

Cocke County
Solid Waste
Needs Assessment
2008

Item # 1 Demographic Information

The following table and charts illustrate the population trends of the county as whole, respective municipalities, total municipal residents and county only residents. The 2010 and 2015 projects are based on existing trends for each jurisdiction as well as knowledge of the area.

The county as a whole is expected to see a slight increase in population between 2006 and 2010 and beyond. Although a 2.6% increase was realized from 2000 – 2006, it is my suggestion that a 4% growth rate will be a realistic figure to project for 2010 and 2015. This based on the fact that the State of Tennessee has seen a 6% growth rate and the residential and commercial developments in the county. The County is currently seeing housing developments in the mountainous areas and along the lakes. The Lake area is getting full and now residents are going to the mountains that are attracting a lot of new residents from the north in Ohio and the South in Florida. The City of Newport has increased its service area that should increase their population in the future, but the 4% growth is more realistic then the 2% from 2000 to 2006. The Town of Parrottsville is only going to grow with the extension of their city limits. Due to the low numbers in the Town, the increases have looked great. The 4% increase would also be realistic for the Town of Parrottsville.

Jurisdiction	1990	2000/% change	2006 / %	2010 / %	2015 / %
Cocke County	29,141	33,565 / 13%	34,877 / 4%	36,272 / 4%	37,723 / 4%
Newport	7,123	7,242 / 2%	7,391 / 2%	7,687 / 4%	7,994 / 4%
Parrottsville	121	207 / 42%	231 / 10%	240 / 4%	250 / 4%

Item 2 Region Economies

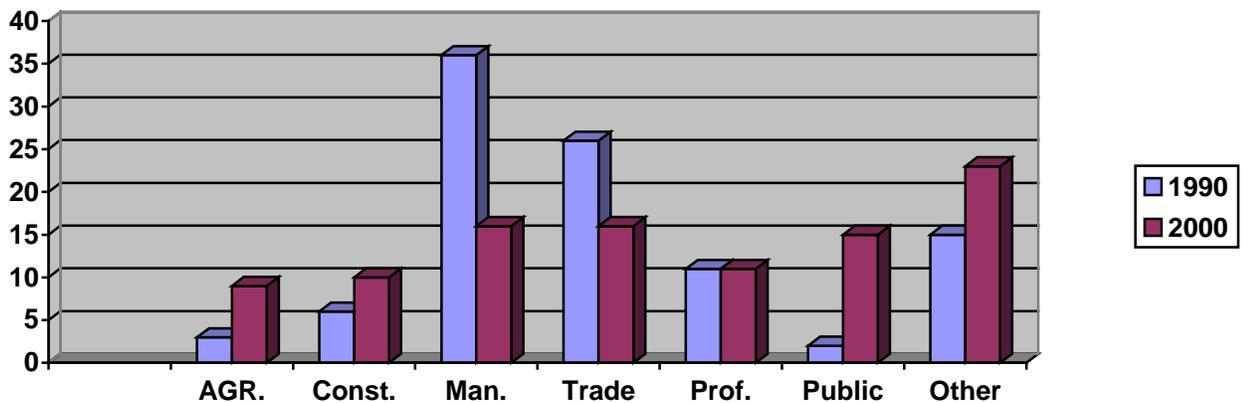
The following table and chart show the per capita incomes for the county and each municipality in 1989 and 1999 and estimates for 2007, 2010 and 2015. The existing trends are expected to continue for each municipality and the county, though increases will likely be smaller in the future for most municipalities.

The estimates for the current per capita incomes show that most all entities have experience an increase in the purchasing power of their residents. Most residents are likely to use this increased purchasing power to spend more monies in the future. This is likely to mean an overall increase in solid waste generated by economic growth. However, this increase in solid waste will be from the consumer industries and not large industries that could present problem waste. Based on the % increase from 1989 to 1999 of 38% and 30% increase from 1999 to 2007 one can see that the region has benefited from new jobs into the area. Some of the outlying areas in the County have benefited from being able to find jobs in Sevier County. The City of Newport besides the one major industry does not have any high wage jobs to offer their citizens. That is why that even though the County seat is Newport, the City continues to lag behind the per capita income of the County. This can be expected to continue in the future as new developments are built in the County. The Town of Parrottsville will continue to be effected by the low population of the Town. Their per capita income numbers will always be skewed based on the low numbers.

