KENTUCKY
DIVISION OF
WASTE MANAGEMENT

Annual Report

Fiscal Year 2014

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management
waste.ky.gov

Kentucky
UNBRIDLED SPIRIT

FROM THE DIRECTOR

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

This is the ninth edition of our annual report and the information provided within represents activities and accomplishments for fiscal year 2014 (July 1, 2013 to June 30, 2014). During fiscal year 2014, the division continued to make progress in its mission of the protection of human health and the environment. While budget cuts and cap reductions have been difficult to balance, division staff continue to do their jobs effectively. I admire them for their hard work and commitment to preserving and improving our environment. Also, during the fiscal year the division made progress in several program areas, including the area of Brownfield's redevelopment, moving towards the final closure of Maxey Flats, completing the soil cleanup at the former Black Leaf property in Louisville, and cleanup of leaking underground petroleum storage tanks. These and the many other division accomplishments are discussed in this annual report.

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

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SELECTED FIGURES

(31) "Waste" means:

(a) "Solid waste" means any garbage, refuse, sludge, and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining (excluding coal mining wastes, coal mining by-products, refuse, and overburden), agricultural operations, and from community activities, but does not include those materials including, but not limited to, sand, soil, rock, gravel, or bridge debris extracted as part of a public road construction project funded wholly or in part with state funds, recovered material, tire-derived fuel, special wastes as designated by KRS 224.50-760, solid or dissolved material in domestic sewage, manure, crops, crop residue, or a combination thereof which are placed on the soil for return to the soil as fertilizers or soil conditioners, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under Section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923):

1. "Household solid waste" means solid waste, including garbage and trash generated by single and multiple family residences, hotels, motels, bunkhouses, ranger stations, crew quarters, and recreational areas such as picnic areas, parks, and campgrounds, but it does not include tire-derived fuel;

2. "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other service and nonmanufacturing activities, excluding tire-derived fuel and household and industrial solid waste;

3. "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste or a special waste as designated by KRS 224.50-760, including, but not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer or agricultural chemicals; food and related products or by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products, except tire-derived fuel; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment; and

4. "Municipal solid waste" means household solid waste and commercial solid waste; and (b) "Hazardous waste" means any discarded material or material intended to be discarded or substance or combination of such substances intended to be discarded, in any form which because of its quantity, concentration or physical, chemical or infectious characteristics may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed;

Kentucky Revised Statutes, Chapter 224.1-010

EXECUTIVE SUMMARY

With 246 staff positions, the Kentucky Division of Waste Management is the second largest division in the Department for Environmental Protection. It 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 2013 and state fiscal year 2014:

- ***Household municipal solid waste (MSW) collection*** – Participation in household MSW collection has remained steady since legislation in 2002 began requiring waste haulers and recycling haulers to register and report to each county in which they provide service. The 2013 statewide household participation rate for MSW collection was 85.4 percent.
- ***Recycling*** – Kentuckians recycled 29.6 percent of common household recyclables (aluminum, cardboard, steel, plastic, newspaper, glass, and paper) in 2013. It is interesting to note that the total tonnage of waste generated in Kentucky is down significantly from 2012, and is in fact at its lowest volume since 2004. Kentucky's recycling rate also showed a significant drop, from 32.2 percent in 2012 to 29.6 percent in 2013. However, closer review of the data shows a sharp drop in ferrous scrap metals recycling in 2013 that actually accounts for the entire drop in the overall rate. In fact, if this drop in ferrous metals is factored out, the recycling rate of all other commodities actually shows an increase to 34.7 percent. Much of this drop in ferrous metals recycling is likely explained by persistent low prices for all of 2013 after a price spike in 2012. Kentuckians recycled 34.9 percent of all municipal solid waste in 2013, which includes sludge, concrete, compost, and asphalt in addition to the common household recyclables.
- ***Illegal open dumpsites*** – More than 25,600 illegal open dumpsites have been cleaned up since 1993. In 2013, counties cleaned up 186 illegal open dumps at a cost of $2.4 million. The average cost to clean up each dumpsite was $12,957.
- ***Litter along public roads*** – The Kentucky Pride Fund, Eastern Kentucky PRIDE, Bluegrass Greensource, Transportation Cabinet, Adopt-A-Highway, and cities and counties contributed to the cleanup of 11,601,380 pounds of litter at a cost of $8.3 million during 2013. The average cost of litter picked up in 2013 was 72 cents per pound.
- ***Waste Tire Program*** – In FY 2014, waste tire collection events (formerly referred to as "tire amnesties") were conducted in 36 counties in the Buffalo Trace, FIVCO, Northern Kentucky., Gateway, Big Sandy and Kentucky River Area Development Districts (ADDs). Standard passenger car tires weigh approximately 20 pounds, thus 20 pounds of waste tire material is considered a "passenger-tire-equivalent" or PTE. The equivalents of 541,518 waste tires were recovered through FY 2014 collection events at a cost of $614,822.63.

