

# **HENRY COUNTY SOLID WASTE PLANNING REGION**

## **Solid Waste Needs Assessment**

December, 2010

**As required by The Solid Waste Management Act (T.C.A. §68-211-811).**



**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
Division of Solid Waste Management  
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## **INTRODUCTION**

In an effort to coordinate and plan for safe, efficient solid waste disposal in the state, the Tennessee General Assembly enacted several pieces of legislation, which are compiled in Title 68, Chapter 211 of the *Tennessee Code Annotated*. To comply with the requirements of this chapter, all local governments must engage in specified planning and organizational activities (See the Solid Waste Management Act of 1991, T.C.A. §§ 68-211-801 through 68-211-874).

### **Regional Solid Waste Management Planning**

To begin implementation of the Solid Waste Management Act, counties were instructed to form solid waste regions (single or multi-county) and establish a solid waste board. Each region was required to formulate a 10-year plan for collection and disposal of solid waste in the area and submit this plan to the Tennessee Department of Environment and Conservation. Each municipal solid waste region must submit an annual progress report and 5-Year Plan Update (T.C.A. § 68-211-814). The plan, and any revised plan, submitted by each region must be consistent with the state solid waste plan and with all relevant state laws and regulations.

At a minimum, each plan must contain the following items:

- Demographic information and projections;
- Analysis of economic activity in the Region;
- Characterization of the waste stream;
- Projection of solid waste generation;
- Evaluation of collection systems within the Region;
- Current system analysis of waste streams, collection capability, disposal capability, costs, and revenues;
- Description of waste reduction activities designed to attain the required 25 percent reduction in solid waste;
- Description of education initiatives designed to achieve the goals stated in the statute; and
- Any other information the commissioner of the Department of Environment and Conservation deems relevant.

In order that the regional planning effort is implemented on a solid foundation of relevant and objective knowledge of local conditions, the Act requires the Development Districts to coordinate, conduct and maintain a Needs Assessment for each solid waste region. This Assessment shall be revised every five years.

## **SECTION 1:**

### **DEMOGRAPHIC INFORMATION AND PROJECTION**

*Provide a table and chart showing the region's population for the last ten (10) years with a projection for the next five (5) years. Provide a breakdown by sub-table and sub-chart, or some similar method to detail all county and municipality populations. Discuss projected trends and how it will affect solid waste infrastructure needs over the next five (5) years.*

#### **Population Trends in Henry County**

Since the last U.S. Census in 2000, it is estimated that Henry County's population has only increased approximately 1.3%. The population in 2000 was 31,122 and the estimated population in 2010 is 31,516. As shown in Table 1.1 below, Henry County's population is very steady. In 2003, the population decreased by approximately 200 persons, but began to increase slightly each following year until 2010.

**TABLE 1.1 Historic and Projected Population Trends (1999 thru 2015)**

| <b>Year</b> | <b>County Population</b> | <b>Cottage Grove</b> | <b>Henry</b> | <b>Paris</b> | <b>Puryear</b> | <b>Unincorporated</b> |
|-------------|--------------------------|----------------------|--------------|--------------|----------------|-----------------------|
| 1999        | 30,042                   | 95                   | 480          | 9,888        | 749            | 18,830                |
| 2000        | 31,122                   | 97                   | 518          | 9,752        | 667            | 20,088                |
| 2001        | 31,169                   | 97                   | 523          | 9,689        | 668            | 20,192                |
| 2002        | 31,258                   | 97                   | 526          | 9,697        | 669            | 20,269                |
| 2003        | 31,052                   | 97                   | 523          | 9,607        | 665            | 20,160                |
| 2004        | 31,077                   | 96                   | 521          | 9,708        | 662            | 20,090                |
| 2005        | 31,294                   | 97                   | 525          | 9,780        | 666            | 20,226                |
| 2006        | 31,399                   | 97                   | 537          | 9,808        | 667            | 20,290                |
| 2007        | 31,517                   | 97                   | 545          | 9,836        | 670            | 20,369                |
| 2008        | 31,751                   | 98                   | 549          | 9,904        | 674            | 20,526                |
| 2009        | 31,876                   | 98                   | 549          | 9,950        | 677            | 20,602                |
| 2010        | 31,516                   | 99                   | 550          | 9,827        | 667            | 20,373                |
| 2011        | 31,660                   | 99                   | 555          | 9,930        | 668            | 20,408                |
| 2012        | 31,876                   | 100                  | 560          | 9,960        | 669            | 20,587                |
| 2013        | 31,998                   | 101                  | 565          | 9,980        | 670            | 20,682                |
| 2014        | 32,089                   | 102                  | 575          | 9,995        | 671            | 20,746                |
| 2015        | 32,146                   | 103                  | 585          | 10,028       | 672            | 20,758                |

Sources: Historic data and projections are based on data from the U.S. Census Bureau.

The U.S. Census Bureau is projecting that Henry County's population will decrease in 2010 by 360 persons but will increase slightly during the next five years. Since the unemployment rate increased so much in 2009, this projection may be accurate.

Based on the latest U.S. Census Bureau's statistics, 19.4% of Henry County's population is 65 years of age and older and 21.1% is under the age of 18. These figures account for just over 40% of Henry County's total population. More than 50% of the total population is between the ages of 25 – 64.

Since Henry County's population is projected to increase slightly in the next five years, the solid waste disposal should increase slightly also. Henry County is well equipped to handle this projected increase. The county utilizes the Northwest Tennessee Disposal Corp. Class I Landfill as their prominent disposal site, and this landfill has twenty-five plus years of life left. The county also utilizes the Paris/Henry County Class III/IV Landfill. Space is beginning to be an issue at this landfill. Both Paris and Henry County are planning for the future by conducting engineering studies on using the same cells instead of extending the landfill. It will be more cost efficient to use the same cells and will extend the life of the landfill by 8 – 10 years.

The Henry County Solid Waste Director and his staff also provide extensive educational programs and events to educate the public about waste diversion and recycling. Henry County and the City of Paris are working on a joint plan to provide curbside recycling within the city limits of Paris. As a result, the solid waste disposal may actually decrease.

As the recycling efforts increase, the Recycle Center will need to be expanded. Currently, the trucks are repaired within the building. A separate maintenance shop is needed so these trucks do not have to take up needed space within the Recycle Center.

## **SECTION 2:**

### **ECONOMIC ACTIVITY WITHIN THE REGION**

Provide a table and chart showing the region's economic profile for all county and municipalities for the last ten (10) years with a projection for the next five (5) years. This can be accomplished by using the following economic indicators:

- Taxable sales, property tax generation, and per capita income
- Evaluation by break down of each economic sector
- County or municipal budgeting information
- Other commonly accepted economic indicators

#### **Economic Profile of Henry County**

As shown on Table 2.2 on the following page, the Henry County is trying to recover from a weak economy. Unemployment rates have ranged from a low of 5.4% in 2000 to a high of 13.4% in 2009. The highest unemployment rate for any given month was in January 2010 when the rate was 15.2%.

