush and woody waste materials to primarily shredding these materials for use as mulch. The County grinds clean wood waste including wooden pallets and markets grindings as mulch or boiler fuel. Eden has and continues to develop markets for mulch and compost material, Reidsville has instituted a bi-annual product distribution program, and Mayodan identified two end users to take all leaves and grass clippings collected. Cooperation between local governments in contracting services and/or operating programs may provide further such opportunities.

Table 5-3: Organic Debris Waste Tonnage Recovered by Jurisdiction – FY 2010-11

	Eden	Madison	Mayodan	Reidsville	Stoneville	Wentworth	County	Total
Organic Debris-Total	3,950	156 (In County)	416	3,228	Not Weighed	0	796	8,390

5.5.2 Intended Actions

The following are actions planned by Rockingham County jurisdictions, as indicated, to address reuse, recycling, and mulching/composting opportunities identified in the above assessment.

Recycling and Reuse

Time Frame

- All jurisdictions – Continue to operate and improve existing recycling operations and increase appeal of recycling area by improving housekeeping, repainting containers and updating signage as needed. *(County renovated Landfill recycling/convenience area in 2007 to improve user safety/friendliness and in both 2008 & 2010 expanded recycling opportunities).*

Continuous

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| Rockingham County – Monitor recyclables market data on behalf of all jurisdictions within the County and share data with each municipality. | Short term |
| • Rockingham County – Consider establishing a Swap Shop and paint exchange facility at the landfill. <i>(This has not been implemented due to cost, lack of space, and increased staffing requirements. The County will revisit this as space or other opportunities become available.)</i> | Mid term |
| • Rockingham County – Consider adding curbside recycling to franchise collection service, acquiring a truck/trailer unit to use as a mobile recycling center to serve residents in unincorporated areas, or establish additional recycling facilities in unincorporated areas of the County. <i>(A pilot curbside recycling project was added in November 2008 to the Franchise Curbside Collection services for feasibility evaluation. One day per week mobile recycling trailer sites were added at six selected sites in November 2010).</i> | Short term |
| • All jurisdictions – Enhance existing in house reuse and recycling programs, to serve as a model for other waste generators. <i>(Eden, County, and Reidsville have done this.)</i> | Short term |
| • All jurisdictions – Continue efforts to establish a county-wide business waste reduction and recycling council, with potential assistance from the County Economic Development Council. | Mid term |
| • Eden – Continue to re-evaluate the feasibility of curbside recycling. <i>(The City expanded its drop-port recycling program to increase participation in recycling and waste reduction. The six additional drop-port centers make recycling opportunities readily available to all Eden citizens.)</i> | Mid term |
| • Stoneville – The Town will enhance their citizen recycling program by adding curbside recycling collection beginning July 2012. | Short term |
| • All jurisdictions as applicable – Enhance the existing commercial and institutional recycling program by making it more user friendly. <i>(Eden has done this to capture more materials. County co-sponsored with surrounding governments, a wood pallet recycling workshop for pallet users and recyclers and will continue to support regional recycling efforts where applicable.)</i> | Mid term |
| • All jurisdictions – Support efforts at the state and local level that encourage location of additional recycling markets within Rockingham County. | Mid term |
| • All jurisdictions, as applicable – Investigate and consider participating in a county-wide cooperative contracting strategy for drop-off center operation. <i>(Eden has found it to be more cost effective to operate its current recycling system in house but would consider assisting other communities and possibly help reduce their operating costs. The County is using recycling trailers to expand and evaluating mobile recycling drop-off sites.)</i> | Mid/long term |