- ***Crumb rubber grants awarded*** – In 2013, the Waste Tire Trust Fund awarded 24 grants totaling $400,000 to assist schools and communities in projects using crumb rubber from waste tires.
- ***The Division of Waste Management's State Government Office Paper Recycling Program thrives*** – This program serves more than 115 agencies in Frankfort. Office paper, computer paper, newsprint, and cardboard are collected, sorted, shredded, baled and sold to a paper mill, allowing this program to operate on its own receipts. State employees recycled 1,429 tons of waste paper in 2013, approximately 226 pounds per state employee. Confidential document destruction provides a zero cost alternative to state and local governments, adding to the economic benefit of this program.
- ***Brownfield Redevelopment Program, KRS 224.1-415*** – The program has achieved early success. In FY14, the division issued 21 Notice of Eligibility letters and 23 Notification of Concurrence letters to applicants who have entered the program.
- ***Maxey Flats Project Final Closure Period*** – The final Remedial Design Report, taking into account EPA comments, was delivered to EPA in July 2014. This completes the substantive design effort on behalf of the Commonwealth. Substantial completion of sump abandonment and related preparatory activities also occurred in July 2014, though the final report documenting those activities has not yet been submitted as of July 25, 2014. The modification of the contract with URS was completed and carried out concurrent with the sump abandonment field activities and is also substantially complete. The Request for Proposal for cap construction was published in July 2014 and it is expected that bid selection will take place in September 2014 with cap construction field efforts to start, in earnest, in early 2015 (contingent upon the selection of a contractor, preparation, submittal, and acceptance of construction work plan documents to EPA).
- ***Black Leaf Chemical Site*** – This is the largest residential superfund cleanup in the state's history. In FY 2014, at the conclusion of the project located in Louisville, Ky., a total of 58 yards were cleaned up by KDEP, with 10 yards being addressed by EPA. The result of this project was not only effective in protecting residents from contact with environmental contaminants in yards adjacent to the former Black Leaf Chemical Plant, but also left behind a swath of updated, renewed residential lots that made a significant positive impact for the community.
- ***Underground Storage Tank Program Success –*** As a direct result of changes in the regulatory process in 2006 and 2011, the total number of UST cleanups remaining has decreased substantially over the last few years. The number of UST cleanups remaining decreased from 1,117 in FY13 to 832 in FY14. The number of no further action letters increased, translating into 517 UST cleanups completed in FY14.
- ***Methamphetamine Lab Cleanup Program –*** Through the division's Superfund Branch, 222 contaminated residences were reported and 83 residences were decontaminated through the Methamphetamine Lab Cleanup Program in FY14.

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INTRODUCTION

The Division of Waste Management is one of six divisions of the Department for Environmental Protection in the Energy and Environment Cabinet. The 2014 departmental strategic operational plan for state fiscal year 2014 describes the mission of the agency:

Preserve and restore Kentucky's land through the development and implementation of fair, equitable and effective waste management programs.