As of September 2010, the unemployment rate in Henry County was 11.1%. This figure is higher than the State average of 9.2% for the same month. Henry County is actively pursuing industries to come to the area. There are industrial sites with infrastructure available.

The average total wages in all industries in Henry County was \$29,784, which is significantly lower than the state average of \$36,146 and the national average of \$40,259.

The top nine county manufacturers are listed in the following table:

**TABLE 2.1 Henry County Top 9 County Manufacturers**

| <b>Manufacturer</b>         | <b>Product</b>                         | <b># Employed</b> |
|-----------------------------|--|-------------------|
| Dana Corporation            | Rubber products for mechanical use     | 569               |
| Tecumseh Products Co.       | Motors or generators                   | 450               |
| Mohon International Inc.    | Laboratory apparatus & furniture       | 300               |
| PML Inc.                    | Rubber automotive products             | 200               |
| Texwood Furniture LLC       | School furniture                       | 182               |
| Replogle Enterprises        | Pallet parts, wood flooring & paneling | 150               |
| Csi Cutting Specialist Inc. | Farm machinery & equipment             | 50                |
| Dana Corporation            | Sheet metal specialties                | 41                |
| Middleton Lumber Co. LLC    | Sawing & planing mill                  | 35                |



**TABLE 2.2 Henry County Historic and Projected Economic Indicators**

| Labor Force Data |        |        |                     |         | Non-Farm Wage and Salary Employment |                 |       |       |                   |       |        |       |       | Per<br>Capita<br>Income | Total Retail<br>Sales |
|------------------|--------|--------|---------------------|---------|-------------------------------------|-----------------|-------|-------|-------------------|-------|--------|-------|-------|-------------------------|-----------------------|
| Year             | Total  | Emp.   | Unemployed<br>Total | Rate(%) | Total                               | Goods Producing |       |       | Service Producing |       |        |       |       |                         |                       |
|                  |        |        |                     |         |                                     | Total           | Mfg   | Other | Total             | Trade | Health | Govt. | Other |                         |                       |
| 1999             | 14,500 | 13,550 | 950                 | 6.6%    | 12,200                              | 5,010           | 4,530 | 480   | 7,190             | 2,430 | 550    | 2,120 | 2,090 | \$21,138                | \$317,170,268         |
| 2000             | 14,560 | 13,770 | 790                 | 5.4%    | 12,500                              | 5,100           | 4,650 | 450   | 7,400             | 2,430 | 610    | 2,190 | 2,170 | 22,060                  | 314,608,594           |
| 2001             | 14,550 | 13,630 | 920                 | 6.3%    | 12,140                              | 4,610           | 4,200 | 410   | 7,530             | 2,430 | 660    | 2,300 | 2,140 | 22,472                  | 362,317,050           |
| 2002             | 14,630 | 13,640 | 990                 | 6.8%    | 11,880                              | 4,280           | 3,880 | 400   | 7,600             | 2,410 | 710    | 2,380 | 2,100 | 22,023                  | 372,606,441           |
| 2003             | 14,490 | 13,260 | 1,230               | 8.5%    | 11,500                              | 3,910           | 3,500 | 410   | 7,590             | 2,310 | 730    | 2,390 | 2,160 | 22,750                  | 387,504,063           |
| 2004             | 14,340 | 13,180 | 1,160               | 8.1%    | 11,610                              | 3,630           | 3,210 | 420   | 7,980             | 2,500 | 700    | 2,460 | 2,320 | 24,317                  | 397,835,546           |
| 2005             | 14,210 | 13,140 | 1,070               | 7.5%    | 11,640                              | 3,550           | 3,140 | 410   | 8,090             | 2,500 | 750    | 2,470 | 2,370 | 25,221                  | 395,266,080           |
| 2006             | 14,220 | 13,200 | 1,020               | 7.2%    | 11,420                              | 3,330           | 2,890 | 440   | 8,090             | 2,450 | 780    | 2,490 | 2,370 | 25,880                  | 419,271,105           |
| 2007             | 13,990 | 13,080 | 910                 | 6.5%    | 11,250                              | 3,120           | 2,700 | 420   | 8,130             | 2,490 | 820    | 2,460 | 2,360 | 27,387                  | 434,754,356           |
| 2008             | 13,910 | 12,680 | 1,230               | 8.9%    | 11,000                              | 2,850           | 2,340 | 510   | 8,150             | 2,430 | 880    | 2,490 | 2,350 | 28,490                  | 436,351,030           |
| 2009             | 13,520 | 11,700 | 1,820               | 13.4%   | 10,120                              | 2,250           | 1,730 | 520   | 7,870             | 2,250 | 880    | 2,470 | 2,270 | 28,500                  | 413,567,297           |
| 2010             | 13,890 | 12,340 | 1,550               | 11.2%   | 10,140                              | 2,260           | 1,730 | 530   | 7,880             | 2,250 | 890    | 2,470 | 2,270 | 28,550                  | 415,668,789           |
| 2011             | 13,900 | 12,350 | 1,550               | 11.2%   | 10,160                              | 2,270           | 1,730 | 540   | 7,890             | 2,250 | 890    | 2,480 | 2,270 | 28,600                  | 420,750,125           |
| 2012             | 13,910 | 12,360 | 1,550               | 11.1%   | 10,180                              | 2,280           | 1,730 | 550   | 7,900             | 2,250 | 900    | 2,480 | 2,270 | 28,650                  | 428,465,123           |
| 2013             | 13,920 | 12,370 | 1,550               | 11.1%   | 10,200                              | 2,290           | 1,740 | 550   | 7,910             | 2,250 | 900    | 2,490 | 2,270 | 28,700                  | 430,500,125           |
| 2014             | 13,930 | 12,380 | 1,550               | 11.1%   | 10,220                              | 2,300           | 1,750 | 550   | 7,920             | 2,250 | 900    | 2,500 | 2,270 | 28,750                  | 432,468,222           |
| 2015             | 13,940 | 12,390 | 1,550               | 11.1%   | 10,240                              | 2,310           | 1,760 | 550   | 7,930             | 2,250 | 900    | 2,510 | 2,270 | 28,800                  | 434,568,250           |

Sources: Historic employment data are from the Tennessee Department of Labor and Workforce Development, per capita income data is from the U. S. Bureau of Economic Analysis, and retail data is from the Tennessee Department of revenue. All projections are by the NWTDD staff.



## SECTION 3:

### SOLID WASTE STREAM CHARACTERIZATION

*Elaborate on the entire region's solid waste stream. Compare today's waste stream with anticipated waste stream over the next five (5) years. How will the total waste stream be handled in the next five (5) years? Include in this discussion how problem wastes like waste tires, used oil, latex paint, electronics and other problem wastes are currently handled and are projected to be handled in the next five (5) years. What other waste types generated in this region require special attention? Discuss disposal options and management of these waste streams as well as how these waste streams will be handled in the future. Include in this discussion how commercial or industrial wastes are managed. Also provide an analysis noting source and amounts of any wastes entering or leaving out of the region.*

#### Current MSW Stream

In the most recent Henry County Solid Waste Annual Progress Report (2009), the total MSW stream for Henry County was reported as 58,488 tons. This amount consisted of 15,170 tons disposed in Class I landfills, 20,723 tons disposed in III/IV landfills, and 22,595 tons being recycled.