Jurisdiction	1989	1999	2007	2010	2015
Cocke County	\$8,574	\$13,881	\$19,870	\$25,831	\$33,580
Newport	\$9,347	\$12,870	\$18,200	\$23,660	\$30,758
Parrottsville	\$7,508	\$13,409	\$19,350	\$25,155	\$32,702

The following table takes a look at the types of business in Cocke County that can have an effect in the amount of solid waste being generated. The table looks at the percentage of each classified work from 1998 and 2005. As the table shows the type of business has changed from manufacture to service industry. This basically results in less garbage that is produced in terms of large volume. The consumer industry will produce a lot of cardboard and paper that can be recycled. Also, the service industry usually results in lower paying jobs that curtail the spending of the public.

Industry	1990	2000
Agriculture, Forestry, Fisheries, Mining	3%	9%
Construction	6%	10%
Manufacturing	36%	16%
Trade and Finance	26%	16%
Professional Services	11%	11%
Public Administration	3%	15%
Other (consumer industry)	15%	23%

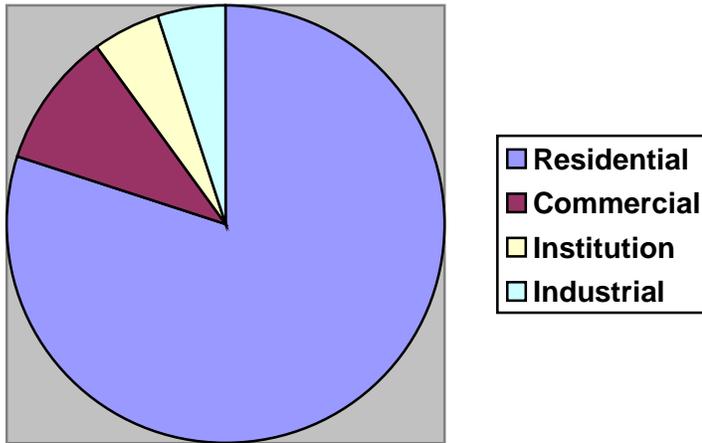


The influx of retirees has impacted the region in the following way. Many of the jobs created by this type of development may be seasonal and low pricing. Retirees generate more comparatively low-skilled, low wage, service employment in a county. This can offset the creation of jobs by not providing good money paying jobs that cause people to spend helping the tax base. However, that being said the influx of retirees does usually bring higher homes values that help in property tax. Tax revenues may also be shifted in the future from more schools to more environmental programs as the residential base becomes older. It is estimated that the County could see an increase of 20% retiree community in the future.

Item # 3 Region Waste Stream

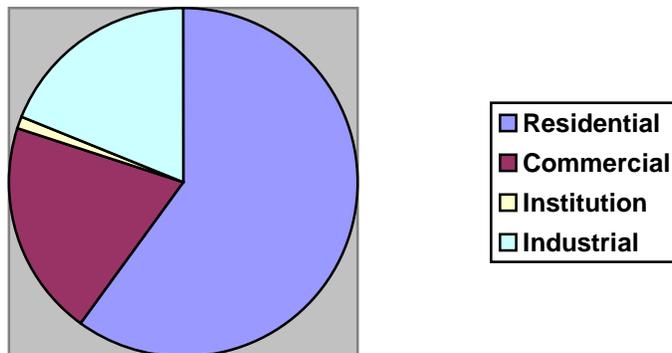
Cocke County solid waste stream is shown below.