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

Objective 1 – Provide efficient program support to DWM branches and stakeholders.

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

Measures

- Number of hazardous waste permits pending review.
- Number of hazardous waste permits pending review that are outside of regulatory timeframes.
- Percentage of hazardous waste permit reviews completed within regulatory timeframes.
- Percentage of hazardous waste permit reviews completed outside of the regulatory timeframe.
- Number of solid waste permits pending review.
- Number of solid waste permits pending review that are outside of regulatory timeframes.
- Percentage of solid waste permit review completed within regulatory timeframes.
- Percentage of solid waste permit review completed outside of the regulatory timeframe.

Tactic 1.2 Ensure accurate data entry and reporting, and provide training and guidance to staff and stakeholders.

Measures

- Number of trainings completed by DWM staff in FY14.
- Number of owners/operators that complete the online TOOLS training in FY14.

Objective 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.

Measures

- The number of sites with known or suspected releases with potential human exposures where no further action is required or otherwise controlled as a result of implementing a management in place technique.
- Number of underground storage tank cleanups conducted that resulted in a no further action being issued and number remaining.
- Number of hazardous waste program corrective actions completed and number remaining.
- Number of historic landfills characterized, number remediated and number remaining.
- Number of illegal dumps remediated under the Kentucky PRIDE Program and number remaining.
- Number of tire dumps remediated under the Waste Tire Trust Fund and number remaining.
- Number of state Superfund sites characterized and number remediated.
- Number of state-lead sites remediated utilizing the Hazardous Waste Management Fund.
- Number of sites with a release of petroleum or a petroleum product remediated from a source other than a petroleum storage tank and number awaiting review.
- Number of methamphetamine contaminated properties reported and number decontaminated.
- Number of emergency or incident responses made and number of cases closed.
- Number of cleanups conducted under state oversight via the Voluntary Environmental Remediation Program.
- Number of brownfield sites assessed under the Targeted Brownfield Assessment Program and number awaiting review.
- Number of brownfield sites reviewed under KRS 224.01-415, number pending review, and number of concurrence letters issued.

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

Measures

- Tonnage of solid and special waste recycled or reused, by type.
- Tonnage of material recycled through the State Government Recycling program.
- Number of waste tires used in tire-derived fuel projects, crumb rubber grants and other beneficial reuse purposes.
- Tonnage of hazardous waste recycled or reused (example: mercury collection efforts).
- Tonnage of waste recycled as a result of recycling grant program.

Tactic 2.3 Assure proper management and disposal of waste.

Measures
- The compliance rates for authorized solid waste management facilities.
- The amount, by weight, of litter, open dump waste, recycled municipal solid waste and household hazardous waste collected by counties through the Kentucky Pride Program.
- The compliance rates for authorized hazardous waste facilities.
- The compliance rates for registered underground storage tanks.

Tactic 2.4 Plan, design and execute Final Closure Period activities at Maxey Flats while maintaining regulatory compliance.

Measures
- Complete design package submitted by URS and approved by EPA.
- Documentation of sump abandonment completion.
- Modified contract completed with URS to include sump abandonment oversight and design of the final cap.

In the report sections that follow, division activities designed to address these primary issue are highlighted.

The mission of the Solid Waste Branch is to assure Kentucky's waste is managed properly. This is accomplished by implementing a comprehensive program for solid and special waste disposal facilities. The branch reviews permit applications, issues permits and monitors construction and operational activities at solid waste facilities.

The Solid Waste Branch is responsible for reviewing technical applications and reports for all types of landfills, including residential garbage, construction debris, industrial waste and coal ash, in addition to land application and composting facilities. The branch issues or denies construction and operation permits based on information provided by the applicant and verified by its own personnel. The branch is also responsible for the registration of solid waste permit-by-rule facilities and closure of abandoned historic landfills.

As the total population in Kentucky has increased, so has waste generation. The charts below show these trends. In 2013, Kentucky's population reached 4,395,295. This makes it imperative for residents to have easy collection services, disposal facilities and recycling facilities. An encouraging trend is that Kentucky's recycling rate is increasing, too.