A large portion of the MSW stream is due to the residents of Henry County. It is estimated that the citizens make up 40% of the MSW stream. The remaining MSW stream is estimated to be 20% commercial, 10% institutional, and 30% industrial.

**TABLE 3.1 Regional Solid Waste Stream Disposal for 2010 – 2015**

| Class I Disposal Site  | Reported Year<br>(APR 2009) | Projected Year |               |               |               |               |               |
|--|-----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|
|  | 2009                        | 2010           | 2011          | 2012          | 2013          | 2014          | 2015          |
| MSW disposed in NW TN Disposal Corp. Class I Landfill located in Obion County        | 14,166                      | 14,175         | 14,180        | 14,185        | 14,190        | 14,195        | 14,200        |
| MSW disposed in West Camden Class I Landfill located in Benton County                | 974                         | 975            | 978           | 980           | 983           | 985           | 987           |
| MSW disposed in Waste Services of Decatur Class I Landfill located in Decatur County | 30                          | 0              | 0             | 0             | 0             | 0             | 0             |
| <b>Total Regional Waste Disposal</b>   | <b>15,170</b>               | <b>15,150</b>  | <b>15,158</b> | <b>15,165</b> | <b>15,173</b> | <b>15,180</b> | <b>15,187</b> |

The five-year projections for waste disposal in Henry County are provided in the table above. These estimates are based on minimal annual increases to coincide with the slight population increases that were projected in Section 1 of this assessment.

Henry County will continue to expand its current recycling programs at the Recycle Center. Currently, the county recycles metals, cardboard, paper, plastics, textiles, tires, electronics, batteries, used oil and antifreeze. The county received a recycling equipment grant for paint recycling and they will start collecting paint in the near future.

## Regional Solid Waste Management

The table below describes how the region's total waste stream is managed currently and how it will be managed in the next 5 years. Henry County and its municipalities and the businesses are all listed separately.

**TABLE 3.2 Waste Stream Management**

| Jurisdiction or Sector                | Solid Waste Stream Collection  | Solid Waste Disposal Options   | Present Problem Waste Handling   | Future Problem Waste Handling 2010-2015   | Other Problem Waste Types  |
|---------------------------------------|--|--|--|---|--|
| <b>Henry County and Cottage Grove</b> | County Convenience Center Available to all residents of the County<br><br><b>Residential solid waste</b><br>Door-to-door waste pickup is available<br><br><b>Local businesses</b><br>Not permitted to use the convenience center | Northwest TN Disposal Corp., Inc. Class I Landfill located in Obion County as primary waste disposal facility for unincorporated residents of Henry County, Cottage Grove and local businesses | <b>Waste tires:</b><br>Waste tire contract<br><b>Used oil:</b><br>Recycle Center<br><b>Automobile fluids:</b><br>Recycle Center<br><b>Latex paint:</b><br>HHW Event<br><b>Electronics:</b><br>Recycle Center | <b>Waste tires:</b><br>Waste tire contract<br><b>Used oil:</b><br>Recycle Center<br><b>Used oil filters:</b><br>Recycle Center<br><b>Automobile fluids:</b><br>Recycle Center<br><b>Latex paint:</b><br>Recycle Center<br><b>Electronics:</b><br>Recycle Center | HHW collected at mobile collection events.<br>Due to limited statewide mobile collection site scheduling, no regional approach has been developed to handle HHW.<br>A regional approach to handle HHW could be evaluated by the Northwest Development District. Planned program discussions can be scheduled in the near future. |
| <b>Henry</b>                          | Solid waste curbside collection fee service for city residents.  | Northwest TN Disposal Corp., Inc. Class I Landfill located in Obion County as primary waste disposal facility for residents of Henry and local businesses                                      | Provided by Henry County   | Provided by Henry County  | Provided by Henry County   |
| <b>Paris</b>                          | Solid waste curbside collection fee service for city residents.  | Northwest TN Disposal Corp., Inc. Class I Landfill located in Obion County as primary waste disposal facility for residents of Paris and local businesses                                      | Provided by Henry County   | Provided by Henry County  | Provided by Henry County   |
| <b>Puryear</b>                        | Solid waste curbside collection fee service for city residents.  | Northwest TN Disposal Corp., Inc. Class I Landfill located in Obion County as primary waste disposal facility for residents of Puryear and local businesses                                    | Provided by Henry County   | Provided by Henry County  | Provided by Henry County   |
| <b>Business</b>                       | Subscription service provided by:<br><br>Contracts with private haulers, and<br><br>Direct haul by business.   | Northwest TN Disposal Corp., Inc. Class I Landfill located in Obion County as primary waste disposal facility for residents of Henry County and local businesses                               | Available service provided by:<br><br>In-house business programs and Contractors   | Available service provided by:<br><br>In-house business programs and Contractors  | Hazardous waste generated from commercial and industrial businesses is regulated by TDEC, Division of Solid Waste Management, and Hazardous Waste Section.   |

### Wastes Entering or Leaving the County

Henry County does not own or operate a Class I landfill. No wastes from other areas enter the county. In 2009, a total of 15,170 tons of MSW was sent to three different Class I landfills. The table below illustrates where the MSW was disbursed.

**TABLE 3.3 Wastes Leaving Henry County**

| <b>Class I Landfill</b>     | <b>County Location</b> | <b>Tonnage</b> |
|-----------------------------|------------------------|----------------|
| Northwest TN Disposal Corp. | Obion County           | 14,166         |
| West Camden Landfill        | Benton County          | 974            |
| Waste Services of Decatur   | Decatur County         | 30             |
| <b>Total</b>                |                        | <b>15,170</b>  |

Source: TDEC 2009 Solid Waste Origin Report

Henry County and the City of Paris jointly own and operate a III/IV landfill. This landfill is used only for construction and demolition debris and brush. Only the residents of Henry County use this landfill. In 2009, 20,723 tons of material was diverted to the Paris/Henry County Landfill.

## **SECTION 4:**

### **REGIONAL COLLECTION SYSTEMS**

*Describe in detail the waste collection system of the region and every county and municipality. Provide a narrative of the life cycle of solid waste from the moment it becomes waste (loses value) until it ceases to be a waste by becoming a useful product, residual landfill material or an emission to air or water. Label all major steps in this cycle noting all locations where wastes are collected, stored or processed along with the name of operators and transporters for these sites.*

County and city government throughout the United States are struggling to develop efficient and cost-effective plans for managing their MSW. Henry County has an excellent system in place and plans to continue this system into the future.

#### **Henry County**

Henry County has door-to-door waste pick up service contracted through Barker Brothers, Inc. This service is available to 100% of the rural residents. Through this contract, the rural citizens pay a price of \$16.73 per month per household.