Residential 80%
Commercial 10%
Institution 5%
Industrial 5%



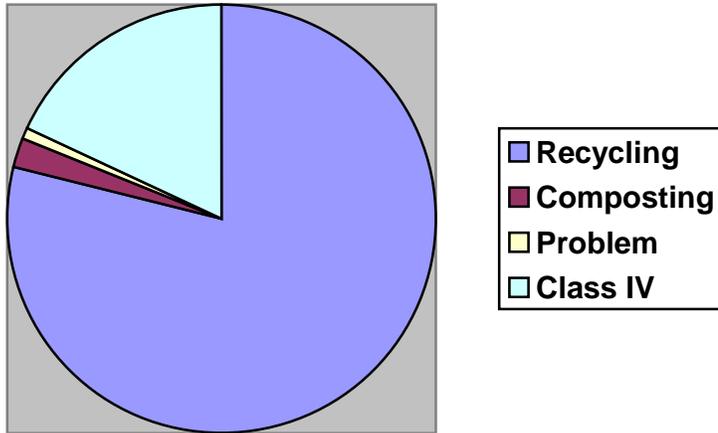
The waste stream during the last needs assessment looked like the following.

Residential 60%
Commercial 20%
Institution 1%
Industrial 19%



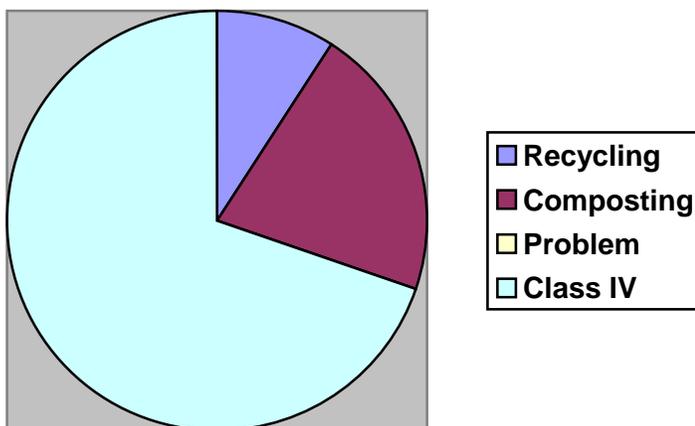
This can be further broken down into the following:

- Recycling – 15,069 – 79%
- Composting - 265 – 2%
- Problem Waste - 212 – 1%
- Class IV Waste – 2,902-18%
- Class I Waste – 16,212



The waste diversion stream in 2001 when the last assessment was done was the following.

- Recycling – 741 – 3%
- Composting - 1,500 – 7%
- Problem – N/A – 0%
- Class IV Waste – 4,935 – 23%
- Class I Waste – 21,313



The County's largest diversion efforts are recycling. In comparing the waste stream 5 years ago, you can see that the Class IV landfill was the largest diversion effort. This is a positive step by the County to put much more emphasis on recycling. This gets more people involved that can last for a lifetime in terms of keeping waste out of any kind of landfill.

Problem waste has not been a major waste diversion for the County. The biggest problem waste is waste tires for the region. Cocke County handles waste tires by providing a place at the Class IV landfill site with a trailer that the tires are placed into. The County also provides the collection of tires at the convenience centers. In 2007 about 300 tires were collected at the convenience centers. These tires are taken to the Class IV landfill and placed into the trailer. A contracted end user takes the tires away when the trailer is full. Cocke County does not charge any tipping fee for the tires. The tires will be handled the same way over the next five years. The county may look at charging a tipping fee in the future. The county has operated the waste tire program on a very tight budget and cannot absorb any decreases in State funding or large increases in tires.

Another problem waste is the used oil program. The County collects some used oil at a few of the convenience centers. The County has looked into placing used oil tanks at all of the convenience centers. The region has also looked at placing a used oil heater at one of the maintenance buildings for the City of Newport that can utilize the used oil for heat. The Cities of Newport and Parrottsville currently don't provide collection sites for the public to drop off their used oil. However, Newport is looking at placing a container at the Newport Recycling Center and a company out of Morristown will pick up the used oil and transport it from the recycling center. The used oil activity should change with more emphasis on providing more collection sites and utilizing the used oil for a heat source in the future.

The County is also handling white goods by allowing people to drop off their white goods at the Class IV landfill site. Small amounts of white goods and mixed metal are taken at the convenience centers. However, any large bulk of items is directed to the Class IV site. The white goods collected at the convenience centers are also taken to the Class IV site for collection and transport to Seaton Iron in Morristown by the County. The City of Newport provides a roll off container for the collection of white goods at the recycling center and those items are taken to the Class IV landfill site. This program seems to be very effective and no changes are anticipated within the next five-year.