Figure 1

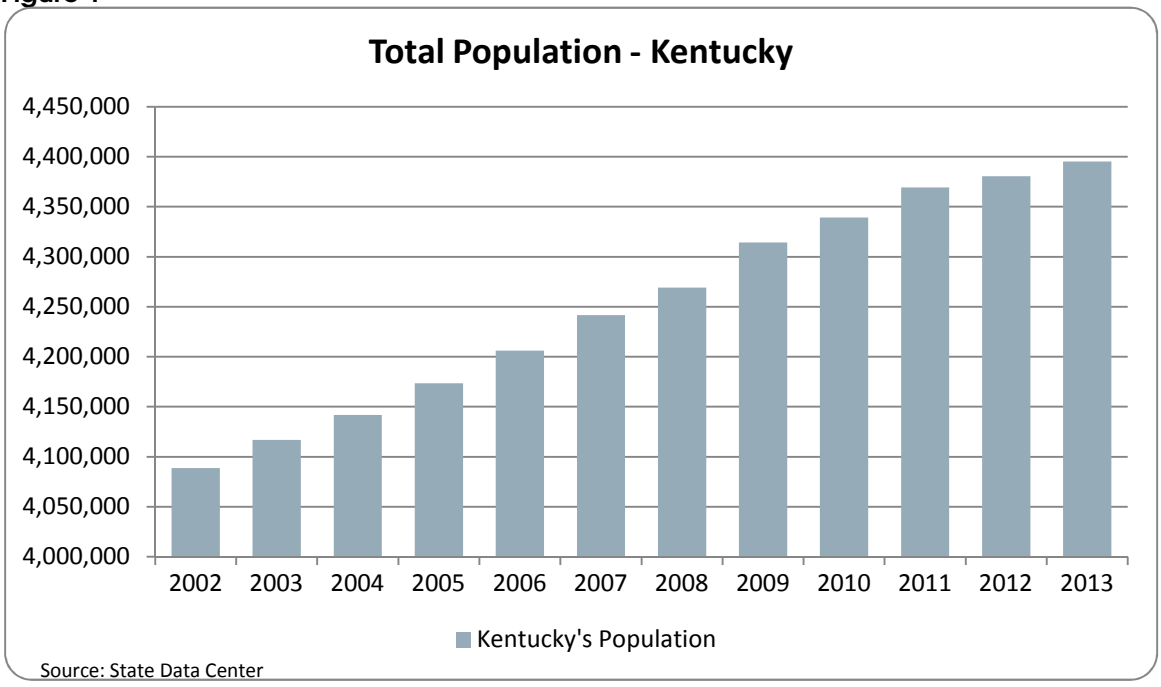
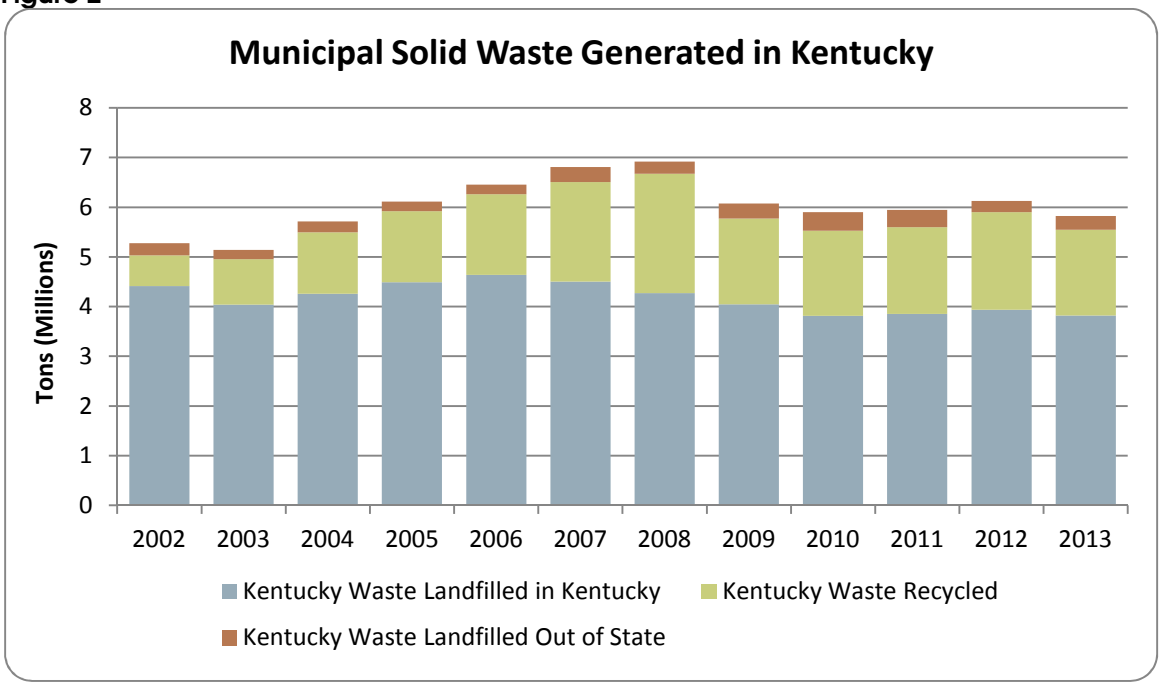