Henry County also has one convenience center, which is located at the Recycle Center. MSW can be dropped off at this site. Many recyclables can be brought to the Recycle Center or to the several drop off locations throughout the county. These materials include metals, cardboard, paper, plastics, textiles, tires, electronics, batteries, used oil and antifreeze. The staff at the center makes runs throughout the county to pick up recyclables, and all residents are encouraged to bring their recyclables to the center. The operating hours of the center are 7 a.m. to 3:30 p.m. Monday through Friday.

#### **Municipalities**

There are four municipalities in Henry County. Cottage Grove is a very small community and does not contract with a private hauler for trash collection. The residents of Cottage Grove contract individually with Barker Brothers, Inc. The Towns of Henry and Puryear contract with Barker Brothers, Inc. for door-to-door solid waste collection for their residents. The City of Paris provides its own sanitation department for door-to-door solid waste collection for residents. Currently, none of the municipalities offer public recycling options.

The table below illustrates all locations where wastes are collected and stored along with the name of operators and transporters for these sites.

**TABLE 4.1 Regional Collection Systems**

| <b>Jurisdiction</b> | <b>Transporter</b>    | <b>Class I Landfill</b>     |
|---------------------|-----------------------|-----------------------------|
| Henry County        | Barker Brothers, Inc. | Northwest TN Disposal Corp. |
| Henry               | Barker Brothers, Inc. | Northwest TN Disposal Corp. |
| Paris               | Barker Brothers, Inc. | Northwest TN Disposal Corp. |
| Puryear             | Barker Brothers, Inc. | Northwest TN Disposal Corp. |

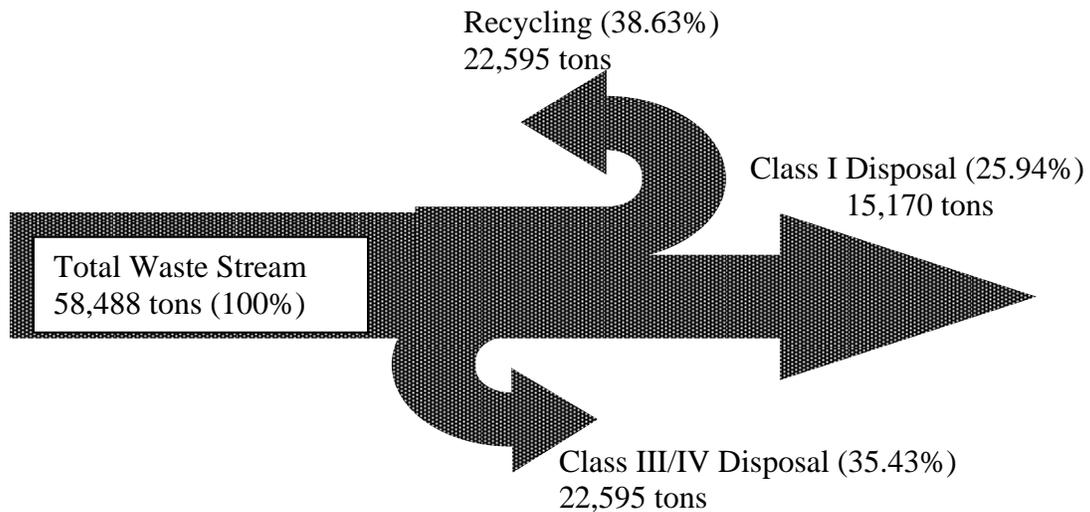
Henry County recycles many different commodities. The table below shows these commodities and what processors are utilized.

**TABLE 4.2 Henry County Commodities and Processors**

| Commodities | Processor          | Location                      |
|-------------|--------------------|-------------------------------|
| Metals      | Copeland Metals    | Paris, TN                     |
| Cardboard   | Inland Containers  | New Johnsonville, TN          |
| Paper       | Kimberly Clark     | Louden, TN                    |
| Paper       | Georgia Pacific    | Muskogee, WI                  |
| Newspaper   | Cell Pak           | Springfield, KY & Decatur, AL |
| Magazines   | Inland Containers  | New Johnsonville, TN          |
| Plastics    | Blue Ridge Plastic | Eden, NC                      |
| Textiles    | C & L Recycling    | Clarksville, TN               |
| Tires       | Martin Tire        | Marion, KY                    |
| Electronics | Creative Recycling | Nashville, TN                 |
| Batteries   | Mathis Battery     | Dresden, TN                   |
| Antifreeze  | H & H Recycling    | Camden, TN                    |

**Flow Diagram of Henry County Total Annual Regional Waste Stream**

The figures shown in the flow diagram below were taken from the 2009 Henry County Solid Waste Annual Progress Report.



**SECTION 5:****REGIONAL SOLID WASTE REDUCTION GOAL**

*The Solid Waste Management Act of 1991 states that all regions must reduce the amount of waste going into Class I landfills by 25%. Amendments to the Act allow for consideration of economic growth, and a “qualitative” method in which the reduction rate is compared on a yearly basis with the amount of Class I disposal. Provide a table showing reduction rate by each goal calculation methodology. Discuss how the region made the goal by each methodology or why they did not. If the Region did not meet the 25% waste reduction goal, what steps or infrastructure improvements should be taken to attain the goal and to sustain this goal into the future.*

**TABLE 5.1 Measurement of Regional Waste Reduction Goal**

| County                            | Waste Reduction Goal Calculation Method |                  |                           |                         |
|-----------------------------------|---|------------------|---------------------------|-------------------------|
|                                   | Compared to Base Year                   | Population Ratio | Economic-Population Ratio | Qualitative - Real Time |
| Henry County                      | 52.3%                                   | 52.3%            | 43.6%                     | 74.1%                   |
| 25% Waste Reduction Goal Achieved | Yes                                     | Yes              | Yes                       | Yes                     |

Source: TDEC, Division of Solid Waste Management, Division of Solid Waste Assistance Program.

**Variables Affecting Regional Waste Reduction Efforts**

Henry County has met all of the above waste reduction goal calculation methods. The main reason the county has met all of the above methods is because the county has had a Solid Waste Director to oversee the program from the very start. The Solid Waste Director has implemented a well-organized solid waste program for many years. He has utilized many solid waste grants to build a successful program and has worked hand-in-hand with local and state departments to benefit Henry County.

**Future Regional Waste Reduction Program**

No major changes need to be made to this successful program. Paint recycling will begin in 2011. The Recycle Center needs to be expanded to include a separate maintenance shop to work on vehicles. Also, the driveway and parking lot needs to be paved to reduce the dust during dry periods.

New equipment is needed to expand the program. The Solid Waste Director plans to add 6' x 12' trailers at the schools to improve recycling efforts. A complete list of needs is located in Section 8. The current equipment is showing wear and tear and will need to be replaced in the near future. Henry County will apply for solid waste grants as they become available.

The county also utilizes the Paris/Henry County Class III/IV Landfill. Space is beginning to be an issue at this landfill. Both Paris and Henry County are planning for the future by

conducting engineering studies on using the same cells instead of extending the landfill. It will be more cost efficient to use the same cells and will extend the life of the landfill by 8 – 10 years.

