

Kentucky Division of Waste Management
Annual Report
Fiscal Year 2011



Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management

<http://waste.ky.gov/Pages/AnnualReports.aspx>



FROM THE DIRECTOR



This is the sixth edition of our annual report and the information provided within represents activities and accomplishments for Fiscal Year 2011 (July 1, 2010 to June 30, 2011). During the year the Division completed its proposed updates to the Underground Storage Tank regulations, which were filed with the Legislative Research Commission on April 15, 2011. In general the regulatory package addresses operation compliance, significant changes to the site investigation/corrective action process, and further streamlining of the reimbursement process from the Petroleum Storage Tank Environmental Assurance Fund.

Also, House Bill 433 passed during the 2011 legislative session requires the formation of a Waste Tire Working Group. The purpose of the working group is to evaluate the current waste tire program and to discuss and consider alternative approaches to the management of waste tires. Two representatives from the Division are members of the group in accordance with the statute. The group will begin meeting early in Fiscal Year 2012. The Division has been working towards moving the Maxey Flats site into final closure, which would hopefully result in a final cap being installed at the facility within the next four years. The Commonwealth will be responsible for monitoring the site for at least 100 years after final capping. The Division continues to pursue approval from the appropriate agencies to move into final closure. Also, the Division continued to maintain near zero backlog in its solid waste permitting program.

In addition, the Division continues to implement its core responsibilities of 1) assisting in the minimization of waste generation and land disposal of wastes, 2) working to increase recycling and the beneficial reuse of materials that might otherwise be disposed, 3) continuing the closure and remediation of historic landfills, Superfund sites, hazardous waste sites and underground storage tank facilities, and 4) conducting timely review of permit applications for solid waste and hazardous waste facilities.

This report helps to show the progress made regarding the management of solid and hazardous waste and cleanup of releases to the environment. Also, the report identifies areas where we need improvement or additional focus. These are highlighted under the branch sections. These highlights will show accomplishments and progress made towards improvements in those areas.

Anthony R. Hatton, P.G., Director
Kentucky Division of Waste Management

Division of Waste Management Annual Report

Fiscal Year 2011

TABLE OF CONTENTS

| | |
|---|----|
| Executive Summary..... | iv |
| Division Highlight..... | vi |
| Introduction..... | 9 |
| Solid Waste..... | 10 |
| a. Municipal Solid Waste disposed in Kentucky | |
| b. Solid Waste Collection Programs | |
| c. Permitting Solid Waste Facilities | |
| d. Historic Landfills | |
| e. Solid Waste Branch Highlight | |
| Recycling..... | 16 |
| a. County Recycling and Recycling Education Program | |
| b. State Government Recycling Program | |
| 1. Fiber | |
| 2. Metals | |
| 3. Plastics | |
| 4. Glass | |
| c. Waste Tire Program | |
| d. Crumb Rubber | |
| e. Kentucky Pride Program | |
| 1. Litter Abatement (Kentucky Pride Fund) | |
| 2. Household Hazardous Waste | |
| 3. Illegal Open Dumps (Kentucky Pride Fund) | |
| Hazardous Waste..... | 24 |
| a. Hazardous Waste Permitting | |
| 1. Permits Pending | |
| 2. Backlog | |
| b. Hazardous Waste Branch Highlight | |
| Field Operations Branch..... | 28 |
| a. Regional Offices | |
| 1. Inspections | |

| | |
|---|-----------|
| 2. Notice of Violations | |
| 3. Compliance Rates | |
| b. Emergency Responses | |
| c. Field Operations Branch Highlight | |
| Underground Storage Tanks (UST) | 31 |
| a. Cleanups Conducted/Cleanups Remaining | |
| b. Underground Storage Tank Branch highlight | |
| Superfund | 34 |
| a. Superfund Sites | |
| 1. Sites Characterized and Remediated | |
| 2. Sites under State oversight | |
| b. Brownfield Program | |
| c. Superfund Branch Highlight | |
| Program Planning and Administration..... | 37 |
| a. Regulation Development Division-Wide | |
| Acknowledgments..... | 38 |

EXECUTIVE SUMMARY

The largest division in the Department for Environmental Protection with 253 staff positions, the Division of Waste Management consists of seven branches: Solid Waste Branch, Recycling and Local Assistance Branch, Hazardous Waste Branch, Field Operations Branch, Underground Storage Tank Branch, Superfund Branch and Program Planning and Administration Branch.

Selected achievements and challenges for Calendar Year 2010:

- *Curbside collection* – Participation in curbside garbage collection has remained steady following legislation in 2002 requiring waste haulers and recycling haulers to register and report to each county in which they provide service. The 2010 statewide household participation rate for all collection types is 86.6 percent.
- *Recycling* – Kentuckians recycled 29 percent of common household recyclables (aluminum, cardboard, steel, plastic, newspaper, glass, and paper) in 2010. Kentuckians recycled 35.7 percent of all municipal solid waste in 2010, which included sludge, concrete, compost, and asphalt in addition to the common household recyclables.
- Forty-eight entities received recycling grants from the Kentucky Pride Fund in 2010 totaling over \$3.5 million.
- *Fewer illegal dump sites identified* – The number of new dumpsites identified annually has declined 16 percent since 2003. More than 25,000 illegal open dumps have been cleaned since 1993 at a cost of over \$68 million dollars, an average cost of \$2,720 per dumpsite.
- *Litter along public roads decreases* – The Kentucky Pride Fund, Eastern Kentucky PRIDE, Bluegrass PRIDE, Transportation Cabinet, Adopt-A-Highway, and cities and counties contributed to the cleanup of 14,989,480 pounds of litter at a cost of \$6.9 million during 2010. The average cost per pound of litter picked up increased from 44 cents in 2009 to 46 cents in 2010.
- *Waste Tire Program* –During 2010, Kentucky used funding from the Waste Tire Trust fund to recover more than 735,000 passenger-tire-equivalents during waste tire “amnesties” across the state.
- *Crumb rubber grants awarded* – In 2010, the Waste Tire Trust Fund awarded 14 grants totaling \$282,814 to assist schools and communities in projects using crumb rubber from waste tires for athletic fields, gyms, parks, and community playgrounds.
- *The Division of Waste Management’s state government office paper recycling program thrives* – The government office paper recycling program serves more than 115 agencies in Frankfort collecting office paper, computer paper, newsprint, and cardboard. State employees recycled 3,089,308 pounds of waste paper in 2010, approximately 246 pounds per state employee. Confidential document destruction provides a zero cost alternative to state and local governments.

Selected achievements and challenges for Fiscal Year 2011:

- 254 Superfund sites, of varying sizes and complexities, have been characterized and/or remediated in Fiscal Year 11.
- The Division is in the process of performing a comprehensive review of regulatory programs. In Fiscal Year 2011, the Division filed regulatory amendments to update the UST program to incorporate changes in response to the Federal Energy Policy Act of 2005, to streamline the reimbursement process, and expedite corrective action activities.

Division of Waste Management Highlight

Distilling the Essence of SOC

By Leslie Harp

Kentucky is known for a lot of things, unfortunately, significant operational compliance (SOC) at UST facilities is not one of them. The good news is that after streamlining internal processes and implementing new strategies for compliance assistance, SOC rates have increased, in some cases, as much as 20 percent in a single year.

SOC is essentially a snapshot in time to help determine whether an UST facility is in compliance at the time of inspection. SOC became the measure employed by USEPA to standardize compliance in 2003. At that time Kentucky's SOC rates hovered around the 40 percent mark. The Compliance Section of Kentucky's Underground Storage Tank Branch was tasked with finding ways to effectively improve SOC rates. Three key factors were identified for improvement: data integrity, consistency of inspections, and compliance assistance.

Data Integrity

In 2005, the UST Branch implemented the department-wide database called Tools for Environmental Management and Protection Organizations (TEMPO). After implementing the database, inspectors and compliance reviewers noticed that it had incorrect information regarding UST-facility equipment. In order to begin any sort of compliance-assistance process, these data integrity issues had to be resolved.

This data was gradually improving over time, but from 2005-2009, there was still a lot of incorrect information. In January of 2010, the field inspectors took approximately three months to assist with database "cleanup." Although this move could delay the UST inspection cycle, it was decided that the benefits would outweigh this setback.

At the end of the data review, the inspectors learned a great deal about data integrity and why that level of integrity was difficult to maintain without the active participation of field inspectors. As an added benefit, inspectors found a new appreciation for the work of the technical compliance staff that input and maintain the data. After all was said and done, Kentucky still met the Energy Act statewide three-year UST inspection deadline through the cooperative efforts of the regional offices.

Consistency of Inspections

In order to improve the consistency of facility inspections, the Division ramped up inspector training. Thorough training in inspection methods ensured that field inspectors were equipped to evaluate system components. By updating standard operating procedures, new inspectors were offered the ability to perform inspections with the same consistency as veteran inspectors, all the while ensuring that violations were being issued using consistent criteria across the state. Consistent inspections and data entry allowed for effective reporting to better identify problem areas within the SOC criteria.

Compliance Assistance

After addressing the first two areas for improvement, it was time to implement the third and most complex part of the plan—compliance assistance. Three groups were

involved in achieving and recording compliance: the owner/operator, the inspector, and the technical compliance reviewer. Each group had a unique set of issues that needed to be addressed under this plan.

- **Owner/operator**

One of the issues was that a significant number of UST owners and operators were overwhelmed by the array of technical compliance requirements and often lost track of what was required. The key to improving compliance centered on the education of owners and operators as to the site-specific requirements they must meet. Rather than present them with broad information on all of the various types of UST systems, efforts were focused on the site-specific UST system requirements for that particular UST facility. This effort was designed as a precursor to the technical-compliance inspection, so the owner and operator would know what was expected and be prepared when the inspector showed up.

- **Inspector**

During inspector training it was noted that inspectors spent a large amount of time chasing down paper violations rather than finding and stopping leaks. New standards of practice were developed that placed an emphasis on the technical inspection aspects of their role.

- **Technical compliance reviewer**

Back in the office, technical reviewers were not only going over paperwork associated with the initial field inspection, making corrections to the database and making an SOC determination, they were also fielding phone calls from owners/operator and contractors with questions regarding site-specific testing dates and requirements.

It Comes Down to Communication

After analyzing these three factors, it was obvious that a clear, focused and efficient communication process needed to be established. To begin with, the process for all three groups of people by providing owners/operators notifications regarding when testing was due was dramatically streamlined. These programmatic changes required restructuring the review process to include an outreach component that would not only help owners remain in compliance, but also decrease the amount of time inspectors were required to spend on each site.

Now, owners/operators are provided with an annual reminder letter that lists what tests are required and the dates those tests are (or were) due. Staff also take this opportunity to request information for any data gaps in the files (e.g., tank and piping materials, types of leak detection used). This, in turn, has increased the number of calls from owners and operators and opened the door to increased communication between the regulators and the regulated community.

By sending out the reminder letters, inspectors often already have their paperwork without having to request it, thus reducing the amount of time they spend chasing down administrative items. The reminder letters go out. The owners/operators have any tests done that are due for their system and submit them via mail, fax or e-mail. The compliance reviewers receive the test information and put the dates the tests were performed and the results into TEMPO. When the UST Inspectors go into the database to prepare for an inspection they can easily determine whether the testing is current or whether they need to request that information.

To ease the burden of submitting items to the UST Branch, a new email address that is specifically used for receiving the electronic submission of testing results was created. Electronic submittal has proven to increase the ease of submittal as well as provide a timely response to deficiencies noted within the reports. This simple step has

also significantly increased communication among staff, contractors, owners and operators.

The Results

The results of implementing all three components of the plan to increase SOC have been very positive! In only one year, SOC rates have increased by nearly 20 percent in some areas and the overall SOC rate has increased by 13 percent. Several owners and operators have called to compliment the new process and say how helpful the changes have been. By demonstrating to the regulated community that the UST Branch is trying to be more of a helping hand than a hammer, the hope is to continue to see improved two-way communication and a decrease in violations. While staff are busy implementing many more requirements in accordance with the Energy Policy Act of 2005, the regulated community seems to see that a helping hand has arrived at a perfect time.