Figure 2



The following table shows data about Kentucky's municipal solid waste disposal and recycling per calendar year.

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 (tons)	Recycled (tons)	Total Waste Generated in Kentucky (tons)	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	*	4.9%
1995	4,207,071	269,833	4,476,904	210,728	4,417,799	529,423	4,947,222	25.7%	10.7%
1996	3,429,983	270,849	3,700,832	277,638	3,707,621	474,415	4,182,036	*	11.3%
1997	3,543,196	429,550	3,972,746	165,866	3,709,062	685,650	4,394,712	*	15.6%
1998	3,615,890	373,291	3,989,181	496,424	4,112,314	1,150,620	5,262,934	*	21.9%
1999	3,734,798	395,998	4,130,796	136,739	3,871,537	739,136	4,610,673	*	16.0%
2000	3,860,516	515,136	4,375,652	202,029	4,062,545	742,398	4,804,943	28.6%	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	*	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	31.6%	23.4%
2006	4,636,351	681,414	5,317,765	193,948	4,830,299	1,626,778	6,457,078	*	25.2%
2007	4,500,843	851,055	5,351,897	299,852	4,800,695	2,005,249	6,805,944	*	29.5%
2008	4,273,781	870,637	5,144,418	248,408	4,522,189	2,398,863	6,921,052	*	34.7%
2009	4,048,176	851,541	4,899,717	304,842	4,353,018	1,722,157	6,075,157	*	28.3%
2010	3,815,858	986,031	4,801,889	375,208	4,191,066	1,712,242	5,903,307	34 %	29.0%
2011	3,850,689	1,194,345	5,045,034	344,672	4,195,361	1,748,356	5,943,717	*	29.4%
2012	3,935,559	1,182,040	5,117,599	221,672	4,157,231	1,970,490	6,127,721	34.1%	32.2 %
2013	3,821,422	1,336,814	5,158,236	275,388	4,096,810	1,724,790	5,821,600	*	29.6 %

* National data is not available.

It is interesting to note in the above figures that the total tonnage of waste generated in Kentucky is down significantly from 2012, and is in fact at its lowest volume since 2004. Kentucky's recycling rate also showed a significant drop, from 32.2 percent in 2012 to 29.6 percent in 2013. However, closer review of the data shows a sharp drop in ferrous

scrap metals recycling in 2013 that actually accounts for the entire drop in the overall rate. In fact, if this drop in ferrous metals is factored out, the recycling rate of all other commodities actually shows an increase to 34.7 percent. Much of this drop in ferrous metals recycling is likely explained by persistent low prices for all of 2013 after a price spike in 2012.