**SECTION 6:**

**SOLID WASTE DISPOSAL CAPACITY**

*Provide a chart indicating current collection and disposal capacity by facility site and the maximum capacity the current infrastructure can handle at maximum through put. Provide this for both Class I and Class III/IV disposal and recycled materials. Identify and discuss any potential shortfalls in materials management capacity whether these are at the collection or processor level.*

**TABLE 6.1 10-Year Regional Disposal Assurance in Henry County in 2009/10**

| Site Name(s)   | Annual Tons Disposed by Henry County* | Solid Waste Permit # | Current Disposal (daily throughput) | Maximum Disposal Capacity (daily throughput) | Projected Life of Facility |
|--|---------------------------------------|----------------------|-------------------------------------|--|----------------------------|
| West Camden Sanitary Landfill located in Benton County | 974                                   | SNL 03-0247          | 2,300 tons per day                  | 5,000 tons per day                           | 25+ years remaining life   |
| NW Tennessee Disposal Corporation located in Obion Co. | 14,166                                | SNL 66-0143          | 2,200 tons per day                  | 5,000 tons per day                           | 25+ years remaining life   |

Source: West Camden Landfill, and NW Tennessee Disposal Corp., October 2010

\*Note: Annual tonnage disposed includes Municipalities and Businesses

No potential shortfalls in materials management capacity at the collection or processor level are foreseen.

*Provide a chart or other graphical representation showing public and private collection service provider area coverage within the county and municipalities. Include provider's name, area of service, frequency of collection, yearly tons collected, and the type of service provided.*

**TABLE 6.2 Public and Private Collection Service in Henry County in 2009**

| Service Provider                                     | Service Area*                                 | Frequency of Service (Weekly, Bi-weekly, on call, etc.) | Estimated Average Annual Tons Collected* | Type Service (Curbside, Convenience Center, Green Box) |
|--|---|---|--|--|
| <b>Henry County Unincorporated And Cottage Grove</b> | County-wide                                   | Weekly  | 9,860                                    | Residential curbside<br>Local business subscription    |
| <b>Henry</b>   | City residents<br>Local business subscription | Weekly  | 300                                      | Residential curbside<br>Local business subscription    |
| <b>Paris</b>   | City residents<br>Local business subscription | Weekly  | 4,705                                    | Residential curbside<br>Local business subscription    |
| <b>Puryear</b>                                       | City residents<br>Local business subscription | Weekly  | 305                                      | Residential curbside<br>Local business subscription    |
| <b>Total</b>   |   |   | <b>15,170</b>                            |  |

**SECTION 7:****UNMET FINANCIAL NEEDS**

Complete the chart below and discuss unmet financial needs to maintain current level of service. Provide a cost summary for current year expenditures and projected increased costs for unmet needs.

**TABLE 7.1 Expenditures and Revenues for Henry County for 2010/11**

| <b>Expenditures</b>        |                   |
|----------------------------|-------------------|
| Description                | Amount            |
| Sanitation Management      | \$ 47,506         |
| Recycling Center           | 463,459           |
| Landfill Operations        | 60,000            |
| Disposal Fees              | 33,600            |
| Trustee's Commission       | 7,000             |
| <b>Total Expenditures</b>  | <b>\$ 611,565</b> |
| <b>Revenues</b>            |                   |
| Local Taxes                | \$ 306,872        |
| Sale of Recycled Materials | 170,100           |
| Sale of Equipment          | 500               |
| Waste Tire Grant           | 33,600            |
| Revenue from Fund Balance  | 100,493           |
| <b>Total Revenues</b>      | <b>\$ 611,565</b> |

More than one half of Henry County's revenue stream for the Solid Waste Fund is derived from local taxes. These local taxes include county property taxes, business taxes, and bank excise taxes with more than 96% of the funds from property taxes alone. The county is budgeting more than \$170,000 in revenue from the sale of recycled materials. Even with these large sources of revenue, the county will still have to transfer nearly \$100,500 from the fund balance to completely fund the solid waste program. The county changed waste haulers at the landfill this year.

Freedom Waste from Mayfield, KY will be collecting the MSW that is collected at the landfill. In the upcoming fiscal year, county residents will pay \$16.73 each month for weekly door-to-door collection service. The residents pay the waste hauler directly.

**TABLE 7.2 Expenditures and Revenues for the Town of Henry for 2010/11**

| <b>Expenditures</b>       |                  |
|---------------------------|------------------|
| Description               | Amount           |
| Waste Disposal            | \$ 33,318        |
|                           |                  |
| <b>Total Expenditures</b> | <b>\$ 33,318</b> |
| <b>Revenues</b>           |                  |
| Collection Charges        | \$ 332,600       |
|                           |                  |
| <b>Total Revenues</b>     | <b>\$ 33,600</b> |

The Town of Henry provides residential curbside collection and commercial subscription service for approximately 550 residents. Henry charges the citizens \$13.25 per month for weekly waste collection and contracts with Barker Brothers, Inc. for waste disposal.

**TABLE 7.3 Expenditures and Revenues for the City of Paris for 2010/11**

| <b>Expenditures</b>       |                     |
|---------------------------|---------------------|
| Description               | Amount              |
| Sanitation                | \$ 780,203          |
| Disposal Cost             | 463,500             |
| Landfill                  | 276,609             |
| <b>Total Expenditures</b> | <b>\$ 1,520,312</b> |
| <b>Revenues</b>           |                     |
| Collection Charges        | \$ 1,300,000        |
| Landfill Gate Receipts    | 244,300             |
| County Share Expense      | 40,000              |
| <b>Total Revenues</b>     | <b>\$ 1,584,300</b> |

Paris provides residential curbside collection and commercial subscription service for approximately 9,950 residents. The City of Paris charges the citizens \$16 per month for weekly waste collection. The Paris Sanitation Department provides the door-to-door collection service. Once the waste is collected, it is taken to the transfer station at the Paris/ Henry County Landfill. Freedom Waste from Mayfield, KY is the waste hauler that collects the MSW from the transfer station.

**TABLE 7.4 Expenditures and Revenues for the City of Puryear for 2010/11**

| <b>Expenditures</b>       |                  |
|---------------------------|------------------|
| Description               | Amount           |
| Waste Disposal            | \$ 53,700        |
| <b>Total Expenditures</b> | <b>\$ 53,700</b> |
| <b>Revenues</b>           |                  |
| Collection Charges        | \$ 53,700        |
| <b>Total Revenues</b>     | <b>\$ 53,700</b> |

The City of Puryear provides residential curbside collection and commercial subscription service for approximately 675 residents. Puryear charges the residents \$15 per month for weekly waste collection and contracts with Barker Brothers, Inc. for waste disposal.