The region currently does not take brush at the landfill site. This is an area that will need to be looked at in the future. The County had originally looked at a pit burner and that process was halted by the Tennessee Department of Environment and Conservation. If brush is to be collected in the region, it will have to be done with the realization that burning will not be an option.

The recycling program has continued to grow in the Coker County Region. The City of Newport has every year increased their recycling door-to-door program and is now at about 98%. The City of Newport picks up aluminum, plastic, cardboard, paper and mixed metal at the houses. These items are taken back to the Newport Recycling Center using a ton truck with an enclosed screen departmentalized trailer. The items are then placed into the proper bins for processing. The County provides the collection of plastic, paper and cardboard and small mixed metals at the convenience center sites. The collection is done in a departmentalized trailer that is taken to the Newport Recycling Center when full and placed in the proper bins. The personnel at the Newport Recycling Center bale the cardboard, mixed paper and the plastic. The marketing of the material is done by the private haulers that have contracted with the Newport Recycling Center for the collection of the recyclable items. Metals are taken to the Class IV landfill site and then hauled to Seaten Iron in Morristown by the County. Ramsey Recycling takes care of the aluminum cans. Goodwill Industries take care of the newspaper, mixed paper and plastic. Sonoco takes care of the cardboard. The program has been able to make enough profit to subsidize some of the other programs to allow the system to break even. The recycling program should be handled the same over the next five years.

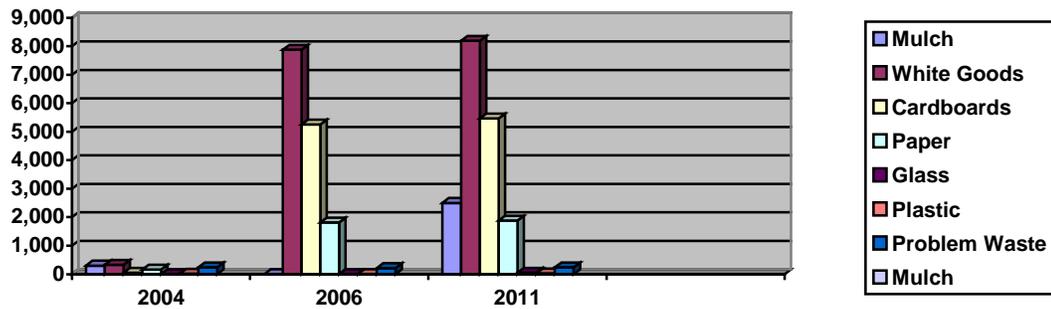
Areas that the County needs to look at for future collection are the following items. E-Waste is one waste that the County has not been active in. E-Waste collection will be provided as part of the waste stream during the next five years.

Another area that the county needs to look at providing is paint collection. Currently, some small collection of paint is realized at the Newport Recycling Center, but this is basically not publicized for fear that the County may get more than they can handle. The County will need to look at investing in a paint storage building. The County would then be able to store the paint in a climate control area and be able to save the good paint for reuse and dump the old paint. The County would look at providing the same kind of set-up as Anderson County, whereby the County would utilize a 4 cu.yd container to mix the paint with saw dust for a drying agent and disposal into the landfill.

Class I waste is being handled door to door by the City of Newport. The Town of Parrottsville utilizes the convenience centers for their residents. The waste is picked up by the City and taken back to the Recycling Center and a contract with Tidi-Waste hauls away the waste. The county provides convenience centers throughout the region for the collection of Class I waste that is also hauled away by Tidi-Waste. The next five years could see the region go with a roll-off system that will allow the region to utilize a transfer station. Currently, the City of Newport has to make too many back and forth trips from residence to the recycling center to dispose of the Class I waste. The transfer station will cut down on these trips. The handling of Commercial and Industrial Waste is being taken care of by private haulers.

Below is a table on the amount of waste that has been collected in the past and the anticipated growth in the future.