Composting/ Mulching

Time Frame

- Rockingham County – Pursue means of increasing scrap wood recovery and reuse or grinding. *(County established differential landfill tipping fee to encourage source separation of clean wood waste/pallets and to improve handling procedures for recycling clean wood waste/pallets into mulch.)* Short term
- Eden – Continue efforts to improve marketing of compost materials by targeting landscaping contractors, commercial, and residential users. *(Due to declining availability of farm land for yard waste application, Eden expanded composting operations to approximately 2000 tons annually.)* Short term
- All jurisdictions – Continue using measures to ensure cost-effective distribution and beneficial use of final mulch and compost products. *(Most jurisdictions have such measures in place and will work to enhance them.)* Short term
- All jurisdictions – Investigate the most-economical means of processing and marketing mulch and compost, including involving interlocal government cooperation. *(Joint discussions have been held but have not been deemed feasible at the time; this issue will again be revisited with various avenues cooperation being pursued.)* Mid term
- Eden – Continue efforts of improving quality of products to enhance marketability and secure additional markets. *(Eden increased capacity to manage wood waste collections and processing which is currently done once per year. Markets have declined due to the slow economy and industrial plant closings which decreased demand for boiler fuels.)* Mid term

5.6 Special Waste Management

5.6.1 Assessment

Special waste management programs include those that manage white goods, tires, used motor oil, lead acid batteries, household hazardous waste (HHW) and other materials that are difficult or problematic to dispose of by conventional means. Table 5-4 shows the special waste management activities underway in Rockingham County and the amount of associated materials diverted from municipal solid waste landfills, as reported in Fiscal Year 2010-2011. The combined results of these programs clearly demonstrate program effectiveness in keeping such materials out of MSW landfills and reducing chance for disposal by illegal means. The County and municipalities have experienced significant declines in the white goods/scrap metal receipts from citizens and small businesses. This drop in tonnage is primarily due to the increased value of metals and the expansion of metal recycling businesses in the county that purchase scrap metals.

Table 5-4: Special Waste Management Activities – FY 2010-11

Jurisdiction	White Goods/ Scrap Metal (tons)	Tires (tons) Recycled/ Monofilled	HHW Managed (lbs)	Used Motor Oil Recovered (gals)	Antifreeze Recovered (gals)	Batteries Recycled
Eden	37	(36)*	22,680	1,740		100
Madison	–	–	–	–		–
Mayodan	–	–	–	–		–
Reidsville	(5)*	–	0	1,425		–
Stoneville	–	–	–	–		–
County	188	1,202/212	1650**	3,259	120	133
Total	225	1,450	24,330	6,424	120	233

*Included in County's total **Empty pesticide containers

The success of existing special waste management programs suggests that additional such efforts may also be effective. Another special waste management option offering significant potential is the establishment of programs addressing the reduction and diversion of construction and demolition (C&D) debris. C&D debris comprises a significant portion of the solid waste stream, and is likely to be a major contributor to Rockingham County's pounds per capita generation rates.

Rockingham County conducted a successful pilot electronic recycling event in November 2005 and continued to periodically schedule one day electronic recycling events. Beginning July 1, 2011, the County began an ongoing electronic recycling program to collect televisions and computer equipment from citizens and contracted with Synergy Recycling, LLC in Madison, NC to recycle the collected electronics. Currently, the Rockingham County Landfill has a staging area at the Convenience Center where citizens can bring televisions and computer equipment for recycling. Landfill staffs aids citizens in unloading the electronics, palletizes and 'shrink wraps the items collected and loads full pallets of electronics into a trailer. The County contracts with Synergy to transport the pallets of collected electronics to the Madison plant for processing/recycling and provide a monthly report to the County summarizing by category the number of units and pounds/tons collected with the number of televisions listed separately. Information from these summary reports will provide electronic recycling data for the Rockingham County annual DENR reports. The Solid Waste Budget has separate account numbers for revenue received and expenditures to support electronic recycling made from any funds received by the County from the Electronic Management Fund. Rockingham County provides electronic recycling information to the public on the County website and through special announcements and works with municipalities to publicize events.

Eden has added ongoing electronic recycling collection to its household hazardous waste collection program at their Mebane Bridge Road full service recycling center. The items

accepted for recycling include televisions, radios, computer equipment and other small household appliances that have attached electrical cords. Eden contracts with Synergy Recycling, LLC to process/recycle the collected electronics and provide the City a summary report of items and tonnage collected by category with televisions reported separately. This information will be reported separately on Eden's annual DENR reports.