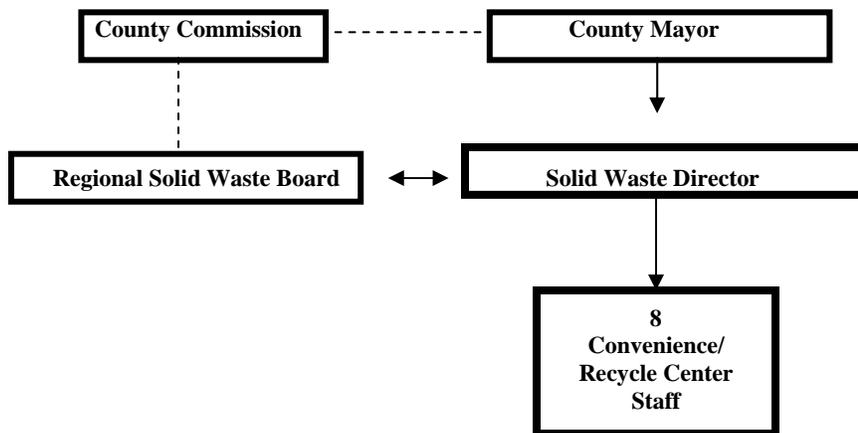
## **SECTION 8:**

### **SOLID WASTE MANAGEMENT INFRASTRUCTURE**

*Provide organizational charts of each county and municipality's solid waste program and staff arrangement. Provide a scale county level map indicating location of all existing facilities including convenience centers, transfer stations, recycling centers, waste tire drop-off sites, used oil collection sites, paint recycling centers, all landfills, etc. Identify all current revenue sources by county and municipality that are used for materials and solid waste management. Identify needed positions, facilities, and equipment that a fully integrated solid waste system would have to provide at a full level of service. Project future revenue needs from these categories and discuss how this need will be met in the future.*

#### **Henry County**

An organizational chart is provided below for operations of the Henry County Solid Waste Department.



#### **Future Solid Waste Infrastructure Development Needs**

Engineering studies will be conducted at the Paris/Henry County Landfill. These studies are being conducted to determine if the cells can be reused. If the cells can be reused, the life of the III/IV landfill will be extended for 8 – 10 years. This will be more cost effective than extending the boundaries of the landfill.

The Henry County Recycle Center is in need of more space. Currently, maintenance is performed on the trucks within the center. This takes up needed space plus the fumes are unhealthy to breathe. A separate maintenance shop needs to be built. Additionally, the drive and parking lot need to be paved. During the dry months, the dust caused by the vehicles is excessive within the center.

The Recycle Center has been operating for the past two years with 1.5 less persons due to budgetary restrictions. This is a huge setback for the center operations. More staff needs to be hired. Also, the center utilizes jail inmates and community service workers for labor. This is not an efficient way to run the center. Permanent quality workers will help the center operate tremendously.

Current equipment is constantly wearing out and needs to be replaced. New equipment and replacement of old equipment are regular needs every year. The county will continue to apply for grants for these needs.

The table listed below provides a list of the future needs for Henry County to continue to operate an integrated solid waste management program. The costs listed below are estimates only and should be considered a baseline for future planning.

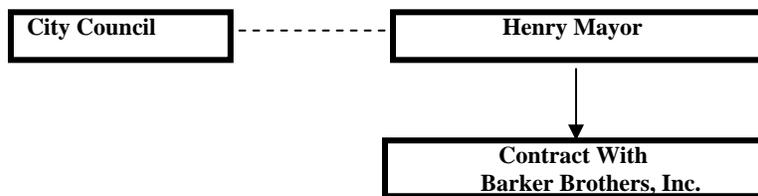
**TABLE 8.1 Future Solid Waste Needs**

| Need                                  | Estimated Cost | Potential Revenue Source |
|---------------------------------------|----------------|--------------------------|
| Track Loader                          | \$ 300,000     | Grants                   |
| Front End Loader                      | 200,000        | Grants                   |
| Vertical Baler                        | 75,000         | Grants                   |
| 2 (11-yard) Rear Loader Packer Trucks | 80,000         | Grants                   |
| Dump Box Van                          | 38,000         | Grants                   |
| 22-yard Rear Loader Packer Truck      | 70,000         | Grants                   |
| Fork Lift                             | 11,000         | Grants                   |
| Recycle Center Building Expansion     | 75,000         | Grants                   |
| Maintenance Shop                      | 30,000         | Grants                   |
| 6 (6'x12') Trailers                   | 36,000         | Grants                   |
| Trailer with Segregated Sides         | 10,000         | Grants                   |
| 4 x 4 Pickup Truck                    | 35,000         | Grants                   |

**Municipalities**

**Henry**

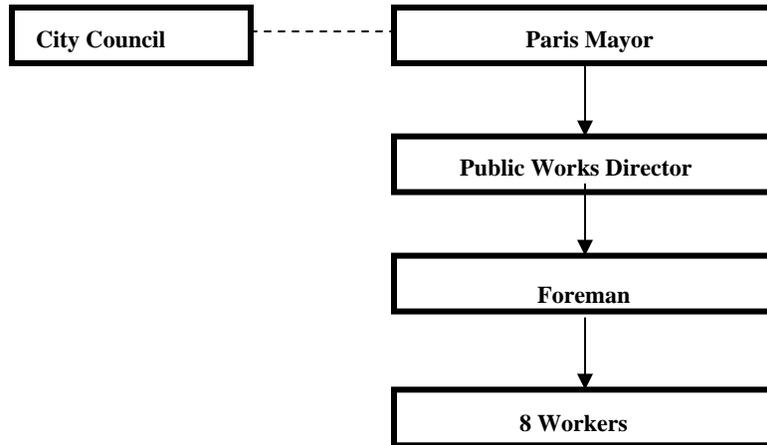
The Town of Henry provides residential curbside collection and commercial subscription service for approximately 550 customers. The city does not provide recycling collection services. An organizational chart for the Town of Henry is provided below.



No positions are funded out of the Henry Solid Waste Budget. The city contracts directly with Barker Brothers, Inc. for waste disposal. Henry residents pay \$13.25 per month for collection service and the commercial rates vary.

**Paris**

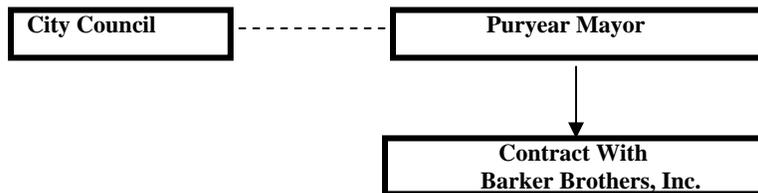
The City of Paris provides residential curbside collection and commercial subscription service for approximately 9,950 customers. Currently, the city does not provide recycling collection services. An organization chart for the City of Paris Sanitation Department is provided below.



Paris sanitation workers provide door-to-door collection services for MSW. Once the waste is collected, it is taken to the transfer station at the landfill. Currently, the workers collect the MSW with small trailers that are pulled behind a truck. After the first of the year, the city will be changing to garbage trucks with automatic arms. Not as many workers will be needed. To prevent job layoffs and to increase recycling efforts, the Henry County Solid Waste Director is working with the City of Paris to continue to use the small trailers for recycling purposes. Paris residents pay \$16 per month for collection service and the commercial rates vary.