Adapted from “Distilling the Essence of SOC” by Leslie Harp as published in L.U.S.T.LINE Bulletin 68, June 2011.

Leslie Harp is Energy Act Coordinator with the Kentucky UST Branch. She can be reached at leslie.harp@ky.gov.

INTRODUCTION

The Division of Waste Management (Division) is one of six divisions of the Department for Environmental Protection in the Energy and Environment Cabinet (EEC). The departmental strategic plan, updated in June 2010, describes the mission of the agency:

“Protect and enhance Kentucky’s environment to improve the quality of life for all Kentuckians.”

To accomplish this mission, the department has developed a set of objectives to be implemented by each division. The objectives and tactics germane to this division are:

Department Goal #1: Reduce and/or maintain elimination of division permit and data entry backlogs.

Tactic 1.1: Maintain progress towards reducing and/or maintaining zero permit and data entry backlogs.

Department Goal #2: Protect human health and enhance Kentucky’s land resources.

Tactic 2.1: Restore or manage contamination at sites with known or suspected releases to soil or groundwater.

Tactic 2.2: Encourage reduced waste generation and disposal by promoting beneficial reuse, recycling, waste minimization and pollution prevention.

Tactic 2.3: Assure proper management and disposal of waste.

Therefore, the approach is to first minimize waste generation. Secondly, emphasis is placed on the reclamation and recycling of waste that is generated. Finally, requirements are designed to assure that the remaining waste is disposed of properly.

The strategic plan is also geared towards the restoration of lands that are impacted from releases when wastes are *not* managed properly. In the report sections that follow, Division activities designed to address these primary issues—waste generation, recycling, collection/disposal, and site remediation—are highlighted.

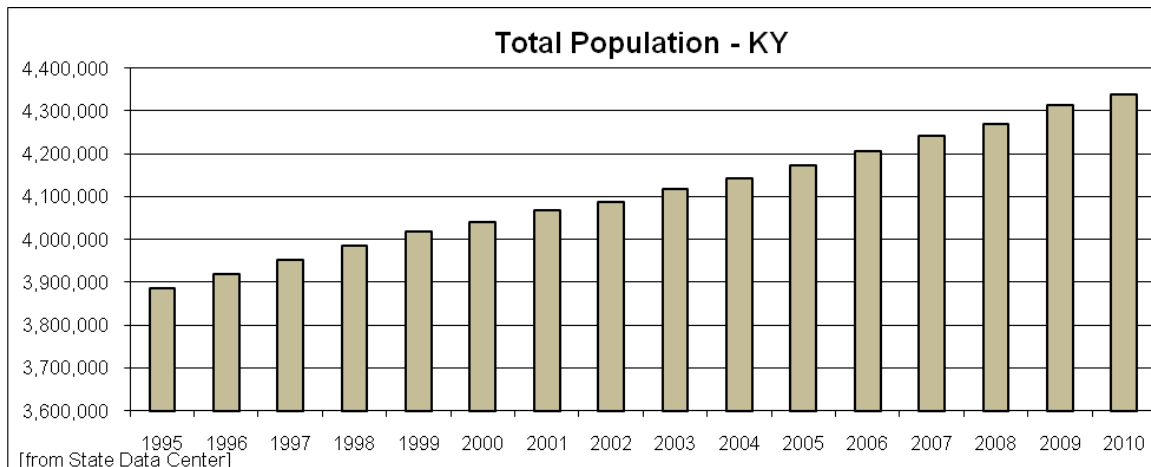
SOLID WASTE

<http://waste.ky.gov/SWB/Pages/default.aspx>

The mission of the Solid Waste Branch is to assure proper solid and special waste management practices through the implementation of comprehensive permitting, monitoring and training.

The Solid Waste Branch is responsible for the review and issuance or denial of permits for solid waste and special waste landfills, landfarming and composting facilities and registrations for permit-by-rule facilities.

All counties in Kentucky offer a system of universal waste collection. Universal waste collection means that collection service is made available to households, either through curbside collection or through drop-off centers/collection centers/transfer stations for use by households. The total population in Kentucky is increasing, so the amount of waste generated in the state is increasing. The charts below show these trends of increasing population as well as increasing amounts of waste being generated.



In 2010, Kentucky experienced a 6 percent decrease in Kentucky waste disposal in Kentucky landfills and a 3 percent increase in the amount of out-of-state waste disposed in Kentucky landfills. Kentucky exported 9 percent of its waste to out-of-state landfills, an increase from 7 percent in 2009. Kentucky land-filled 4,191,066 tons of waste in 2010, a decrease of 161,952 tons from 2009.

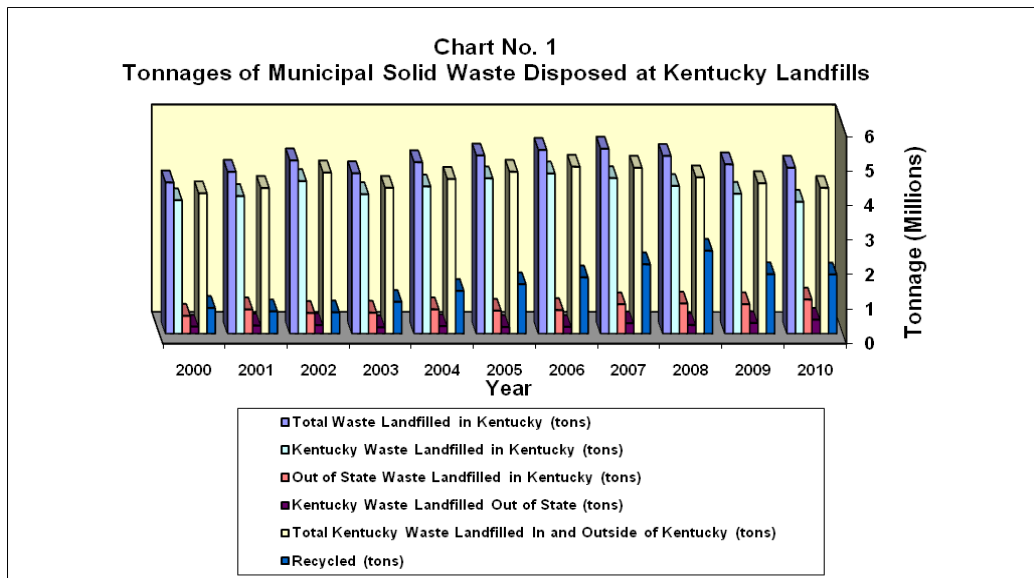
Table No. 1 Municipal Solid Waste Disposal in Kentucky (Tons).

| Year | Kentucky Waste Landfilled in Kentucky (tons) | Out of State Waste Landfilled in Kentucky (tons) | Total Waste Landfilled in Kentucky (tons) | Kentucky Waste Landfilled Out of State (tons) | Total Kentucky Waste Landfilled In and Outside of Kentucky (tons) | Recycled (tons) | Total Waste Generated in Kentucky | National Recycling Rate | Kentucky Recycling Rate |
|------|--|--|---|---|---|-----------------|-----------------------------------|-------------------------|-------------------------|
| 1994 | 3,621,623 | 191,742 | 3,813,365 | 133,505 | 3,755,128 | 191,684 | 3,946,812 | 23% | 4.9% |
| 1995 | 4,207,071 | 269,833 | 4,476,904 | 210,728 | 4,417,799 | 529,423 | 4,947,222 | 27% | 10.7% |
| 1996 | 3,429,983 | 270,849 | 3,700,832 | 277,638 | 3,707,621 | 474,415 | 4,182,036 | 28% | 11.3% |
| 1997 | 3,543,196 | 429,550 | 3,972,746 | 165,866 | 3,709,062 | 685,650 | 4,394,712 | 30% | 15.6% |
| 1998 | 3,615,890 | 373,291 | 3,989,181 | 496,424 | 4,112,314 | 1,150,620 | 5,262,934 | 31.5% | 21.9% |
| 1999 | 3,734,798 | 395,998 | 4,130,796 | 136,739 | 3,871,537 | 739,136 | 4,610,673 | 33% | 16.0% |
| 2000 | 3,860,516 | 515,136 | 4,375,652 | 202,029 | 4,062,545 | 742,398 | 4,804,943 | 32% | 15.5% |
| 2001 | 3,982,260 | 701,442 | 4,683,702 | 233,617 | 4,215,877 | 644,925 | 4,860,802 | * | 13.3% |
| 2002 | 4,415,859 | 598,548 | 5,014,407 | 247,002 | 4,662,861 | 615,476 | 5,278,337 | 26.7% | 11.7% |
| 2003 | 4,036,800 | 605,760 | 4,642,560 | 184,159 | 4,220,959 | 919,802 | 5,140,761 | * | 17.9%** |
| 2004 | 4,259,181 | 702,295 | 4,961,476 | 217,761 | 4,476,942 | 1,237,294 | 5,714,236 | * | 21.7%** |
| 2005 | 4,493,499 | 663,686 | 5,157,185 | 191,923 | 4,685,422 | 1,429,490 | 6,114,912 | 30.0% | 23.4% |
| 2006 | 4,636,351 | 681,414 | 5,317,765 | 193,948 | 4,830,299 | 1,626,778 | 6,457,078 | 28.5% | 25.2% |
| 2007 | 4,500,843 | 851,055 | 5,351,897 | 299,852 | 4,800,695 | 2,005,249 | 6,805,944 | 33.1% | 29.5% |
| 2008 | 4,273,781 | 870,637 | 5,144,418 | 248,408 | 4,522,189 | 2,398,863 | 6,921,052 | 33.2 % | 34.7% |
| 2009 | 4,048,176 | 851,541 | 4,899,717 | 304,842 | 4,353,018 | 1,838,574 | 6,191,592 | 33.8% | 28.3% |
| 2010 | 3,815,858 | 986,031 | 4,801,889 | 375,208 | 4,191,066 | 1,712,242 | 5,903,307 | * | 29.0% |

* National data is not available for 2001, 2003, 2004 and 2010 percentages.

** 2003 and 2004 Kentucky percentage increases are partially attributable to better data, due to a new state law that took effect mid-2002 requiring recyclers to register and report amounts and types of materials recycled. Kentucky municipal solid waste recycled figures are for: aluminum, cardboard, steel, plastic, newsprint, glass and paper.

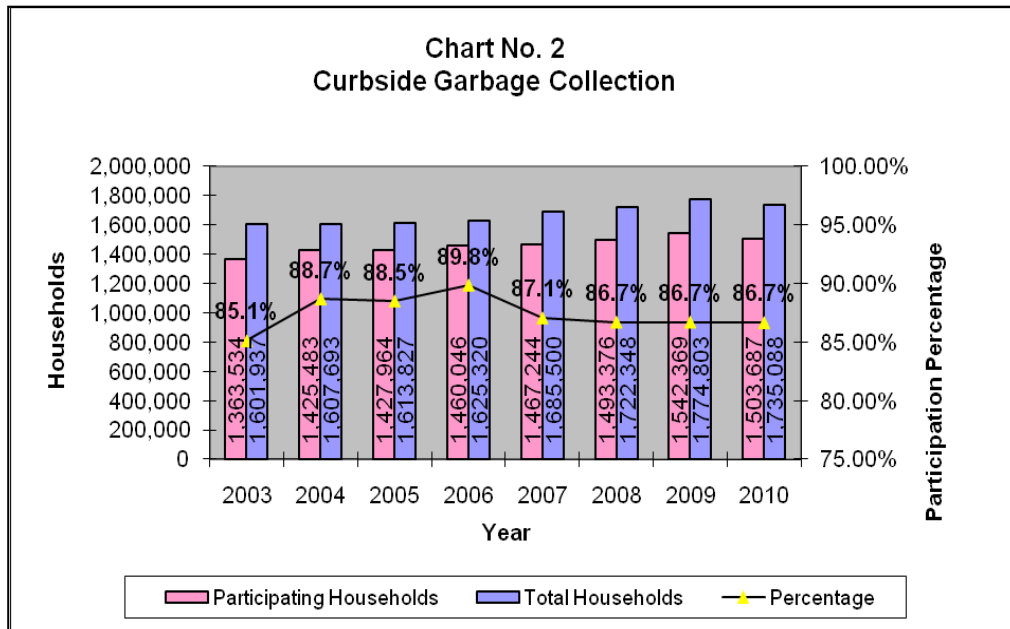
The average cost for municipal solid waste disposed at Kentucky landfills in 2010 was \$34.58 per ton. Chart No. 1 illustrates the comparison of tonnages of in-state, out-of-state, and the combined total of municipal solid waste received at landfills and the amount in tons of recycled materials in Kentucky, beginning with the base year 2000.