5.6.2 Intended Actions

The following intended actions have been identified for implementation by Rockingham County jurisdictions to address the special waste management opportunities identified in the above assessment.

<u>Special Waste Management</u>	<u>Time Frame</u>
<ul style="list-style-type: none"> All jurisdictions, as appropriate – Evaluate and enhance existing programs for the collection of used motor oil, tires, plus lead-acid batteries, and institute additional such programs where they are needed. <i>(The County has set up a special time to recover oil from farmers during annual Clean - Up Week. Reidsville changed used oil processors to enhance recovery and added used oil filter recycling. County added an antifreeze collection program, used oil filter collection, and wood pallet collection for recycling.)</i> 	Short term
<ul style="list-style-type: none"> Eden and Reidsville – Further educate the public on safe means of disposing of latex paints. 	Short term
<ul style="list-style-type: none"> Eden – Accept other HHW materials at the Town HHW collection center. <i>[Eden continues to look for ways to maintain and improve the existing HHW program (recently added electronic recycling collection and used oil filter recycling). Additional expansion of programs is presently not feasible due to current economic trends and the limited resources available for program expansions.]</i> 	Short term
<ul style="list-style-type: none"> Rockingham County – Re-evaluate sponsorship of a HHW collection event at the Rockingham County landfill if funds become available to support this. <i>(County has considered this but found it to be cost-prohibitive. County does accept triple-rinsed pesticides containers plus promotes one day pesticide collection events in cooperation with the Rockingham County Cooperative Extension Service. Also County added recycling of used antifreeze, ongoing electronic recycling program, and added used oil filter collection/recycling at the Landfill.)</i> 	Short term
<ul style="list-style-type: none"> Rockingham County – Continue to sponsor electronic collection/recycling events on periodic basis - most recent event held in January 2009. <i>(County establish ongoing electronic recycling program for televisions and computer equipment at Landfill Convenience)</i> 	Continuous
<ul style="list-style-type: none"> All jurisdictions – Explore means of promoting reduction and recycling of construction and demolition debris. <i>(Reidsville placed a roll-off box at the City recycling center for receipt of recoverable C&D debris.)</i> 	Mid term

5.7 In Schools and Public Education

5.7.1 Assessment

Some Rockingham County jurisdictions (Eden, Reidsville, and the County in particular) are conducting a limited number of promotion and education activities targeting various audiences in Rockingham County including school children. There have been articles in local newsletters, presentations to school, civic and community groups, and performances in elementary schools. However, the data provided in Table 5-2, indicate that tonnage diversion is less than optimum for the existing recycling programs. A review of each community's public education and promotion activities indicated that a comprehensive approach toward informing the public about the need and opportunities for recycling is not currently being utilized. Opportunities exist to improve the signage at the drop-off centers, to improve public understanding regarding how to reduce and recycle waste through other means, and to better inform county residents on how to properly dispose of their solid wastes. Eden, the County, and some of the other jurisdictions have expanded their educational efforts to promote waste reduction, reuse and recycling. A grant from the Department of Pollution Prevention and Environmental Assistance for purchasing a robot to supplement ongoing recycling and antilittering education will assist County staff to further enhance its ability to expand education and outreach efforts on behalf of all Rockingham jurisdictions. The County involves high school students and other volunteers in the electronic recycling events.

5.7.2 Intended Actions

Rockingham County jurisdictions have identified a number of actions that they intend to implement to enhance and expand their existing promotion and education efforts, as shown below.

Public and In-schools Education

Time Frame

- All jurisdictions – Solicit the assistance of schools, civic groups, and local business and industry leaders to promote waste reduction and recycling. *(Eden acquired the support of its Chamber of Commerce to support waste reduction education in the school system. Presentations were made and beautification projects were conducted in the K-5 grades. Reidsville also makes presentations to schools and civic groups. Once Reidsville institutes curbside recycling, more public education and outreach will be necessary. The County involves schools in recycling promotions such as Carolinas Composting Council's poster design contest, electronic recycling events and ARD publicity.)* Short-mid term
- All jurisdictions, as appropriate – Solicit the assistance of the NC Department of Pollution Prevention and Environmental Assistance (DPPEA) in developing promotion and education programs and materials. Short term