**Puryear**

The City of Puryear provides residential curbside collection and commercial subscription service for approximately 675 customers. The city does not provide recycling collection services. An organizational chart for the City of Puryear is provided below.

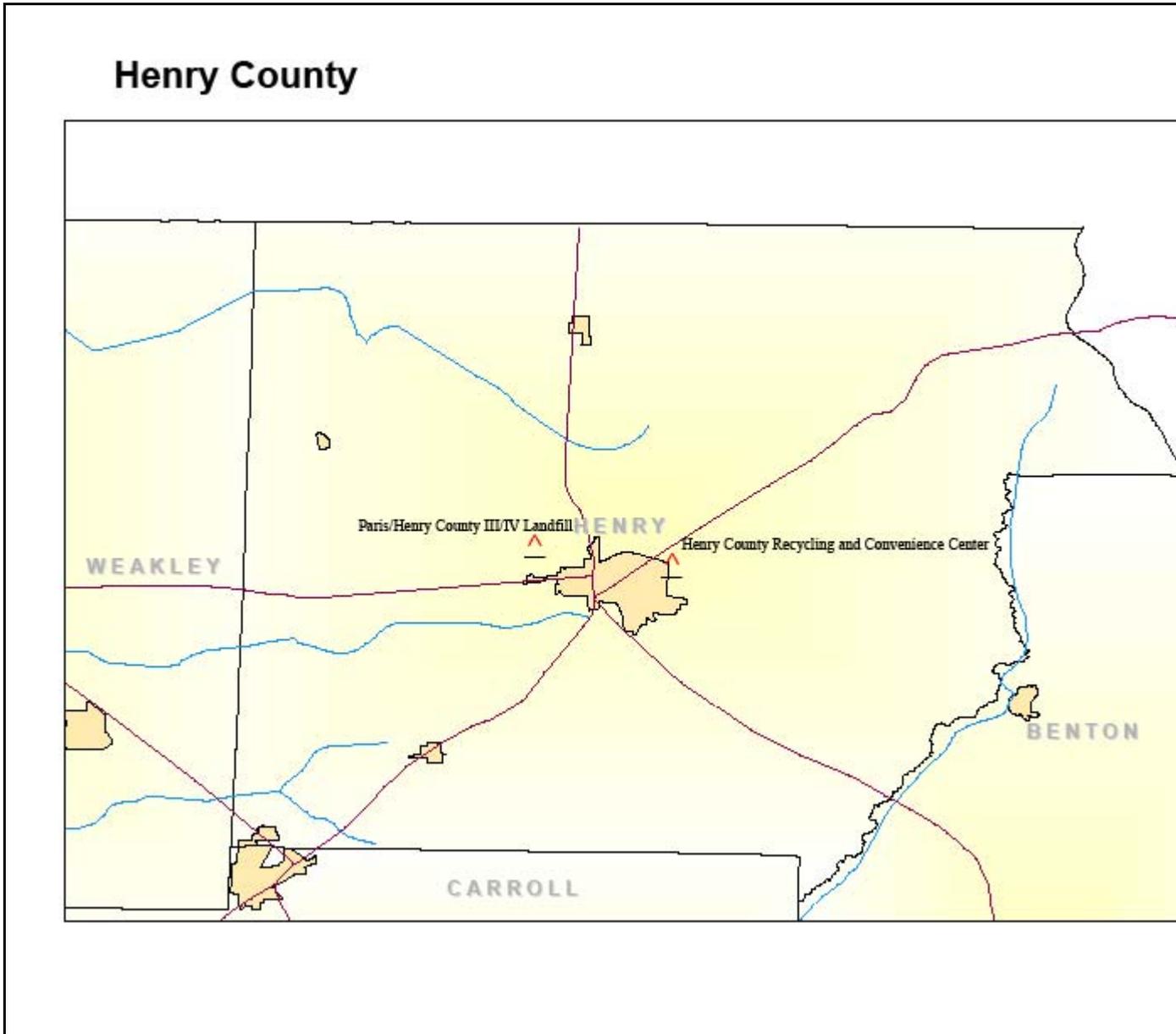


No positions are funded out of the Puryear Solid Waste Budget. The city contracts directly with Barker Brothers, Inc. for waste disposal. Puryear residents pay \$15 per month for collection service and the commercial rates vary.

### Locations of Solid Waste Facilities

A Henry County map is located below with the locations all solid waste facilities in the county.

### Henry County Solid Waste Facilities



## **SECTION 9:**

### **CURRENT REVENUE SOURCES**

*Identify all current revenue sources by county and municipality that are used for materials and solid waste management. Project future revenue needs from these categories and discuss how this need will be met in the future.*

#### **Henry County**

The current Henry County Solid Waste Budget has several sources of revenue. These sources are: County Property Taxes, Business Tax, Bank Excise Tax, Sale of Recycled Materials, Sale of Equipment, and the Waste Tire Grant. More than one half of Henry County's solid waste budget is derived from the local taxes, in particular, the county property taxes. These taxes provide almost \$307,000 for the solid waste budget.

The county is projecting more than \$170,000 in revenue from the sale of recycled materials. Even with these large sources of revenue, the county will still have to transfer nearly \$100,500 from the fund balance to completely fund the solid waste program.

The 2010 Henry County property tax rate is \$2.0479. The local option sales tax is at the maximum rate of 2.75%. Due to the current recession, unemployment rates are expected to increase and local option sales tax to decrease. Monies are very tight within the county at the present time.

The only additional revenue source for the county to utilize in these bad economic times is grants for solid waste management and/or waste diversion. Hopefully, if these grants are offered, Henry County will continue to be able to fund a fully integrated solid waste program.

#### **Henry**

The Town of Henry provides residential curbside collection and commercial subscription service for approximately 550 residents. Henry charges the citizens \$13.25 per month for weekly waste collection and contracts with Barker Brothers, Inc. for waste disposal. The only revenue sources are the fees the city collects from the residents.

#### **Paris**

Paris provides residential curbside collection and commercial subscription service for approximately 9,950 residents. The City of Paris charges the citizens \$16 per month for weekly waste collection. The Paris Sanitation Department provides the door-to-door collection service. The only revenue sources are the fees the city collects from the residents.

#### **Puryear**

The City of Puryear provides residential curbside collection and commercial subscription service for approximately 675 residents. Puryear charges the residents \$15 per month for weekly waste collection and contracts with Barker Brothers, Inc. for waste disposal. The only revenue sources are the fees the city collects from the residents.

**FUTURE REVENUE NEEDS**

The Henry County Recycling Center hopes to continue to derive a portion of its budget from county property taxes. No additional funds from the county budget are expected to be allocated for solid waste or recycling purposes due to the dire economic conditions of the county. Hopefully, more funds will be generated from the sale of recyclable materials once the market improves. Solid waste grants will be necessary for the future success of the program.