Material	Material – 2004	Material –2006	Material –2011
Sanitation	12,829	16,212	19,454
White Goods	329	7,878	8,193
Cardboard	47	5,256	5,466
Paper	163	1,812	1,884
Glass	0	0	50
Plastic	16	7	25
Problem Waste	243	212	240
Mulch	300	0	2,500



It is estimated that the recycling totals should increase by 4% from 2006 to 2011 based on the population increases. The County has developed contracts on all of their items that have shown a great increase in their recycling efforts. We feel that this will level off and show a modest increase in the future. Mixed paper may continue to increase at a larger percentage due to the schools becoming involved in the recycling of paper. This started last year and those numbers should increase. There has been talk of the schools expanding into plastic, which will also increase the plastic being recycled. Glass is another area that the region will look at in the future. Potential saving on the way that the Class I waste is being handled may allow the region to spend some money on equipment that can handle glass in the future.

Class I waste that is being collected by Tidi-Waste recently was going to Chestnut Ridge Landfill in Anderson County. The County and the City has a contract with Tidi-Waste and does not specify where the Class I waste goes as long as it is a certified landfill. All commercial/industrial waste is taking to the landfill by private contracts.

Item # 4: Waste Collection System and Life Cycle

Cocke County has ten convenience centers that collect the solid waste for the region. The ten convenience centers provide the collection of Class I waste, recyclables and a small amount of white goods. The Class I waste is transported from the convenience centers by a private contract with Tidi-Waste to a Class I landfill. The recyclables are transported to the Newport Recycling Center for processing by the County using a departmentalized trailer. The white goods are taken by the County to the Class IV landfill and transported to Seaton Iron in Morristown. The City of Newport provides the collection of Class I waste door-to-door using a front loader with a container, once a week. This waste is taken to the Newport Recycling Center where it is picked up by Tidi-Waste and transported to a Class I landfill. The City of Newport also picks up recyclables once a week at 98% of the houses and transports this waste to the Newport Recycling Center with a departmentalized trailer. The recyclables are processed in the baler and then picked up by a contracted hauler and taken to the market place.

Cocke County handles waste tires by providing a place at the Class IV landfill site with a trailer that the tires are placed into. The County also provides the collection of tires at the convenience centers. In 2007 about 300 tires were collected at the convenience centers and the Newport Recycling Center. These tires are taken to the Class IV landfill and placed into the trailer. A contracted end user takes the tires away when the trailer is full. Cocke County does not charge any tipping fee for the tires.

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The recycling program has continued to grow in the Cocke County Region. The City of Newport has every year increased their recycling door-to-door program and is now at about 98%. The City of Newport picks up aluminum, plastic, cardboard, paper and mixed metal at the houses. These items are taken back to the Newport Recycling Center using a ton truck with an enclosed screen departmentalized trailer. The items are then placed into the proper bins for processing. The County provides the collection of plastic, paper and cardboard and small mixed metals at the convenience center sites. The collection is done in a departmentalized trailer that is taken to the Newport Recycling Center when full and placed in the proper bins. The personnel at the Newport Recycling Center bale the cardboard, mixed paper and the plastic. The marketing of the material is done by the private haulers that have contracted with the Newport Recycling Center for the collection of the recyclable items. Metals are taken to the Class IV landfill site and then hauled to Seaten Iron in Morristown by the County. Ramsey Recycling takes care of the aluminum cans. Goodwill Industries take care of the newspaper, mixed paper and plastic. Sonoco takes care of the cardboard.

Another problem waste is the used oil program. The County collects some used oil at a few of the convenience centers. The County has looked into placing used oil tanks at all of the convenience centers. The region has also looked at placing a used oil heater at one of the maintenance buildings for the City of Newport that can utilize the used oil for heat. The cities of Newport and Parrottsville currently don't provide collection sites for the public to drop off their used oil. However, Newport is looking at placing a container at the Newport Recycling Center and a company out of Morristown will pick up the used oil and transport it from the recycling center.

Section 5 – Cocke County Reduction Rate

Current Year Generation	Current Year Disposal	Base Year Disposal	Current Year Population	% Reduction compared to Base Year	MSW % Reduction Population Ration	MSW % Reduction using Population Econ Ration	Real Time Comparison
34,683	16,212	40,821	34,877	(40) %			47%

The County is meeting the reduction rates and the main reason is the recycling efforts of the region. As shown in the previous section the region has provided a lot of diversion efforts in the region. The region has not become complacent and has plans to increase efforts in other recycling opportunities in the future. It is my assumption that the Region should be able to meet the 25% reduction in the future due to these new programs.