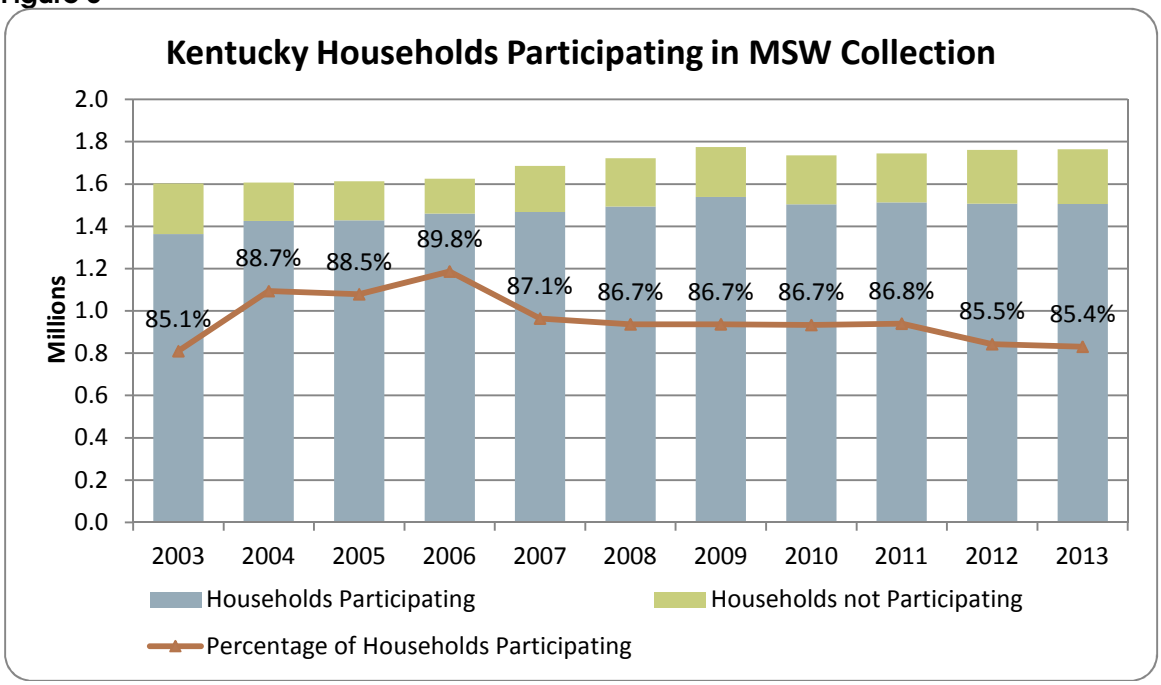
The average cost of MSW disposed of in Kentucky landfills in 2013 was $36.93 per ton. In 2013, Kentucky experienced a 3 percent decrease in Kentucky MSW disposed of in Kentucky landfills and a 13.1 percent increase in the amount of out-of-state MSW disposed of in Kentucky landfills. Kentucky disposed of 4,096,810 tons of MSW in 2013, a decrease of 60,421 tons from 2012.

All counties in Kentucky offer a system of universal waste collection through the form of curbside collection, drop-off centers, collection centers, or transfer stations.

> "Universal collection" is defined by KRS 224.1-010 (45) as:
>
> … a municipal solid waste collection system which is established by ordinance and approved by the cabinet and requires access for each household or solid waste generator in a county. A commercial or industrial entity which transports or contracts for the transport of the municipal solid waste it generates or which operates a solid waste management facility for its exclusive use may be excluded from participation.

Household participation in MSW collection has remained relatively level since 2003 with an average of 86.9 percent participation. Since 2003, waste haulers and recyclers have been required to register and report annually to each county the number of households using the collection services they provide to the county.