Municipal Solid Waste Collection Programs

Participation in curbside garbage collection has remained relatively flat since 2003 with an average of 87.4 percent participation. Since 2003, waste haulers and recyclers have been required to register and report annually to the county the number of households utilizing collection service.

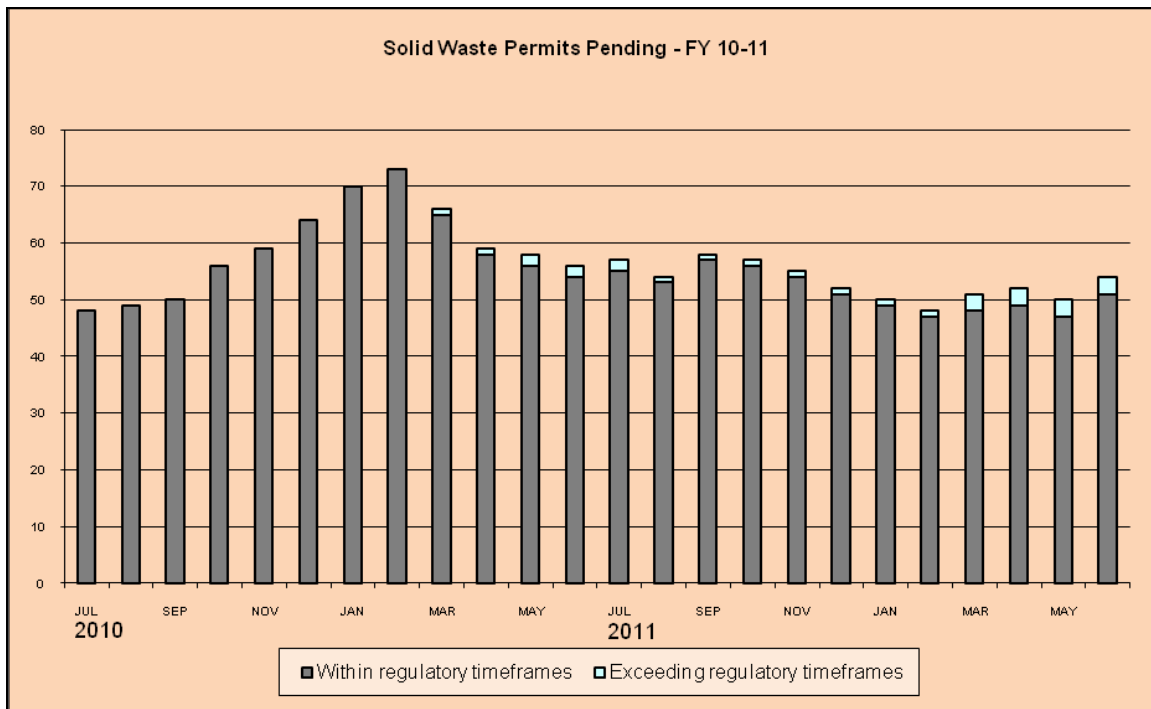
Chart No. 2 shows the number of households participating in collection systems from 2003 to 2010.



The average participation rate for collection systems in 2010 was 86.7 percent, which means approximately 13.3 percent of households (231,401 households) are disposing of their garbage illegally or are not accounted for by current tracking methods. Self-haul to a transfer station or convenience center is a legal method of disposal. However, most counties have difficulty tracking customers to this type of facility. Increased reporting requirements from transfer stations and convenience centers is needed to ensure adequate tracking for households participating in proper disposal of municipal solid waste. Multiunit housing is often overlooked.

Solid Waste Permitting:

The Solid Waste Branch continues to issue the majority of permits within regulatory timeframes.



Historic Landfills:

The following is a summary of the Historic Landfill program progress and results:

A total of fifteen landfill construction projects for closure/remediation have been completed to date. Total costs associated with the closure projects, excluding Closure Section personnel direct and indirect expenses exceed \$32 million.

- Briar Hill Landfill—Scott County
- Sims Road Landfill—Scott County
- Perry County Landfill
- City of Campbellsville Landfill—Taylor County
- Old City of Leitchfield Landfill—Grayson County
- Floyd County Landfill
- City of Manchester Landfill—Clay County
- City of Leitchfield-Millwood Landfill—Grayson County
- City of Cynthia Landfill—Harrison County
- Winchester Municipal Utilities/Old Clark County Landfill—Clark County
- Harlan County Landfill
- Letcher County Landfill
- City of Richmond Landfill – Madison County
- Glen Lily – Warren County
- City of Bowling Green Inert – Warren County

Two landfill closure projects are presently under construction. Total cost for site characterization, design and construction is estimated at approximately \$0.6 million.

- Marion County Landfill
- Butler County Landfill-City of Bowling Green—Butler County

Three landfill closure projects have completed the design phase and are scheduled in the next budget cycle for construction. The total construction cost estimate is approximately \$3 million, which includes site characterization as well as design and engineering oversight.

- Raven Run Landfill—Fayette County
- Johnson County Landfill
- Billy Glover Landfill – Jessamine County

Two landfill closure projects are in the design phase. Preliminary cost estimates for the projects is approximately \$2 million, which includes site characterization as well as design and construction.

- Mercer County Landfill
- Bullitt County Landfill

Initial characterization of 159 sites is complete. The reports and data are reviewed. The sites have been ranked based on the perceived threat posed to human health and the environment. It is anticipated an additional three contracts will be advertised in 2010 to fund the initial site characterization of an additional 85 sites in 16 counties. Total estimated cost for the initial site characterizations excluding direct and indirect personnel expenses is \$750,000.

Solid Waste Branch Highlight

The Solid Waste Branch continues to operate essentially backlog free. On average, the branch issues 3 or 4 permits per week, and has an average of 55 permit applications under review at any given time. These numbers are almost evenly split between landfill permits and Registered-Permits-by-Rule activities.

The Historic Landfill Program was established as a section within the Solid Waste Branch in 2003 to address the closure and remediation of historic landfills – commonly known as “old town dumps.” In addition to Historic Landfill work, the Solid Waste Branch successfully oversaw a contract to remove trees from encroaching on ground water monitoring wells by using forfeited financial assurance to perform post-closure maintenance at the Jones Landfill in Fulton County. Post-closure activities at contained solid waste landfills span a period of 30 years. While some of these obligations had been met before forfeiture of financial assurance, the Branch is planning for a long-term commitment at this site.

The Solid Waste Branch has implemented the fee change regulation for solid waste permitting. In addition to generating additional revenue to recover the costs of program administration, this regulation has another beneficial effect of weeding out inactive permits. Many permits in the Solid Waste Program, such as Registered-Permits-by-Rule, are issued for the life of the facility. There is no firm regulatory mechanism to close out permits which are no longer in use. However, when faced with submitting an annual operating fee for a facility not in use, many permittees have opted to surrender their permit. This has helped us reach the goal of ensuring that TEMPO, DEP's database of facility and permitting information, is as accurate as possible.

The Solid Waste Branch continues to review and comment on potential federal regulation concerning the disposal of coal combustion residuals. The branch also has several permit applications for major coal combustion residuals under review at this time. Existing regulations will continue to be used until any new federal regulatory requirements come into effect. The branch anticipates working with the power generation industry to meet any new regulatory requirements.

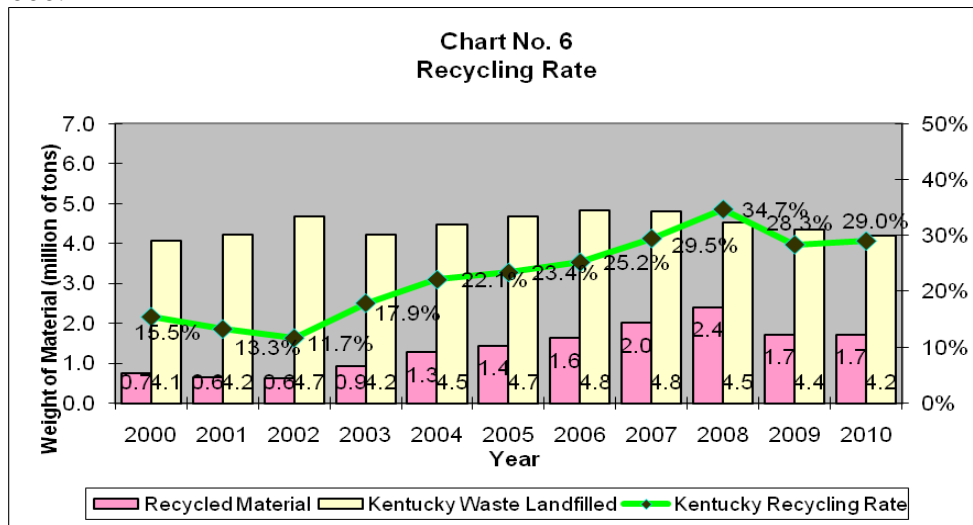
RECYCLING

<http://waste.ky.gov/RLA/Pages/default.aspx>

The Recycling and Local Assistance Branch (RLA) provides continuous technical assistance and training to public and private entities on solid waste issues and regulatory requirements and promotes individual responsibility and accountability for proper solid waste management.

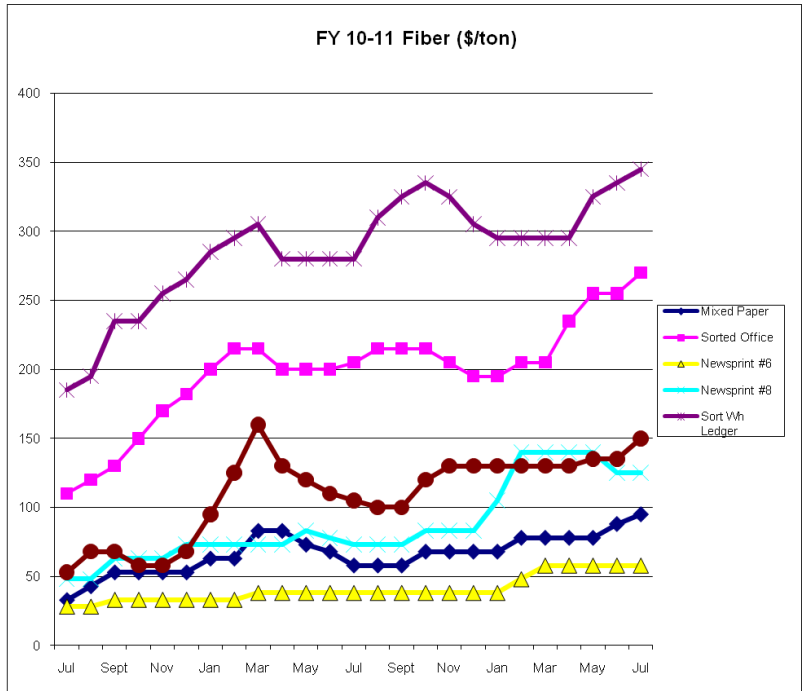
County Recycling and Recycling Education Programs:

In accordance with KRS 224.43-315, beginning March 1, 2004, recyclers were required to report annually to the county the amount of municipal solid waste collected for recycling by volume, weight or number of items, and the type of items recycled. Statewide recycling rates of common household items such as glass, paper, metal, and plastics increased from 28 % to 28.8 % in 2010. Chart No. 6 maps the recycling rate since 2000.