- Rockingham County – Coordinate activities involving media promotions and printed materials development, including involvement of each community in disseminating information. Institute consistent use of a color scheme, logo, and messages plus improved signage at all drop off centers. *[Eden uses local radio, newspaper, the City Web page, and brochures to get educational information out to the public. The County uses news releases, flyers, posters, presentations, County Web page, etc. to educate and inform the public. The County issues brochures such as Rockingham County Guide to Recycling & Waste Reduction, Mobile Recycling Units, Plastic Bottles, Wooden Pallets, & Oil Filters Banned(NCDENR), etc.]*

Mid term
- Madison – Distribute information promoting curbside recycling on an annual or semi-annual basis.

Short term
- Rockingham County – Continue support and participation in Rockingham County Beautification Council projects. *(Along with other beautification projects, the Council sponsors Spring Clean and Big Sweep events to promote citizen and business/industry involvement in countywide litter cleanup events. Council supports NCDOT Litter Sweep semi- annually.)*

Continuous
- Mayodan – In 2002, Mayodan delivered to all residents a handout detailing the Town’s solid waste and recycling program. This information is given to all new residents when they move to Mayodan and is periodically updated as needed.

Continuous

5.8 In House Purchasing and Toxicity Reduction

5.8.1 Assessment

There is opportunity for each jurisdiction to increase its purchase of recycled and recycled content materials and to buy products that are more environmentally friendly in other ways. The Landfill continues to update landfill equipment with pollution reduction being an important consideration in replacement machinery selection.

5.8.2 Intended Actions

Actions which Rockingham County jurisdictions have identified for implementation along these lines are as follows.

<u>In House Purchasing/Toxicity Reduction</u>	<u>Time Frame</u>
<ul style="list-style-type: none"> • All jurisdictions – Evaluate purchasing practices to eliminate specifications that favor only virgin materials as opposed to specifying product performance expectations. 	Continuous

- Jurisdictions, as applicable – Establish procurement policies that encourage purchase of recycled /recycled content supplies and products. *(Eden, Mayodan, Reidsville, and County purchase recycled products whenever feasible. Eden reports making considerable headway, but still seeks to establish and implement a procurement policy. Rockingham County Purchasing Department is guided by Executive Order 156 in purchasing recycled/recycled content products where feasible)* Short term
- All jurisdictions – Explore opportunities for development of common procurement policies, sharing of information on vendors and sources for environmentally sound products, and cooperative purchasing of products. *(Electronic data/information sharing is now the preferred means)* Continuous
- All jurisdictions – Consider joining the Carolinas NC Recycling Association's Buy Recycled Business Alliance and work with the CRA to inform businesses of the opportunity to join the Alliance and receive informational kits as a member. *(The County, Eden, and Reidsville are members of the CRA.)* Short term
- Reidsville – Completed the Toxicity Reduction Evaluation Program. *(City will continue to monitor toxicity)* Continuous

5.9 Disaster Relief

5.9.1 Assessment

As with all North Carolina jurisdictions, recent hurricanes, tornadoes, wind and ice storms plus other natural disasters have resulted in the need for disaster relief plans designed to manage all solid waste generated from such disaster incidents.

5.9.2

Intended Actions

- | <u>Disaster Relief</u> | <u>Time Frame</u> |
|--|-------------------|
| <ul style="list-style-type: none"> • Rockingham County – The Landfill maintains open areas that can provide suitable short term storage capacity for wood waste or related types of debris that can be made temporarily available for processing and transporting of waste until completion of disposal. | Continuous |
| <ul style="list-style-type: none"> • All jurisdictions – Seek out specific areas that can be designated as sites for storing, processing and transfer of disaster related waste materials. <i>(Eden has designated two sites for the temporary storage of related waste materials occurring from natural disasters. These sites have storage capacity to store approximately ten thousand cubic yards of wood waste</i> | Short term |

and/or related type debris until processing and transporting of waste can be completed. Site one is adjacent to Eden's bulk yard waste collection and processing site located off West Avenue in the City's Western sector. Site two is located off Mill Avenue in the City's Eastern sector)