Figure 3



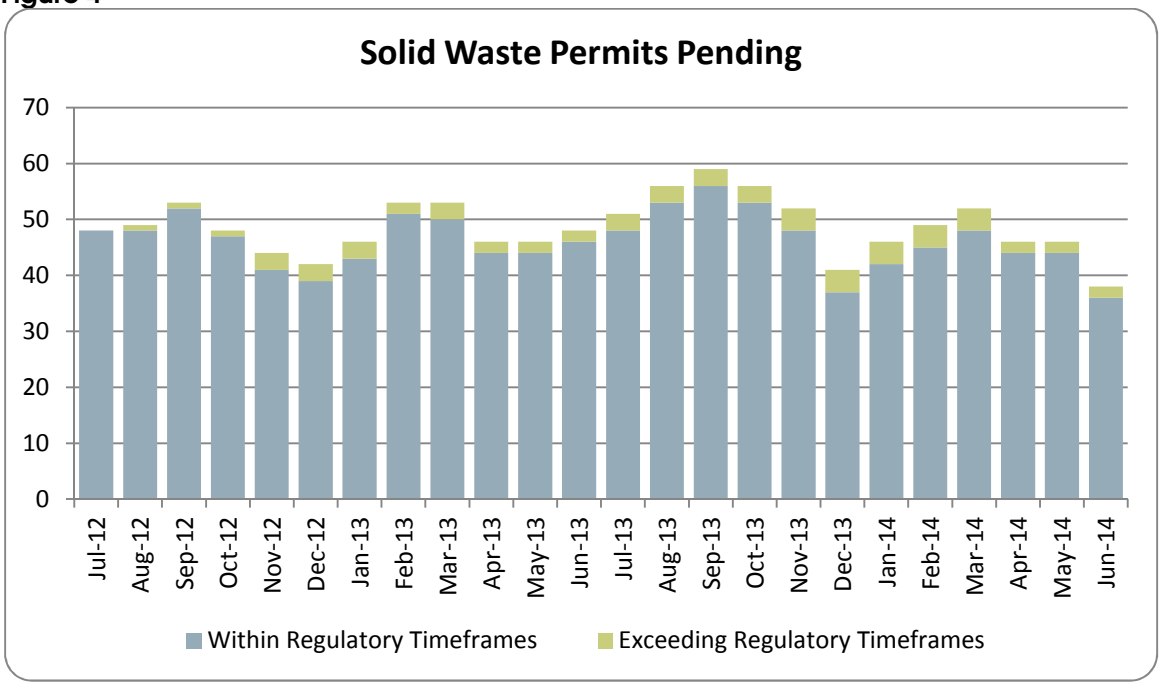
In 2013, 1,506,099 Kentucky households participated in MSW collection. The average household participation rate for MSW collection systems in 2013 was 85.4 percent, which means approximately 14.6 percent of households (257,959 households) disposed of their MSW illegally or were not accounted for by current tracking methods. Self-haul to transfer stations and convenience centers is a legal method of disposal but is often not tracked. Multiunit apartments comprise approximately 17.7 percent of the total Kentucky households. Most of these are serviced by dumpsters via commercial accounts and consequently do not show up as individual house counts. As a result of these tracking limitations, actual participation rates could be five to ten percentage points higher than what is reflected by county reporting. The average cost per month for household curbside MSW collection was $17.22 in 2013.

Solid Waste Permitting

The Solid Waste Branch continues to issue the majority of permits within regulatory timeframes. This includes permits for new landfills, permit modifications for existing landfills, and permits for land application and composting facilities.

There were 28 solid waste permits pending at the end of FY14, with 27 within regulatory timeframes and one exceeding regulatory timeframes. In FY14, 98 percent of solid waste permit reviews were completed within the regulatory timeframe.

Figure 4



Historical Landfills

A total of 58 historic landfills have been closed through construction and remediation projects or by no further action due to intensive site studies. Total costs associated with the closure projects exceed $50 million, excluding branch personnel direct and indirect expenses.

One landfill closure project, the Billy Glover Landfill in Jessamine County, was closed in FY14 at a cost of approximately $5.5 million for site characterization, design, and construction.