Item # 6: 10-Year Regional Disposal Assurance in Cocke County Region.

Site Name	Annual Tons Disposed by Cocke County	SNL Permit #	Current Landfill Capacity (daily throughput)	Maximum capacity	Projected Life of Facility
Chestnut Ridge Volunteer Landfill Located in Anderson County	16,212	SNL-01-0160	1,500 tons per day	Depends on compaction rate and Landfill Design and Operations Plan	25 years remaining

The Cocke County Region has a private contract with Tidi-Waste for the transport of all of the Class I waste to a landfill outside the region. The above landfill was used the past year, but it is not in the contract that the County can choose the landfill that the waste is being taken to.

Public and Private Collection Service in the Cocke County Region

Service Provider	Service Area	Frequency of Service	Estimated average annual tons collected	Type of Service
Cocke County	County Wide	As Needed	15,624	Convenience Centers
Newport	City Limits	Once a week	588	Curbside

All commercial and industrial establishments contract out the collection of their waste with private haulers.

Item # 7: Solid Waste Management Infrastructure

Cocke

Expenditures			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$1,258,465	\$0	\$1,258,465
Transportation/hauling	\$0	\$0	\$0
Collection and Disposal Systems			
Equipment	\$30,000	\$85,000	\$115,000
Sites	\$0	\$0	\$0
Convenience Center	\$760,729	\$20,000	\$780,729
Transfer Station	\$0	\$0	\$0
Recycling Center	\$125,000	\$179,800	\$304,800
MRF	\$0	\$0	\$0
Landfills	\$0	\$0	\$0
Site	\$0	\$0	\$0
Operation	\$145,000	\$0	\$145,000
Closure	\$0	\$0	\$0
Post Closure Care	\$0	\$0	\$0
Administration (supplies, communication cost, etc.)	\$145,459	\$0	\$0
Education	\$6,600	\$0	\$6,600
Public			
Continuing Education			
Capital Projects	\$0	\$0	\$0
Revenue			
Host agreement fee	\$0	\$0	\$0
Tipping fees	\$106,600	\$0	\$106,600
Property taxes	\$5,736,548	\$0	\$5,736,548
Sales tax	\$		
Surcharges	\$		
Disposal fees	\$	\$	\$
Collection charges			
Industrial or Commercial charges	\$0		
Residential charges	\$41,079	\$0	\$41,079
Convenience Centers charges	\$0		
Transfer Station charges	\$0		
Sale of Methane Gas	\$0		
Other sources: (Grants, bonds, interest, sales, etc.)	\$48,874	\$0	\$48,874

Salary: Cocke County does not need any additional employees to run their current program. Any new increases in collection will be done with equipment that will offset the time spent by an employee.

Equipment: The Region needs a leachate truck that will allow the leachate to be reused. The Region is also in need of a new ton truck that can be used to haul white goods. The region will also be in need for a front-end loader, a new recycle truck, brush chipper and leaf vacuum.

Facilities: The region needs to resurface the recycling center and all of their convenience centers.

All other needs are being met at the present time and in the future.

The City of Newport has a sanitation budget of \$65,348 that includes \$42,842 for salaries and fringe benefits. The sales tax generated by the City takes care of the sanitation budget.

It should be noted that in talking with all of the City of Newport the large capital investments would be on items at the recycling center that is shown as part of the regional needs.