- All jurisdictions – Ensure that equipment storage areas are adequately protected from flood and wind damage. *(Eden has specialized equipment (i.e.) knuckle crane loaders, flat bed dumps, rubber tire loader, track loader, backhoes, chain saws and related support equipment for responding in natural disaster situations. The Landfill has designated storage location to park equipment away from trees and power lines).* Short term
- All jurisdictions – Ensure that auxiliary power is available for critical operations such as fuel dispensing and equipment servicing. *(Eden's emergency response system includes backup generators on line to provide emergency power to support communications, fuel dispensing, and general emergency operations. The Landfill has generators on site and available for responding to emergency use.)* Short term
- All jurisdictions – Ensure that reasonable staffing is available to respond to disaster situations within the County. *(Eden's municipal service staff is diverted to emergency response status along with fire, police, and other City agencies once emergency response activation is declared.)* Continuous
- Eden – The City established a disaster plan in conjunction with the Rockingham County Office of Emergency Management *(Administrative Policies and Procedures Manual GA-20)*. *The disaster relief response efforts were promoted through a training program for all municipal employees as part of the FEMA Disaster Response Program.* Continuous

5.10 Ongoing Planning and Evaluation

5.10.1 Assessment

Development of this Solid Waste Management Plan has resulted in the identification of numerous opportunities with actions for addressing them that will set the general solid waste management course for Rockingham County over the next ten years. Following this plan's update, additional planning work will be needed to outline the specific tasks to be conducted in order to implement those actions approved by county and municipal decision-makers. While often under-emphasized, this planning process is critical for efficient allocation of available resources to address implementation priorities. In addition, state law requires local solid waste management plans to be updated every three years.

5.10.2 Intended Actions

In recognition of the above, Rockingham County and its municipalities have identified the following additional planning and evaluation actions for implementation:

Ongoing Planning and Evaluation

Time Frame

- Rockingham County – Conduct an analysis of the solid waste stream to get an up-to-date picture of the composition of solid waste currently generated in Rockingham County. *(County completed a study of Landfill solid waste stream in 2004. Based on indicated categories of materials for recycling/reduction, continue development of programs to divert identified materials from the landfill waste stream to recycling where feasible.)* Mid term
- All jurisdictions – Retain the current Solid Waste Planning Committee to function as a plan implementation review and monitoring board, and to keep the planning process ongoing. *(Committee has been formalized via establishment of bylaws and expansion of membership to include all county municipalities to participate in addressing solid waste issues.)* Continuous
- All jurisdictions – Develop and participate in a monitoring and recordkeeping program that targets waste reduction and diversion programs and establishes methods for documenting industrial/commercial waste recycling and reuse. *(Monitoring and record keeping has been improved; however additional work still remains to be done especially in the industrial/commercial sector.)* Continuous
- All jurisdictions – Determine costs associated with implementing intended actions and work to obtain the necessary funding. Short-long term
- All jurisdictions – Participate in updating the solid waste management plan every three years as required by State law. This is currently being done. Continuous
- Rockingham County – Using lessons learned from a prior Rockingham County Mobile Home Recycling Pilot Project, the County will establish a program utilizing available funding to recycle abandoned manufactured homes located throughout the County. Priority will be to first target abandoned manufactured homes that (1) are vacant or in need of extensive repair; (2) pose an unreasonable danger to public health, safety, welfare, or the environment; and/or (3) be in violation of minimum housing standards. The County's Code Enforcement Officers having identified such abandoned homes in Rockingham County will refer the manufactured homes to the County Building Inspectors for determination of eligibility. Plans are to use private contractors to mechanically deconstruct selected homes on site if feasible or otherwise at contractor's yard. Contractor will separate and properly dispose of hazardous materials, remove and recycle recyclable/reusable materials as appropriate, and properly dispose of remaining components from the deconstructed homes at the Rockingham County Landfill.
(Note: The Rockingham County Minimum House Ordinance will be used to address all other abandoned manufactured homes not qualifying for deconstruction.) Short term