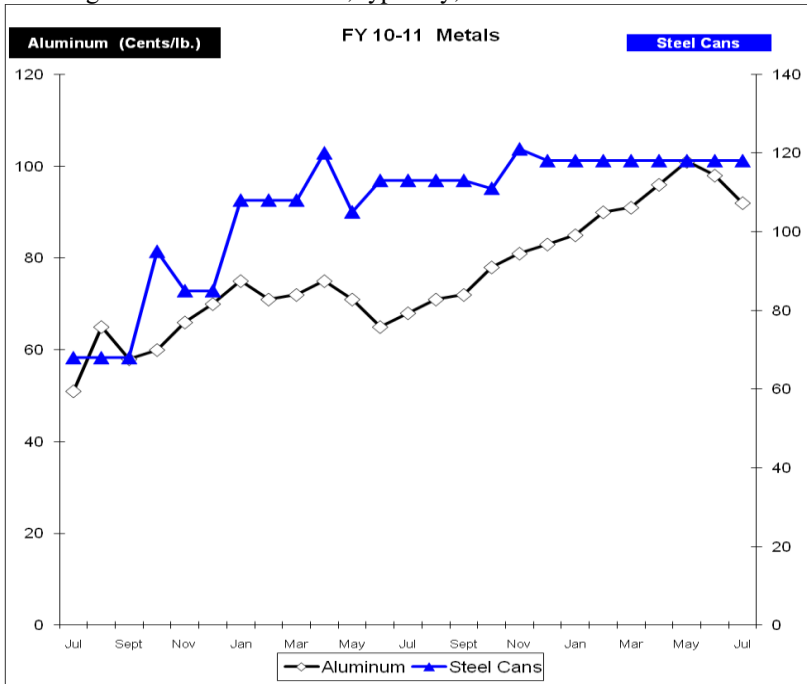


Kentucky's recycling rate on common household items (aluminum, cardboard, ferrous and nonferrous metal, plastic, newspaper, glass, escrap, and paper) increased from 28.3 percent in 2009 to 29 percent in 2010. The average recycling rate in the Southeast Region in 2006 was 22 percent, while the national average was 28.5 percent. (*The national recycling rate since 2006 had not been released at the time of publication.*) The first recycling grants were awarded in June 2007. As these new recycling programs become more established, Kentucky's recycling rates should increase.

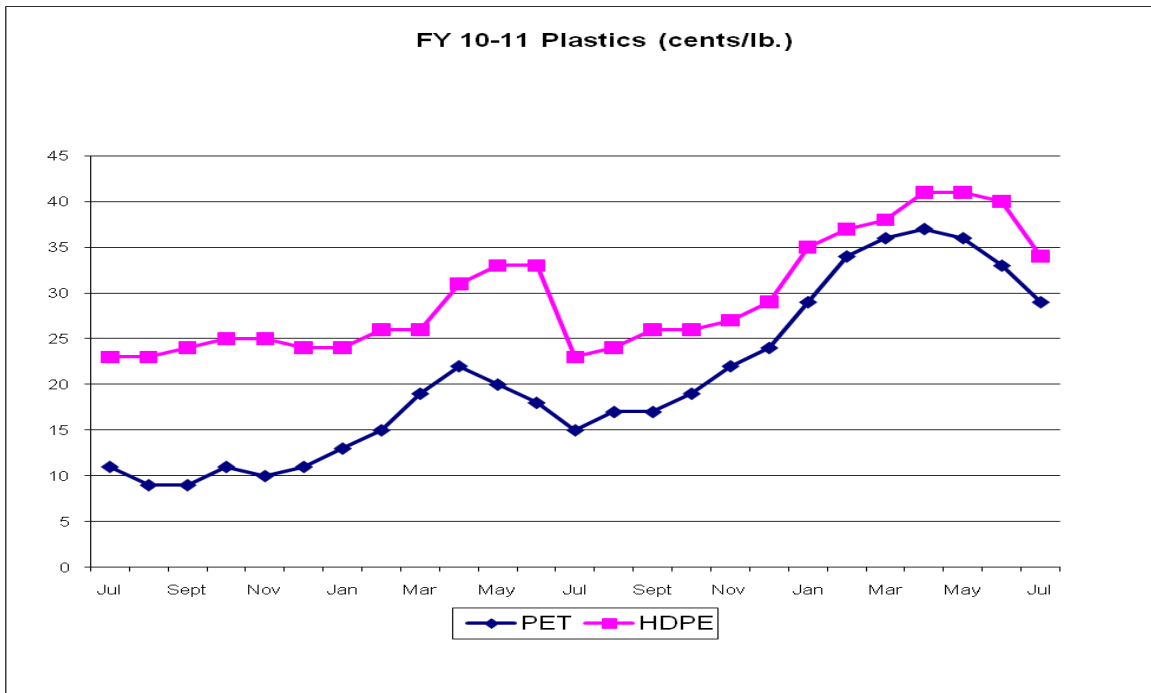
Through publication of its *Marketplace* newsletter, the Division reports on the prevailing prices paid for aggregate recyclable materials. The following charts show the trends for various commodities.



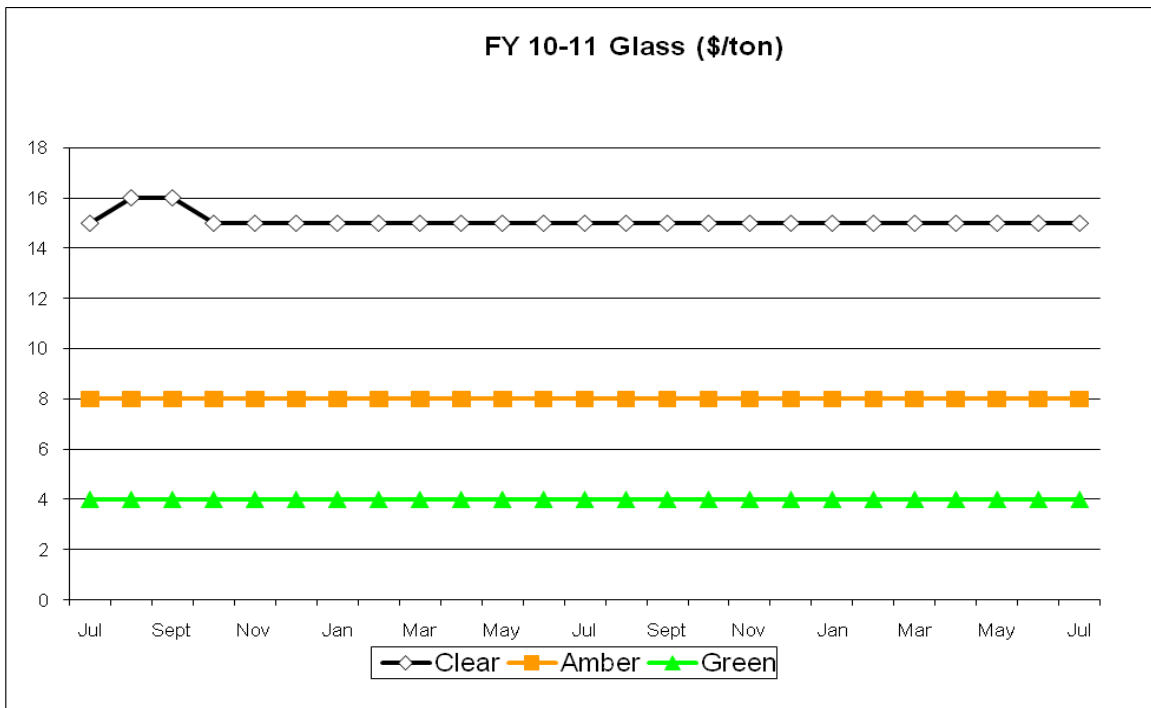
Note: “Newsprint #8” means baled sorted newspaper, with no sun exposure, with less slick advertising inserts.
 “Newsprint #6” means baled newspaper that typically has advertising slicks in it.
 “Sorted office” means mostly white and colored, ground wood-free copier and printer paper.
 “Mixed paper” means a lesser-grade of material that can include slick advertising inserts, envelopes and other things with gummy surfaces.
 “Sorted white ledger” means higher class white paper such as stationery (free of ground wood fiber)
 “Corrugated containers” means, typically, cardboard boxes.



Recycling prices for aluminum cans has increased while the prices for steel cans has remained relatively flat in the last fiscal year.



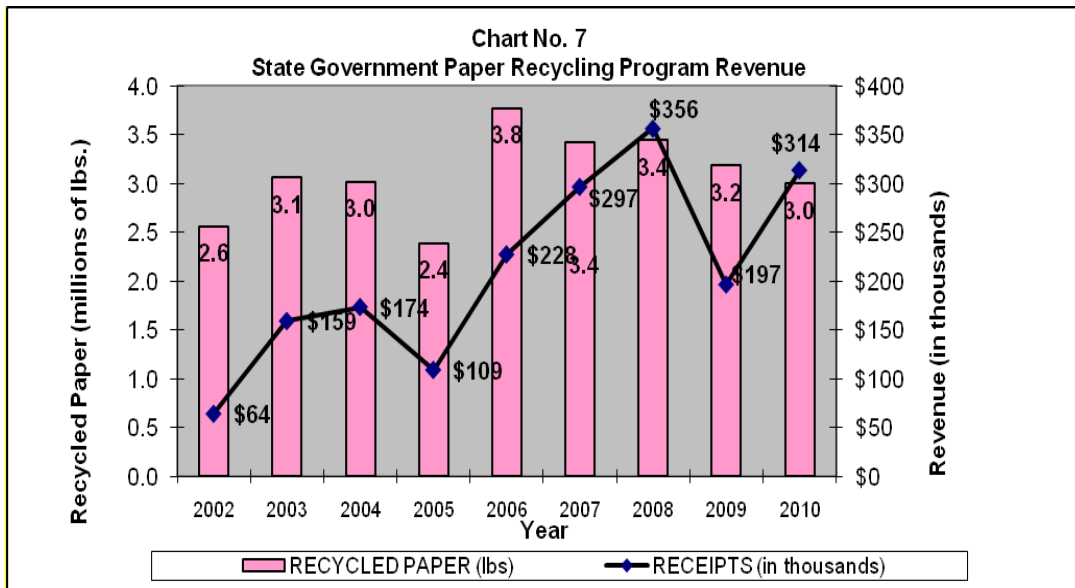
The price paid for number one and two plastics, PET typically known as soda bottles and HDPE typically known as milk jugs, has generally increased over the last two fiscal years with the exception of a marked decrease in the spring of 2011.



Glass prices have remained relatively constant over the last two fiscal years.

The State Government Recycling Program

The Division of Waste Management, Government Recycling Section continues to operate the state paper recycling program serving more than 115 agencies in Frankfort. The Government Recycling program has been self-supporting, funding seven full-time staff positions.



The Government Recycling Section offers free pickup and free document destruction of governmental office paper. The Government Recycling Section moved to its new location on Northgate Drive in June 2006. The new facility offers a secured environment to address confidentiality issues. Office paper represents 80 percent of the waste stream in the office environment. The cabinet has been tracking the amount of governmental waste paper recycled since 1993, with more than 37.5 million pounds of paper being recycled through this program. Since 2002, state employees recycled more than 27.9 million pounds of waste paper, generating more than \$1,897,589 in revenue. In 2010, government offices recycled 3,089,308 (1,545 tons) of paper, newsprint, and cardboard – approximately 246 pounds per state employee. Chart No. 7 reflects the pounds of governmental waste paper recycled for calendar years 2002–2010.

Waste Tire Trust Fund:

The Waste Tire Trust Fund was reauthorized in the 2010 Special Session of the General Assembly through HB 2 and will be in effect until June 30, 2012. The cabinet will submit a report to the General Assembly by January 15, 2012, recommending that the program be reauthorized. Funding comes from a \$1 fee on the sale of all new motor vehicles tires sold in Kentucky. The fund is used to conduct waste tire amnesty programs, award crumb rubber grants, and facilitate market development for the use of waste tires. In 2011, the General Assembly passed House Bill 433, which established a Waste Tire Working Group to advise the cabinet on (among other things) administering and implementing alternative methods for controlling waste tires, developing a formula to apportion money in the waste tire trust fund, and preparing the report for the general assembly. In 2011, the Cabinet also gave counties the option of receiving a \$3,000 grant for disposal or recycling of waste tires within the county.