The municipalities will continue to adjust their collection fees in proportion to the increases of the private hauler fees.

## **SECTION 10:**

### **PUBLIC PARTICIPATION**

*Describe current attitudes of the region and its citizens towards recycling, waste diversion, and waste disposal in general. Where recycling is provided, discuss participation within the region. Indicate current and on-going education measures to curb apathy or negative attitude towards waste reduction. Are additional measures needed to change citizen's behaviors? If so, what specific behaviors need to be targeted and by what means?*

#### **Current Attitudes Concerning Recycling, Waste Diversion, and Waste Disposal**

Trends are continuing to improve through education on solid waste, recycling, and environmental issues. Industries are finding recycling a viable tool to reduce expenditures while meeting State and Federal environmental mandates. The Henry County Solid Waste Director has been instrumental in keeping the public apprised on current issues.

The Recycling Center has seen an increase in recycling every year it has been open. Tours are conducted at the Recycling Center to promote the program. Many student groups and civic organizations partake of these tours. Presentations are made to various civic groups throughout the year.

The Henry County Solid Waste Director has engineered a very informative website located at [www.henrycountyttn.org/publicworks/solidwastedept](http://www.henrycountyttn.org/publicworks/solidwastedept). The public can also go to the county's main website at [www.henrycountyttn.org](http://www.henrycountyttn.org) and click on public works. This website provides information on the recycle center, drop off locations, HHW event, landfill, waste disposal, etc. It is a very easy site to navigate and provides a wealth of information.

On October 9, 2010, Henry County hosted the first annual Greenfest. The Henry County Recycling Center, City of Paris, Henry County Litter Program, and the Downtown Paris Association sponsored this event. Activities included: composting demonstration, county litter pick-up competition, recycled materials art competition, school recycling competition, onsite recycled art construction project, and Greenfest video competition. One of Henry County Recycling Center's vendors, Planet Recycling, provided t-shirts for promotional purposes. The event was well attended and plans are to have it annually.

Grove School, located in Henry County, was chosen by the University of Tennessee as one of the ten best recycling schools in Tennessee.

## Education Measures

**TABLE 10.1 Public Education and Information Activities**

| <b>Program Name</b>   | <b>Sponsor</b> | <b>Effectiveness</b> | <b>Program Type</b> | <b>Target Group</b> | <b># Served</b>                                       |
|---|----------------|----------------------|---------------------|---------------------|---|
| Recycle Program   | Henry County   | Positive             | Classroom           | Children/teachers   | Lakewood Elementary School<br>Grove Elementary School |
| <b>The students collected plastics, mixed metals, aluminum, and paper. The recycle Center collected this material and the profits went back to the schools to enhance their recycling programs.</b>               |                |                      |                     |                     |   |
| Earth day   | Henry County   | Positive             | Classroom           | Children/teachers   | Henry County High School                              |
| <b>The Henry County Recycle Center participated in the Earth Day Program at the high school.</b>  |                |                      |                     |                     |   |
| Recycle Event   | Henry County   | Positive             | Classroom           | Children/teachers   | Paris City Schools                                    |
| <b>Students at the Paris City Schools collect recyclables and the teachers fill the hallways with this material so the students can see how important recycling is. The Recycle Center collects the material.</b> |                |                      |                     |                     |   |

The Henry County Solid Waste Director has done an excellent job promoting recycling and waste reduction within the county. Tours are provided at the Recycle Center and presentations are made for various groups and organizations.

**SECTION 11:**

**REGIONAL SOLID WASTE PLAN**

*Discuss this region’s plan for managing their solid waste management system for the next five (5) years. Identify any deficiencies and suggest recommendations to eliminate deficiencies and provide sustainability of the system for the next five (5) years. Show how the region’s plan supports the Statewide Solid Waste Management Plan.*

The table below summarizes Henry County’s existing programs, future programs, and the Tennessee Solid Waste Management Plan.

**TABLE 11.1 Regional Solid Waste Management Plan**

| <b>Solid Waste Program</b>                | <b>Existing Solid Waste Programs</b>   | <b>Future Solid Waste Programs</b>  | <b>Tennessee Mandated Plan</b>   |
|---|--|---|--|
| <b>Residential Solid Waste Collection</b> | Henry County has door-to-door collection service and one convenience center  | Continue door-to-door collection service and convenience center   | County to provide CCC’s for residents according to population or service area, maintain required design and operational standards. |
| <b>Recycling</b>                          | Henry County has a Recycle Center to receive recyclables from residents and provide pickup from companies. Private recycling companies are also available.                 | Continue to provide current recycling services.   | County to provide at least one (1) drop-off site for collection of residential recyclable materials.                               |
| <b>Waste Reduction</b>                    | Henry County met reduction goal by every calculation   | Continue to meet the 25% Waste Reduction Goal.  | Region to achieve 25% Waste Reduction Goal.  |
| <b>Problem Waste Management</b>           | Henry County collects electronics, waste tires, automobile fluids, and batteries at the Recycle Center.<br><br>Henry County hosts a HHW collection event to collect paint. | Continue to collect electronics, waste tires, automobile fluids, and batteries at the Recycle Center. Add paint recycling.<br><br>Continue to host a HHW collection event to collect paint. | County to provide at least one (1) site to accept automobile fluids, batteries, and waste tires.                                   |
| <b>Public Education and Information</b>   | Henry County provides educational activities to the schools through programs and to the public through the website and events.   | Continue to provide educational activities to the schools through programs and to the public through the website and events.  | Region to develop and implement solid waste management action plan for adults and children.  |
| <b>Disposal</b>                           | Henry County contracts with Barker Brothers, Inc. to provide disposal services.  | Continue to contract disposal services with Barker Brothers, Inc.   | Region to assure 10-year disposal capacity.  |
| <b>Planning</b>                           | The Henry County Solid Waste Board meets as needed throughout the year to discuss solid waste issues.<br><br>All reporting requirements are up to date.                    | Continue meetings throughout the year to discuss solid waste issues.<br><br>Keep reporting requirements up to date.   | Region to provide Annual Progress Reports, Needs Assessments, and other reporting requirements as needed.                          |

**Sustainability of the Solid Waste Plan must include, at the minimum:**

- Continue Henry County Solid Waste Board involvement,
- Continue the activities of the Solid Waste Director,
- Continue the activities at the Recycle Center,
- Continue to pursue all grant funds for equipment and facilities,
- Continue to utilize technical assistance providers,
- Continue to research technologies and other program options,
- Continue to promote waste reduction efforts, and
- Continue public outreach and educational programs

This list is neither conclusive nor listed in priority. Expansion and sustainability will depend on the economy and funding sources.

## **SOURCES**

U. S. Census Bureau  
Tennessee Department of Labor and Workforce Development  
U. S. Bureau of Economic Analysis  
Tennessee Department of Revenue  
2009 Henry County Solid Waste Annual Progress Report  
Ron Watkins, Henry County Solid Waste Director  
Henry County Budget Document  
Henry Budget Document  
Paris Budget Document  
Puryear Budget Document