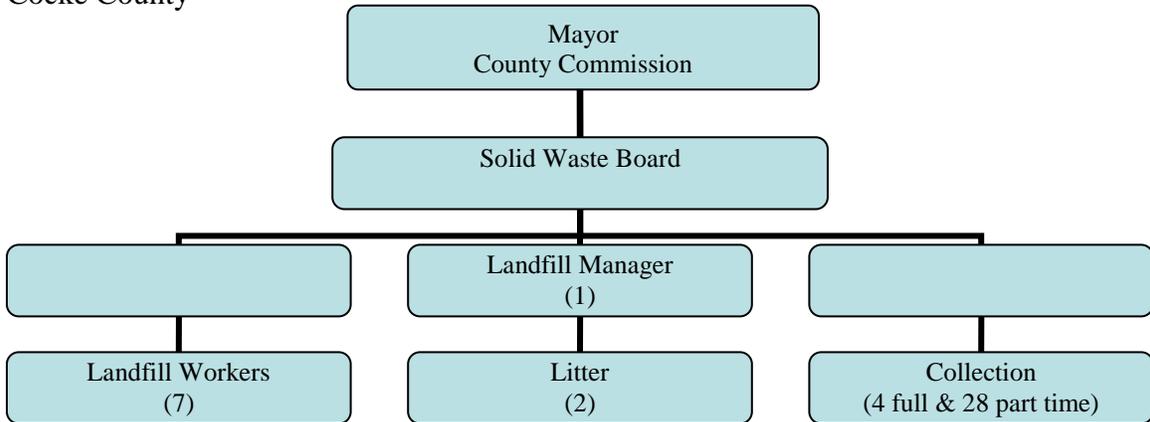
Item # 8: Solid Waste Department Organization and Location

Cocke County

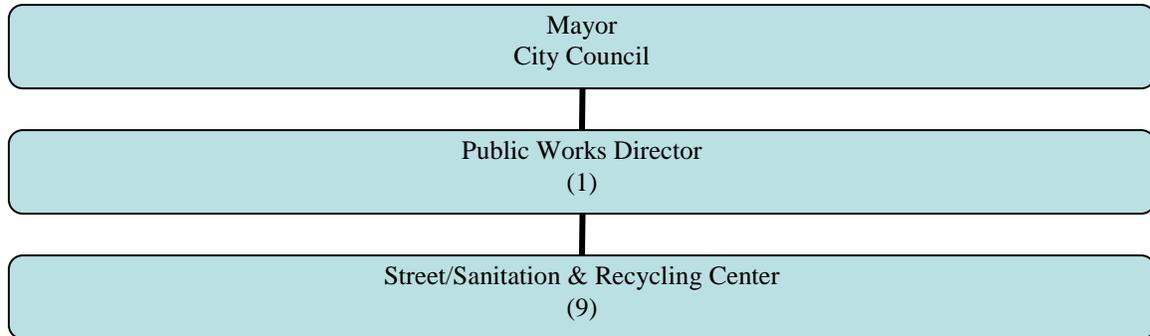
Staffing for Cocke County includes 7 workers at the Class IV landfill site, 4 workers that pickup and transport waste, 1 worker at the scales and 28 part time workers at the convenience centers. The County also has 2 litter control officers. All of the employees report to the Landfill Manager, who in turn reports to the Solid Waste Board and the Mayor and County Commission.

Any shortcomings by the County in terms of solid waste collection are not an issue. The County has enough convenience centers scattered out to take care of the County. The Cities are handling all of their collection needs for their residents. The only need that can be seen for the County is the collection of paint that is not a problem at the present time, but could be an issue in the future. The County is looking at the construction of a paint storage building in the future. The Cities for their residence will do the collection of the paint. The County will allow paint to be brought to the convenience center and then transported to the Paint Processing Building located at the Newport Recycling Center.

Cocke County



Newport



Item # 9: Future Waste Management Needs

Cocke County & Newport Region

Collection

Equipment	Operational Use	Estimated Cost	Potential Revenue Source
Leachate Truck		\$65,000	Property Tax/Tipping Fees
Containers		\$1,500	Property Tax / Tipping Fees
Pave Convenience Centers		\$20,000 per	Property Tax
New attendant Bldg at Recycling Center		\$25,000	Property Tax

Disposal

Equipment	Operational Use	Estimated Cost	Potential Revenue Source
Front End Loader		\$125,000	Property Tax

Material Recovery

Recycling Bins		\$1,500 per	Grant/Sale of Materials
Ton Truck		\$35,000	Property Tax
Pave Recycling Center		\$15,000	Sale of Materials
Paint Reuse Center		\$250,000	Grant / Property Tax
Recycle Truck		\$72,000	Grant/ Property Tax