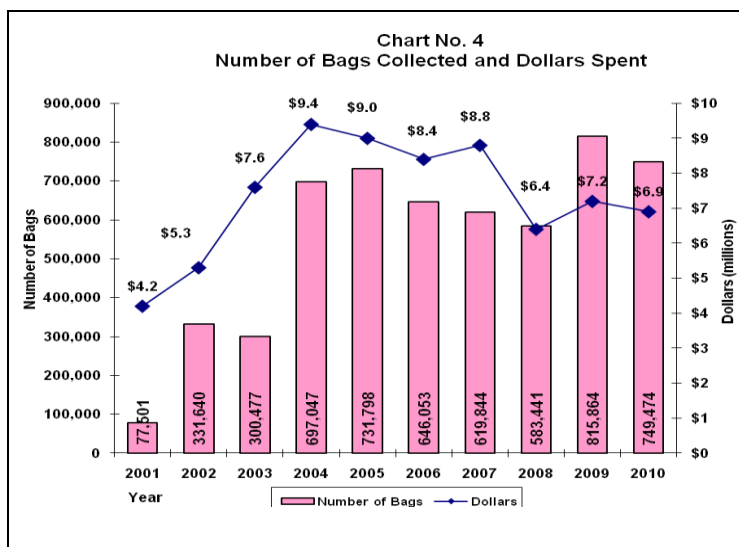
In 2010, tire amnesties were conducted in 39 counties in the FIVECO, Buffalo Trace, Gateway, Northern Kentucky, Big Sandy and Kentucky River Area Development Districts (ADDs.) A total of 735,984 waste tires (“passenger-tire-equivalents,” or PTEs) were recovered through these amnesties at a cost to the fund of \$691,136. This represents less than a one percent decrease in PTEs recovered for these same ADDs compared with the last amnesties, conducted in 2004-2005.

Crumb Rubber Grants:

From 2004 – 2010, the cabinet awarded 229 grants totaling more than \$6.1 million to political subdivisions of the state for the use of crumb rubber made from recycled tires on athletic fields, playgrounds, walking trails, landscaping, gymnasium floors, etc. In 2010, the cabinet awarded eleven grants totaling \$282,814 for crumb rubber projects to be completed during the year. Funding for the crumb rubber grants comes from the Waste Tire Trust Fund.

Kentucky Pride Fund:

The environmental remediation fee of \$1.75 per ton of waste disposed in Kentucky is placed into the Kentucky Pride Fund. This money is used for closure of historic landfills, debt service, remediation of illegal open dumps, recycling grants, and household hazardous waste management grants.



The amount of litter collected on public roads may not include litter collected by state road crews as part of the Department of Transportation's efforts to maintain state roads.

Litter Abatement - In 2001, the division began tracking the cost of litter activities and the number of bags of litter collected. State litter abatement grant funding (Kentucky Pride Fund) began in fiscal year 2002. The cabinet receives \$5 million annually from the Transportation Cabinet for distribution to counties and incorporated cities for litter abatement activities.

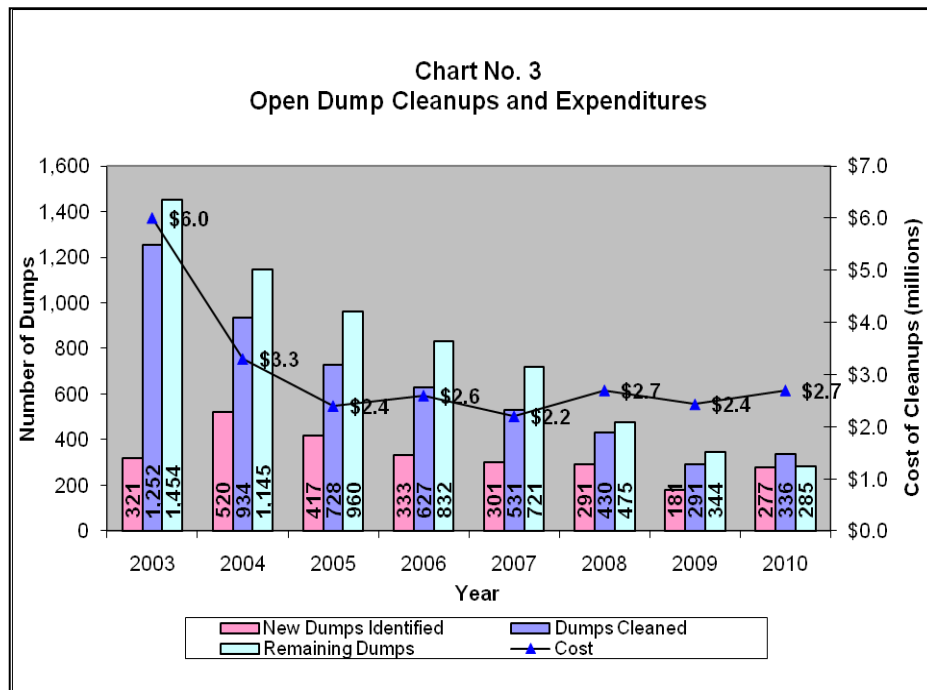
The success of litter abatement campaigns across the commonwealth is evident in the reduction of litter being picked up along roadways. In 2010, counties cleaned 749,474 bags of litter on 215,814 miles of roadways.

Litter collection costs totaled \$6,870,665, an average cost of 46 cents per pound (\$917 per ton). Most of the items found on roadways are plastic bottles and food containers. Litter is costly at \$917 per ton when compared to the average landfill disposal rate of \$34.58 per ton. Chart No. 4 reflects the number of bags of litter collected and the amount spent on litter for calendar years 2001-2010.

Recycling and Household Hazardous Waste - In 2006, the Kentucky Pride Fund was amended to provide grants for the development and expansion of recycling programs and household hazardous waste management. In 2010, 48 entities were awarded grants for a total of \$3.5 million. Thirty-eight recycling grants were awarded to cities, counties, and universities. These grants were to help fund the establishment or expansion of recycling operations. Ten HHW grants were awarded. Materials collected during HHW events included E-scrap, pesticides, solvents, mercury and other HHW products found around the home. These events were made possible by the Kentucky Pride Fund. The grants require a 25 percent local match in the form of cash or “in-kind” personnel, educational activities/materials and advertising to promote the program from the cities or counties receiving the awards. The grants are funded through the \$1.75 Environmental Remediation Fee paid on each ton of waste disposed in Kentucky landfills. The goal of the program is to encourage recycling and HHW management events in areas where few of these opportunities for citizens exist, with an emphasis on regional cooperative efforts.

Cleanup of Illegal Open Dumps - Since 1993, more than 25,036 illegal open dumpsites have been cleaned at a cost of \$68 million. Chart No. 3 shows the number of dumpsites cleaned since 2003. In 2010, counties cleaned 336 illegal open dumps at a cost of \$2.7 million. The average cost to clean each dumpsite was \$8,190. There were 285 known dumpsites remaining at the end of 2010.

Chart No. 3 shows a decrease in the number of remaining illegal dumps since 2003.



Financial assistance, through the Kentucky Pride Fund Illegal Open Dump Grant program, has provided counties the incentive and the necessary financial help to identify and rid their communities of their old dumpsites.

Since 2002, the Kentucky Pride Fund (\$1.75 environmental remediation fee) Illegal Open

Dump Reimbursement and/or Grant programs have funded the cleanup of 1,494 dumpsites at a cost of more than \$9.1 million. The sixth round of illegal open dump grants was awarded in January 2010 for the remediation of 202 dumpsites at a cost of \$2.1 million.

Kentucky Recycling and Marketing Assistance Program (KRMA):

The Kentucky Recycling Interest Group (KRIG) reorganized in 2007 and joined with the Kentucky Pollution Prevention Center to facilitate a much-needed statewide program to further develop the recycling infrastructure of the state. Composed of individuals from state and local governments as well as industry, KRIG met during the 2010 Governor's Conference on the Environment to discuss business "best practices" and how much material is recycled in Kentucky. Also, the KRIG Steering Committee met during the SERDC meeting held in Lexington to discuss goals and directions for the group to pursue in the near future, such as a state-wide recycling directory and America Recycles Day preparations. The annual KRIG spring meeting took place in Frankfort.

E-scrap collection is growing in the state, with approximately 48 counties offering some type of e-scrap collection. Year-round e-scrap drop-off programs are increasing across the state with 19 counties now offering them. Another 21 counties offer some type of e-scrap collection, whether periodic or an annual event. More than 2,341 tons of e-scrap was collected in 2010. Beginning in 2008, the Kentucky Pride Fund program provided grant awards for the management of HHW, a category that includes e-scrap and mercury.

Also in 2008, the Finance and Administration Cabinet awarded an e-scrap recycling contract to a national vendor, Creative Recycling Services (www.crserecycling.com), which became effective January 1, 2010. This "all-agency" contract allows the executive, judicial, and legislative branches of government, school districts, universities, and any other public (not-for-profit) convenient access to recycling. The contract provides for statewide pickup and recycling services; with effectively zero percent (0%) of the scrap going to commonwealth landfills. This contract is unique in that the vendor pays the agencies/school districts/universities/local governments for selected items aggregated for recycling. Since the contract took effect, over 1,500 tons of e-scrap have been collected from 482 agencies/locations and refurbished or recycled in an environmentally sound and data secure manner year to date (January 2010 to January 2011). Payments to generators have netted over \$58,000.

The Glass Pulverizer Loan Program has taken a new direction since the demise of the loaner machine that produced over 110 tons of pulverized glass aggregate (PGA) across the Commonwealth in a 4 year span. Now, several counties have taken advantage of the Recycling Grants program and have purchased higher capacity pulverizers (capable of pulverizing up to 3,000 pounds of glass per hour). The following entities are actively setting up pulverizing and PGA use programs: Regional Recycling Program (Washington, Marion and Nelson counties), The Murray State University, City of Murray and Calloway County Recycling Consortium, and the Pennyryle Recycling Corporation (Eddyville). Several other community recycling programs are planning to apply for grants to purchase pulverizers so they can continue to recycle glass containers in an economical and effective manner.

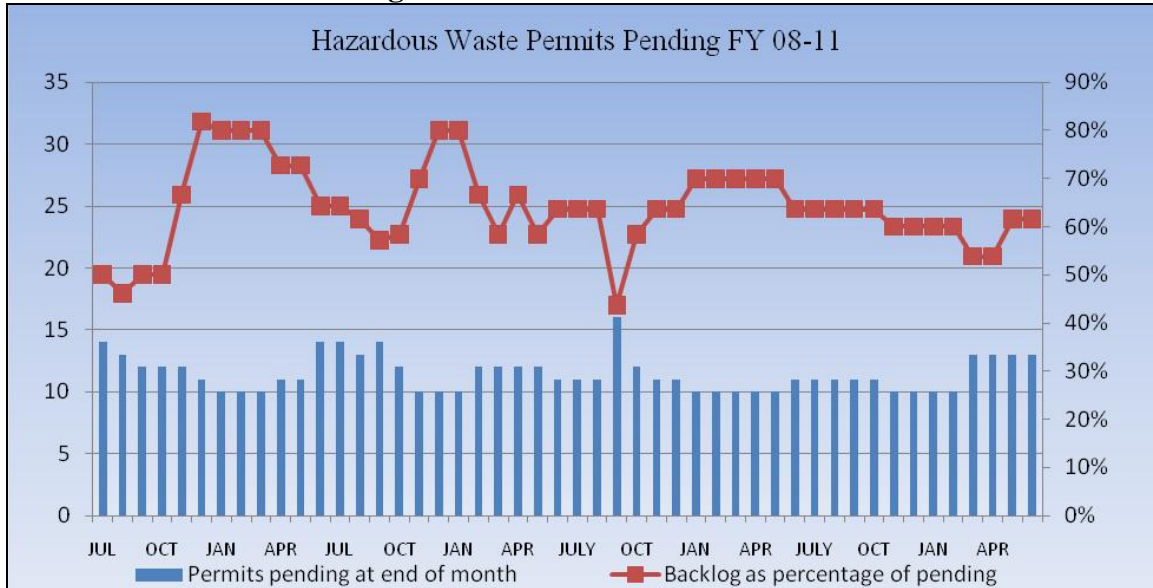
The End of Life Vehicle Solutions – 2010 (ELVS) targets mercury-containing switches removed from automobiles before the autos are salvaged for scrap metal. The 110 participants collected 15.6 pounds of mercury from 7,090 switches.

HAZARDOUS WASTE

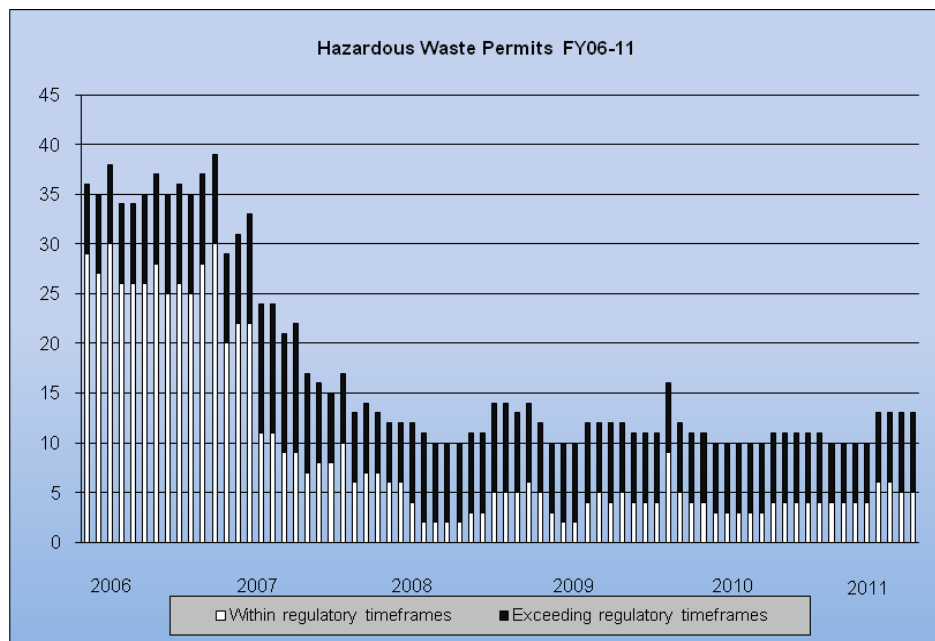
<http://waste.ky.gov/HWB/Pages/default.aspx>

The Hazardous Waste Branch oversees the management of hazardous waste from generation to disposal. This involves the promotion of hazardous waste minimization, hazardous waste management and remediation of hazardous waste releases. These activities are accomplished through permitting, corrective action, registration and reporting requirements.

Hazardous Waste Permitting:



Procedures were changed for processing the permit applications. The number of pending permits at the end of each month declined steadily as the backlog declined. This resulted from the Division initiative to reduce or eliminate the number of permits exceeding the regulatory timeframe.



The above chart illustrates the total number of pending permit applications has remained steady since the initial reduction effort began.

Hazardous Waste Branch Highlight

The Paducah Gaseous Diffusion Plant (PGDP), an EPA Superfund site, is an operating uranium enrichment facility. The facility is owned by DOE and leased and operated by the United States Enrichment Corporation, a wholly owned subsidiary of USEC Inc. The facility was built in 1952 by the U.S. Atomic Energy Commission at the site of the former Kentucky Ordnance Works, a TNT production facility used during World War II. The original mission of the PGDP was production of highly enriched uranium to fuel military reactors used to produce nuclear weapons. Today, the PGDP produces low enriched uranium fuel for commercial nuclear power plants.

Remediation efforts at PGDP, in Paducah, Kentucky, are divided by Operable Units (OU). An OU represents a media (groundwater surface water, soil) and associated exposure pathways (ingestion, inhalation, dermal exposure). For example, the Surface Water Operable Unit (SWOU) would include all surface water on the site because it is one media and human exposure could occur by contact with or use of the water.

For the SWOU, activities during 2010 involved review and approval of the Removal Action conducted on Outfall 11 and the North-South Diversion Ditch in 2009, which included the removal and disposal of soil and sediment. These soils and sediments were shipped to the C-746-U Landfill or to Energy Solutions in Clive, Utah. Initial activities in preparation of the SWOU Removal Action Report started in 2010 and initial activities on the SWOU Remedial Investigation Work plan for the larger PGDP site were also started. Additionally, routine Sediment Basin sampling activities continued to monitor the effectiveness of the Sediment Basin in settling out metals (specifically uranium), gross alpha and beta and uranium radionuclides.

The Groundwater Operable Unit (GWOU) activities include Southwest Plume activities, the Dissolved Phase Plume, the Northwest Pump and Treat Optimization and the C-400 Project. Southwest Plume activities revolved around informal dispute resolution concerning the application of Kentucky radionuclide effluent limits; wastewater effluent monitoring and reporting requirements; and references and application of land use controls as remedy components. The informal dispute was resolved on May 20, 2010 and Kentucky concurred on the D2 Proposed Plan for the Southwest Plume on July 29, 2010. Dissolved-Phase Plume activities in 2010 were focused on reviewing a Remedial Investigation/Feasibility Study (RI/FS) Work plan scoping process. This effort is ongoing and will likely be subject to DOE budget-driven prioritization in FY11. The Northwest Pump and Treat Optimization activities consisted of efforts to prepare and implement a Remedial Action Work plan needed to address the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Explanation of Significant Differences (ESD). The ESD modifies the original 1993 Interim Remedial Action Record of Decision to allow the recovery wells to be moved. The change in location of the recovery wells was needed because of shifts in the existing contaminant plume to the southeast and the resulting decision to re-focus groundwater extraction and treatment resources (including the installation of two new extraction wells) to the areas closer to the PGDP facility fence and consistent with the high concentration areas of the Northwest Plume. The new pumps began operation August 27, 2010. The Northeast Plume Interim

Remediation Action consists of reviewing and monitoring DOE activities associated with two active extraction wells, an underground equalization tank, transfer piping, a cooling tower for air stripping, and monitoring well network that is apparently continuing to remove TCE from the groundwater effectively.

A major component of GWOU activities in 2010 involved the C-400 project. A primary contaminant of concern at the PGDP is trichloroethylene (TCE), a chlorinated industrial solvent (and probable human carcinogen) that was often used as a degreaser for metal parts. TCE is a dense non-aqueous phase liquid (DNAPL) that is both denser than water and does not dissolve in water. TCE typically sinks when spilled onto the ground or discharged into subsurface soils. As it sinks, the DNAPL leaves residual traces of itself in the shallower soils. Eventually, the DNAPL reaches a relatively impermeable geologic unit and begins to pool at the top of that unit. If enough DNAPL collects in a particular location, its weight may allow it to continue into deeper units. This is what occurred at the C-400 Building. The C-400 activities involved review of DOE activities associated with an electrical resistance heating (ERH) remedial system to address an estimated 75,000 gallons of TCE associated with the historic use of the chemical at the C-400 building. The ERH system became operational on March 29, 2010 and ran for approximately seven months with the initial operations phase being completed in December 2010. Additional use of the ERH remedy is not currently anticipated by DOE for the regional groundwater aquifer as the C-400 efforts demonstrated that ERH, as implemented, could not sufficiently heat the RGA to remove significant amounts of TCE and the costs for ERH operation significantly exceeded estimates.

The primary activities in the Decontamination and Decommissioning Operable Unit (D&D) for 2010 involved review and monitoring of interior preparation efforts at the former C-340 Metals Reduction Plant and the former C-410/420 Feed Plant. Due to DOE funding constraints, the completion of demolition of the C-340 Plant and the C-410 Complex are expected to be delayed. ARRA-funded activities continue in C-410 to complete deactivation and are scheduled to be completed during 2011 or 2012. At that time, the building will be placed into a safe condition until funding is available to complete structural demolition. In addition, D&D of the C-746-A East End Smelter was completed by DOE in September 2010 and the final radiological contamination survey was completed by DOE in November 2010.

The Burial Grounds Operable Unit (BGOU) consists of eleven solid waste management units or burial areas. During FY10 KDWM reviewed and approved the D2R1 Remedial Investigation Report, the D1 Feasibility Study, and DOE prepared the BGOU D2 FS report. A work plan addendum and sampling plan as well monitoring and review of the associated sampling for SWMU 13 (C-746-P/P1 Scrap Yards) also occurred in 2010. Work also was conducted on review the D1 SWMU 4 (C-747/C-748-B) Engineering Evaluation/Cost Analysis (EE/CA), the D2 Draft Removal Action Work Plan and D1 Action Memorandum and the Draft D1 RAWP (Phase 2). DOE verbally requested an extension on September 30, 2010, to meet with the FFA parties to discuss a path forward for obtaining additional information necessary to characterize and delineate the contamination at SWMU 4, which will delay submittal of the D2 EE/CA and follow-on submittals.

Soils Operable Unit (SOU) activities consisted of review of a SOU RI/FS Work Plan, monitoring and reviewing the results of associated fieldwork grid sampling of over 300

fixed-base laboratory samples and over 3,000 field samples using direct push technology or similar equipment, as well as biased radiological sampling at multiple SWMUs in the SOU by DOE. Additional activities included review of the D1 Site wide Evaluation Work Plan.

The Waste Disposal Options (WDO) project is concerned with determining if building an on-site waste storage facility is a viable option at the PGDP. An Informal Dispute process for the *Work Plan for the CERCLA Waste Disposal Alternatives Evaluation Remedial Investigation/Feasibility Study* was initiated by KDWM in October 2010, which was resolved in January 2011. The primary focus of WDO efforts in 2010 were associated with resolving the previously mentioned dispute and evaluating along with DOE a preliminary waste acceptance criterion (PWAC) for a possible onsite waste disposal facility at the PGDP. The PWAC is used to help determine if the facility can hold the wastes anticipated to come from actions at the site and do so in a safe and cost effective manner.

Kentucky also continued to conduct independent sampling in the close proximity to know contaminant plumes at the PGDP in 2010. The purpose of this sampling was to evaluate and substantiate DOE's sampling procedures and to verify the quality of their laboratory analysis. Split sampling was also conducted at select wells associated with the C-746-U Solid Waste Landfill and the C-404 Hazardous Waste Landfill to evaluate whether the landfills are releasing contaminants to the groundwater. In general, AIP laboratory results were similar to those collected and reported by DOE. Kentucky has continued to sample private water wells to insure that the TCE plume is not expanded beyond the area in which the DOE pays for municipal water.

FIELD OPERATIONS

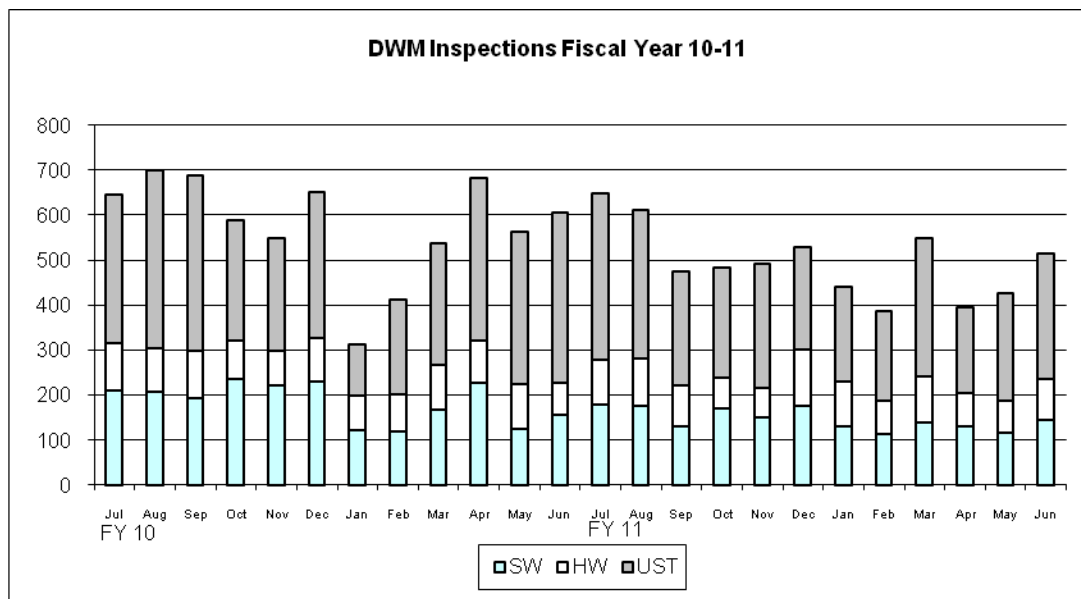
<http://waste.ky.gov/FOB/Pages/default.aspx>

The mission of the Field Operations Branch (FOB) is to identify and abate imminent threats to human health and the environment through fair and equitable inspections, technical assistance and education.