Newport

Collection

Equipment	Operational Use	Estimated Cost	Potential Revenue Source
None			

Disposal

Equipment	Operational Use	Estimated Cost	Potential Revenue Source
None			

Material Recovery

Brush Chipper		\$22,000	Grant
Leaf Vacuum		\$14,500	Grant

Item # 10: Residents Attitude and Participation

No surveys have been done to measure the public's attitude of Cocke County residents concerning support for environmental programs. The residents that are recycling are impressed with the program and the ease that the County and the Cities have made it for residents to recycle. The ease of the program should make everyone willing to recycle, but in the rural areas of Cocke County they still have areas where folks have a hard time properly disposing of their Class I waste. Recycling rates have increased largely due to the fact that the City and the County have worked together to promote a regional recycling opportunity. This has allowed them to share in the cost, so not to drain anyone's budget that could prompt the program to be cut. Cocke County continues to educate the children on the need and benefit of recycling. This has proved successful in that most teens when you talk to them think that littering is very un-cool and are concerned with the future of the environment. As these students continue to get older and have families of their own, recycling participation will continue to grow. In looking at the recycling program, it is my belief that Cocke County will be able to handle this growth and has a good base from which to expand in the future.

What to do about the older generation? As retirees move into the area most of these people are used to recycling and that has helped the program. These retirees have lobbied the cities to provide programs and are now looking at diversity at the convenience centers. Most of these retirees came from areas that either demand recycling or highly publicize their recycling efforts. The long time residents of the County were not raised with recycling efforts and do not see the need to recycle any items that can be simply put into the garbage can. The only way the County will change these people's minds is either through their kids or set a pay as you go charge. The County leaders will not even discuss this option at the present time, unless monies become an issue in the County budget. The County has tried adult education programs and the cities supply all residents a brochure on what is available to their residents.

It is the belief that the County will be better served to concentrate more with the adult population in terms of the commercial and industrial leaders. These efforts could show companies how they can save money on disposal fees and even bring money into their revenue stream. It is through these companies that their workers will begin to recycle and maybe if it becomes a way of life will start recycling at home.

Item # 11: Regional Solid Waste Plan

The Region's plan for the next five years is to expand services within the recycling and waste diversion divisions. The County will look at changing over their collection of materials into a roll-off system, if a private hauler could handle the collection of the materials. This would allow the County to collect more recyclables at the convenience centers and reduce the manpower that is needed. The region has begun the collection of paper in the schools and that should increase the numbers for mixed paper. The same contract might be extended to include plastic, which would increase the collection of plastics in the region.

The County will need to look at the aspect of the 10 and 5-year plan that has been overlooked in terms of waste diversion of composting. We have not been able to start a composting program due to the extra manpower and equipment that is needed. It is unlikely that this will happen in the next few years.

The County also needs to expand their paint collection at their convenience centers. This will entail the County to purchase a paint storage building that will give the County a place to store the paint. This will allow the County to go through the paint and save the good paint for reuse and dispose of the other paint. The County will need to get with TDEC to determine how they can collect paint at the convenience centers. This will help residents to become better environmental stewards. Currently, if you have paint and need to get rid of the paint, you place the paint in a garbage bag and take it to the dump. The paint and the cans are then taken to the Class I landfill.

The Region of Coker County unlike other Regions has not relied upon the commercial and industrial sectors to provide enough reduction in order to meet the 25% reduction. The County has worked hard to provide one of the best recycling programs in the area. The waste diversion program will need to continue to improve.

The City of Newport is looking at their options in terms of constructing a transfer station to collect their Class I waste. This would definitely offset the costs that are being incurred on the trips from the homes to the recycling center. The current program requires the City to collect the Class I waste into 2-4 cu.yd containers and when full take those back to the recycling center and pick up some more containers. A private contract with Tidi-Waste allows them to come by a pick up the waste into a roll-off truck for hauling to the landfill. The transfer station would allow the City to pick up waste in a rear loader and dump into a roll-off trailer. This will reduce the trips to probably one a day compared to 5 or 6 trips a day. The money that could be saved will initially go to pay off the capital expense of the rear loader and the transfer station. The money after that cost could be used to expand the collection of recyclables in the region.

Sources:

Cocke County Solid Waste

U.S. Census Bureau

City of Newport

Newport Recycling Center

Existing & Proposed Solid Waste Management System for the Region of Cocke County