The branch performs inspections at sites managing solid waste, hazardous waste, underground storage tanks and PCBs. The primary duty of a regional inspector is to check the compliance of waste facilities.

The branch includes a central office and 10 waste management regional offices located throughout Kentucky. Staffs from these offices are familiar with the local waste management issues and can respond to questions and concerns.

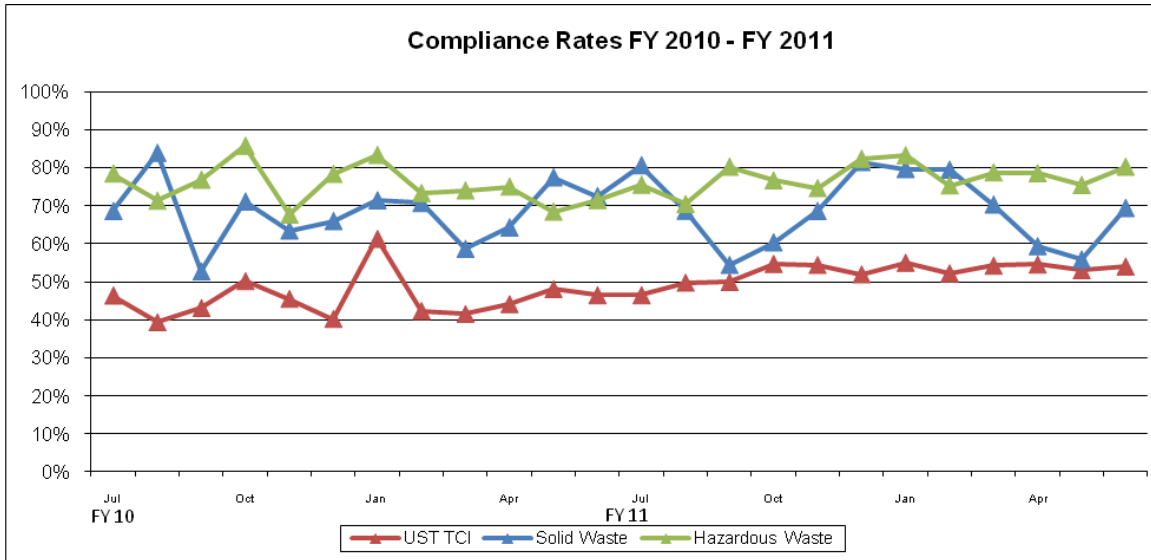
Compliance and Enforcement:



Note: SW=Solid Waste, HW=Hazardous Waste, UST=Underground Storage Tanks
 Note: Inspection totals include “complaint investigations” in addition to typical inspections of regulated entities.

During FY 2011 the Division of Waste Management’s Field Operations Branch conducted 6102 inspections under the Hazardous Waste, Solid Waste, Underground Storage Tank and the Toxic Substance Control Act (TSCA) and polychlorinated biphenyl (PCB) programs. This was an increase of 136 inspections over FY 2010. The Underground Storage Tank (UST) Program made up 54%, or 3274, of the Branch’s total inspections with 1152 Notices of Violations (NOVs) issued. The number of NOVs issued under the UST Program was down by 327 compared to FY 2010 as compliance rates continued to trend upward. There were 1768 Solid Waste inspections conducted in FY 2011 which resulted in 197 NOVs issued. The Hazardous Waste program had 1060 inspections with 105 NOVs written. The TSCA and PCB programs conducted 55 inspections during FY 2011.

Under the TSCA and PCB programs, the Field Operations Branch conducts inspections on behalf of the United States EPA under a Memorandum of Agreement. All enforcement actions are initiated by EPA. The Field Operations Branch completed 1960 investigations during the period. A total of 8062 inspections and investigations were conducted during the fiscal year.



Note: “Compliance rate” means the percent of total inspections where an inspector noted that no violation had occurred; does not include investigations triggered by citizen complaints.

Note: “UST TCI” means a technical compliance inspection for a facility’s underground storage tanks.

Kentucky’s compliance rate for underground storage tanks has risen from 46% to 59%. Compliance for USTs has begun to increase with the facility requirement letters that are being issued by the UST compliance section. In addition, compliance rates should continue to increase when the regulations incorporating the Energy Policy Act of 2005 are passed. These regulations are intended to increase the requirements for leak prevention protection and to better train operators to know what the requirements are for their specific UST system.

Emergency Response:

KRS 224.01-400 establishes the cabinet as the lead agency for hazardous substance, pollutant or contaminant emergency spill response. The Department for Environmental Protection maintains a roster of field staff who serve as part of the Environmental Response Team (ERT). They are the first to respond to environmental emergencies.

In FY11 the ERT received 15,946 notifications; 557 of which required a response.

Field Office Branch Highlight

During the winter and spring of 2011, the Department for Environmental Protection conducted a Better Use of Technology study to assess the performance of PC Tablets by the agency. Twelve inspectors from Divisions of Air, Waste and Water used the Tablets during their inspections at facilities. Unlike a normal laptop computer, Tablets have a “write-to-text” function and internal air cards (remote internet access). The employees were to use the Notebook as their primary computer, determine production efficiency (+/- inspection), and assess the quality of an internet connection in their prospective regions.

At the completion of the 4 month study a survey was conducted of the 12 inspectors. A series of questions were asked: frequency of Tablet use, ease of use, did you still use paper notes in addition to the Tablet, write to test functionality, air card connections and will the use of a Tablet increase their inspection frequency. The overall consensus of the study was the air card connection was not sufficient to work on the Tablet in remote locations. The write to text functionality received a poor rating, and many inspectors still used hand written notes in addition to the Tablet.

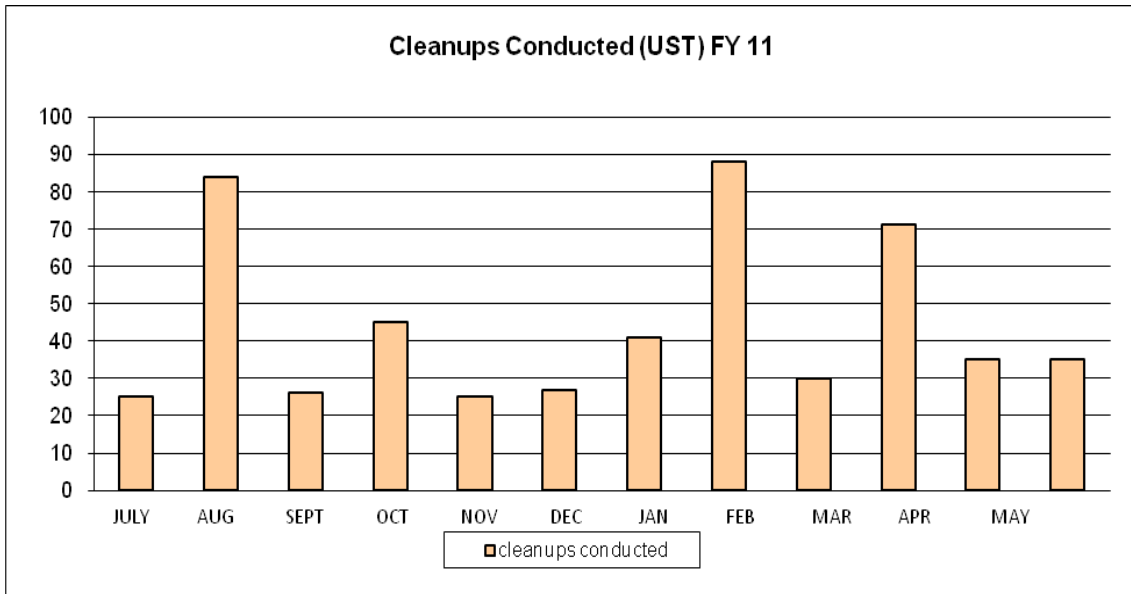
The pilot project revealed that Tablets did not increase the productivity of staff during the 4 month test. But as remote internet connections improve this could change in the future. The DEP is currently reviewing the use of Wi-Fi connections and air cards in less rural settings to allow inspectors to stay in the field longer with less return trips to the regional offices. As technology changes DEP staff is committed to look for ways to improve their efficiency.

UNDERGROUND STORAGE TANK

<http://waste.ky.gov/UST/Pages/default.aspx>

The mission is to provide for the prevention, abatement and control of contaminants from regulated underground storage tanks (USTs) that may threaten human health, safety and the environment.

The Underground Storage Tank Branch (USTB) regulates the registration, compliance, closure, inspections and corrective actions of UST systems.



The above chart includes sites that have received a No Further Action letter from the Underground Storage Tank Branch.

The Underground Storage Tank Branch filed amendments to the UST regulations contained in 401 KAR Chapter 42 on April 15, 2011. The changes incorporate the Energy Policy Act of 2005, expedite corrective action activities and streamline the reimbursement process.

Underground Storage Tank Branch Highlight

The annual report for Fiscal Year 2010 included an article that provided an update on DWM's efforts in addressing vapor intrusion, a condition created when vapor from subsurface contaminant spills are swept into overlying structures. This article serves as an update to the ongoing work within the division.

In previous years, the DWM Vapor Intrusion Workgroup has evaluated the quantity and distribution of vapor intrusion concerns through the state. Additionally, work group members from the Risk Assessment Section of the Superfund Branch developed Emergency Response Threshold Values (ERTV) and End of Investigation Values (EIV) that are currently used as internal guidelines for vapor intrusion investigations, pending approval of department management. The ERTV and EIV are based on studies that assess

background concentrations of constituents of concern as well as background data that has been compiled by the U. S. Environmental Protection Agency (EPA).

The following are current objectives for Vapor Intrusion Workgroup:

- Continue to refine the division's approach for identifying sites that should be assessed for vapor intrusion, as well as the methods of investigation and mitigation of vapor intrusion.
- Provide training to technical staff within the division and contractors.

EPA's Office of Solid Waste and Emergency Response (OSWER) is currently revising the 2002 OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soil (Subsurface Vapor Intrusion Guidance). A timeline for completion of the guidance has been established, with a goal of final guidance in 2012. In addition, the Office of Underground Storage Tanks (OUST) is drafting a separate guidance that will address petroleum vapor intrusion (PVI). Sarah Jon Gaddis, P.G., Underground Storage Tank Branch, is currently serving on OUST's Petroleum Vapor Intrusion Workgroup that will provide assistance in drafting the PVI guidance. The completion of these guidance documents will provide a great resource for DWM and the VI Workgroup as we move forward.

In addition to the anticipation of forthcoming federal guidance, the Underground Storage Tank Branch proposed regulations that are currently in the review process. General vapor intrusion guidelines for investigation and mitigation are included in the proposed regulations. Under the proposed regulation, vapor intrusion is addressed in the Initial Abatement Outline. Additionally, the proposed regulation provides a provision for classification of sites where contamination results in vapor intrusion.

Our second objective, providing training, was previously limited to DWM staff. However in FY 2010, our training objectives were expanded to include contractors that execute much of the work directed by the division.

In October 2010 DWM teamed up with the Division of Compliance Assistance to host two nationally recognized experts in the field of vapor intrusion, Dr. Blayne Hartman (Hartman Environmental Group) and Louise Adams (H & P Mobile Geochemistry). Approximately 100 attendees from state government and private industry were on hand for the half-day seminar that included a lecture from Dr. Hartman as well as an update on VI in Kentucky from DWM staff.

In order to provide more in depth training Kentucky DWM has been diligent about being present in the field to provide training and support to field practitioners. Vapor intrusion, being a relatively new scientific frontier, is currently the subject of many scholarly studies and articles detailing the techniques for investigation of vapors. Due to the evolutionary nature of the field, there are many sampling technique variations. The presence of regulatory staff in the field in an assistance capacity has aided in not only providing hands-on training opportunities but also consistency in data collection methods.

Finally, seven employees from the USTB and from Superfund Branch have received scholarships to attend VI training hosted by the Interstate Technology and Regulatory Council. The training provided is an excellent introduction to the subject, provided by

international experts to an audience that includes regulators as well as contractors from private industry.

Looking forward, the VI Workgroup will have the following objectives:

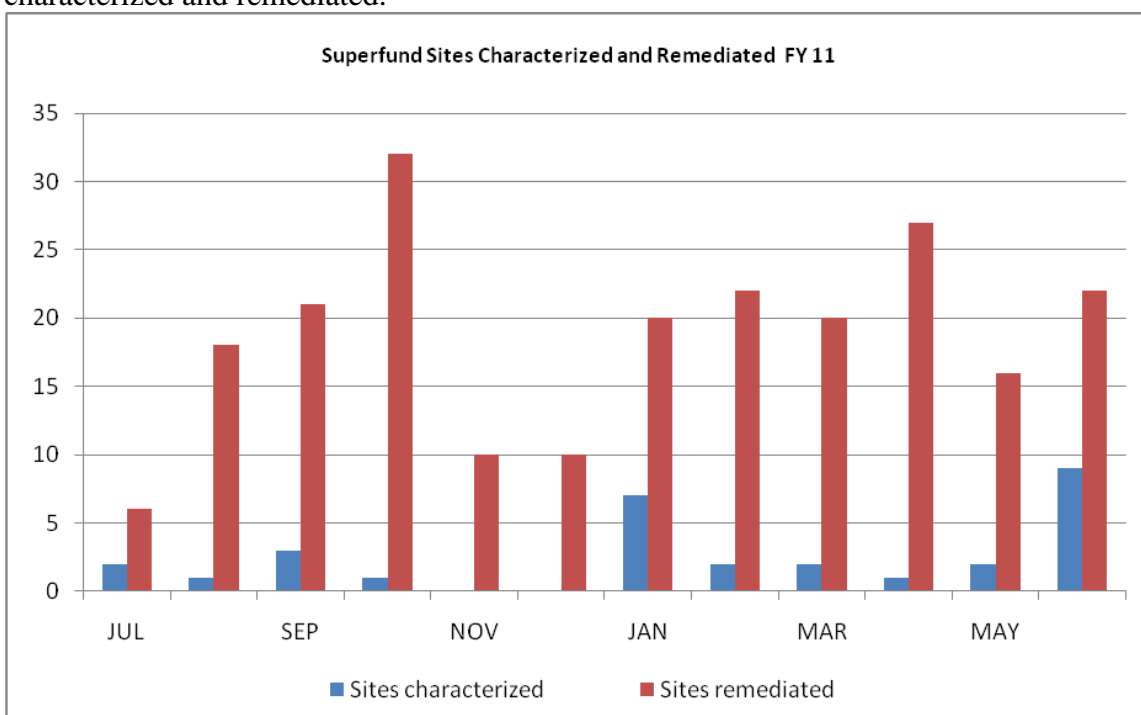
- Gain approval for the use of ERT and EI values.
- Refine our approach for identifying VI sites, vapor intrusion investigations and remediation.
- Continue to provide training to DWM staff and the regulated community.

SUPERFUND

<http://waste.ky.gov/SFB/Pages/default.aspx>

The Superfund program seeks to ensure that contaminated sites are evaluated and cleaned up in a timely manner to reduce risks to human health and the environment. In most cases this means overseeing companies or individuals who have taken responsibility for cleaning up contamination found on their property. In cases where a responsible party cannot be found or is unable to act, the Superfund Branch may take a direct role in cleaning up a site.

Kentucky has a state Superfund program which handles oversight of cleanup of hazardous substance releases and non-UST petroleum releases across the commonwealth. The chart below shows the number of sites that the state Superfund program has characterized and remediated.



Note: There were 254 sites that were characterized and remediated in FY 11.

The Superfund Branch must maintain a list of any sites where waste is managed on site through some form of engineering control (such as a cap or structure) or institutional control such as an environmental covenant or deed restriction. There are currently 115 sites where waste is managed on site. These sites require some form of reporting such as an annual report or five year review as established in statute. For sites that are being managed by using institutional and/or engineering controls, the obligations to continue to manage the releases are indefinite. Therefore, the numbers of total managed sites in Superfund will be constant or continue to increase as new sites are approved for closure under this option. As noted above, the only way a site can be removed from the managed site list is if additional cleanup is performed to restore the site to safely allow for unrestricted residential use.

Brownfields:

During federal fiscal year 11 (October 1, 2010 - September 30, 2011), 11 applications were submitted by communities, of which 3 applications were successful. The total value of these grants was \$800,000* for brownfield redevelopment.

**Louisville also received \$500,000 in supplemental funds to its existing Revolving Loan Fund (RLF) Grant*

Brownfields are abandoned, idled, or under used industrial and commercial facilities/sites where expansion or redevelopment is complicated by real or perceived environmental contamination. They can be in urban, suburban, or rural areas. The Brownfield redevelopment is a joint effort between the Division and the Division of Compliance Assistance (DCA). For more information on DCA, see the agency's Web site at <http://dca.ky.gov/brownfields/Pages/default.aspx> or call 800-926-8111.

Another outreach program has been to assist communities by providing free Target Brownfield Assessments (TBA), which is a program, designed to help states, tribes, and municipalities minimize the uncertainties of contamination often associated with Brownfields. During this year, assessments on 13 properties have been completed and 4 remain for completion.

Superfund Branch Highlight

The Kentucky Leather site (Middlesboro Tannery) is located in Bell County, Kentucky. The tannery first opened in 1890, soon after the founding of the city. The facility tanned hides, first using techniques involving vegetable tannins until switching to chromium-based methods in about 1970. The tanning was accomplished within various buildings on site with numerous settling ponds for waste derived from the process.

In 1983 the Yellow Creek Concerned Citizens Group (YCCCCG) filed a \$31 million class action lawsuit against the Middlesboro Tannery and the City of Middlesboro for damages concerning the discharge of the tannery's waste into the City's Wastewater Treatment Plant without proper treatment. The YCCCCG settled out of court with the City for \$390,000 in 1989. The YCCCCG ultimately won a \$15 million settlement against the tannery in 1995. A Consent Decree was filed by the Court on January 24, 1986 against Middlesboro Tannery and the City of Middlesboro. In April of 1989, the Middlesboro Tannery and the City of Middlesboro were fined for violating the Consent Decree. In March 1989 the Middlesboro Tannery filed for Chapter 11 bankruptcy after non-payment of sewer service charges. In February 1993, Kentucky Leather Company began operating at the site. The date of ultimate shut-down is not known but was probably in 1997 or 1998. The Middlesboro Tannery had been in operation for more than 100 years.

Kentucky Division of Waste Management inspections in January 2001 indicated the facility was used by unknown parties for drum and container disposal. Because of this discovery, a large-scale drum removal by US EPA, Region IV was accomplished.

The site has sat vacant since the late 1990s, but has been used by squatters to salvage scrap metals from the buildings on site and vehicles brought onto the property.

During a site visit in November 2010 it was discovered that part of the main building had collapsed and that asbestos-bearing materials had been released into the environment. An

emergency was declared by the Division of Waste Management. Shield Environmental was contracted to survey the property in detail and demolish the buildings in an environmentally safe manner and drain the sediment ponds. One million dollars was allotted to this project with the ultimate objective of filling the ponds and capping them as a landfill. As part of the Brownfields program, the Middlesboro Tannery will be transformed from a public hazard and eyesore and brought into productive use.

As of July, 2011 the property has been fully surveyed; demolition is about to begin on the site. Initial activities have involved the installation of a new road into the property along with the fencing, signage and a gate to keep out trespassers. The contents of the former wastewater treatment plant on site have been razed along with a smaller cistern. Waste removal activities from trenches and sumps in and around the building are in progress. Further abatement activities are ongoing, with the completion of demolition, and the draining and filling of the former sediment ponds scheduled to be completed, barring unforeseen problems, before the end of 2011.



Aerial view looking south- photo taken summer 2011



Asbestos containing tiles- photo taken November 2010

PROGRAM PLANNING and ADMINISTRATION

<http://waste.ky.gov/PPA/Pages/default.aspx>

The mission of the Program Planning and Administration (PPA) Branch is to promote sound waste management programs by providing administrative and operational support to all branches in the division through efficient and effective financial administration, personnel management and regulatory development.

Regulation Development:

The Division is in the process of performing a comprehensive review of its regulations in the areas of solid wastes and special wastes. The solid waste and special waste regulations will incorporate federal and statutory changes that have occurred since the last promulgation effort.

In FY 11, the Division did a comprehensive review of the underground storage tank regulations. This review incorporates the requirements of the Federal Energy Policy Act of 2005, streamlines the reimbursement process and expedites corrective action activities.

The Division has also spent an extensive amount of time evaluating existing approaches related to grant programs established in the Kentucky Pride Fund. The programs have been streamlined in an effort to make the grant process more efficient.

The Hazardous waste authorization is still in progress and in review with the EPA.

Legislative:

HB 433 created a Waste Tire Working Group that will provide advice on how to administer and improve the Waste Tire Trust Fund and the overall waste tire program in the Commonwealth.

SB 70 amends KRS 224.01-530 to require the use of Regional Screening Levels, which are the most up-to-date scientific levels for environmental contaminants.

ACKNOWLEDGMENTS

Governor Steve Beshear

Secretary Leonard K. Peters
Deputy Secretary Henry “Hank” List

This *Annual Report* is intended to provide a concise set of facts and measurements to support environmental decision-making. We welcome your questions and comments to the contacts below:

Kentucky Department for Environmental Protection

Commissioner: R. Bruce Scott, P.E.
Deputy Commissioner: Aaron Keatley

<http://dep.ky.gov/Pages/default.aspx>

Kentucky Division of Waste Management

200 Fair Oaks
Frankfort, KY 40601
Phone: 502-564-6716
Fax: 502-564-3492

<http://waste.ky.gov/Pages/default.aspx>
<http://waste.ky.gov/RLA/recycling/Pages/recycling.aspx>

Director: Anthony R. Hatton, P.G.
Assistant Director: Timothy Hubbard, P.G.

We acknowledge the contributions of the staff and management of the Division of Waste Management.

| | |
|--------------------------------------|--------------------------|
| Recycling and Local Assistance: | Christopher Fitzpatrick |
| Solid Waste: | Ronald D. Gruzesky, P.E. |
| Field Operations: | Jon Maybriar |
| Hazardous Waste: | April J. Webb, P.E. |
| Superfund: | Shawn Cecil P.G. |
| Program Planning and Administration: | Cassandra Jobe |
| Underground Storage Tank: | Lori Terry-Acting |

Compiled by: Chris Ewing

The Kentucky Division of Waste Management does not discriminate on the basis of race, color, religion, sex, national origin, sexual orientation or gender identity, ancestry, age, disability or veteran status. The division provides, on request, reasonable accommodations necessary to afford an individual with a disability an equal opportunity to participate in all services, programs and activities. Contact the division to request materials in an alternate format.

Printed with state funds on recycled paper / October 2011



**Division of Waste Management
200 Fair Oaks
Frankfort, KY 40601**



Report an Environmental Emergency, 24-hour: 502-564-2380 or 800-928-2380