Phase I of the Butler County landfill is scheduled for closure in FY15, and construction and engineering oversight costs are estimated to be approximately $2.5 million.

Two historical landfill closure projects are in the design phase and will be scheduled for construction. Construction and engineering oversight costs are estimated to be approximately $5 million.

- Johnson County Landfill
- Trigg County Landfill

Initial characterization of 266 landfills is complete. The landfills are being prioritized based on the perceived threat to human health and the environment. The approximate cost for the initial site characterization of these sites is $3.9 million. There are 563 historical landfills remaining to be closed.

SOLID WASTE BRANCH HIGHLIGHT

Glasgow Regional Landfill Gas Collection System

By Tammi Hudson, P.E.

One shortcoming of any municipal landfill is the production of a gas containing methane from decaying trash. Methane is a combustible gas and can be explosive at a mixture of about 15 percent in air. If not managed, landfill gas migrates into groundwater and the atmosphere and causes fire and other potentially hazardous conditions. To control gas from a landfill, it must be released through passive air vents or captured and used as an energy source.

The Glasgow Regional Landfill provides a service to 16 counties in Kentucky and disposes of approximately 100,000 tons of waste per year. In 2011, the City of Glasgow Landfill detected cobalt and volatile organic compounds in up-gradient and side-gradient sampling locations of the landfill, which indicated landfill gas was present. The landfill gas was being generated from pressure beneath an unvented cap and was not transferring to groundwater or to the atmosphere. Upon investigation, it was discovered the landfill gas was migrating toward a residential area.

Working with the Division of Waste Management (DWM), Glasgow installed four passive gas well vents. Upon completion of the passive vents, the air was monitored for landfill gas. The reading from one gas vent was 40 percent methane by volume and a 100 percent Lower Explosive Limit. Because of the presence of landfill gas close to the property boundary, immediate action was taken by DWM and Glasgow. Nineteen additional passive gas well vents were installed at strategic locations to provide further data about gas migration and in an effort to eliminate gas migration to the property boundary. Nearly all the newly installed landfill gas well vents indicated the presence of migrating landfill gas.

Because of hazardous site conditions, DWM and Glasgow developed a plan to construct two landfill gas trenches. One trench was installed along the waste boundary to cut off

gas migration toward homes near the property boundary, and the second trench was installed into the waste to provide an exhaust path for the landfill gas.

DWM was concerned about gas intrusion into homes which bordered the landfill property. Concurrently to construction activities, Glasgow and DWM worked together to provide nearby residents with daily air monitoring of their crawl spaces and basements. An additional eight well vents were installed proximate to the waste boundary in an effort to reduce migration.

Glasgow became proactive to find a solution for the residents and planned to turn their landfill gas into a resource and use it as electricity. Partnering with the Farmers Rural Electric Cooperative Corporation and East Kentucky Power, they developed plans to install an active gas-to-energy system. The design included a generator station, a gas flare, and gas extraction wells and piping system. To recover the gas, wells were installed vertically into the landfill waste mass and vacuum was applied to extract the gas.

The initial phase of recovering the gas is successfully completed and the gas is being transported through pipes to a recovery system used to remove contaminants. Once the entire system is constructed, the clean methane will be burned in the power generating station and the resultant electricity will be fed into the power grid owned by Farmers Rural Electric Cooperative Corp. East Kentucky Power anticipates tapping onto the power grid before October 2014. The gas is being flared until East Kentucky Power is able to construct the generator station.

The initial power station will be capable of producing one megawatt of electricity, which converts to enough electricity for 500 residences. Additional electric generation units will be added as gas production at the landfill increases. Installation of the new active gas-to-energy system should correct the landfill gas migration problem as well as alleviate the potential for groundwater contamination. The Glasgow landfill project is one example of DWM helping communities connect sustainable practices with economic development.

RECYCLING AND LOCAL ASSISTANCE

waste.ky.gov/RLA

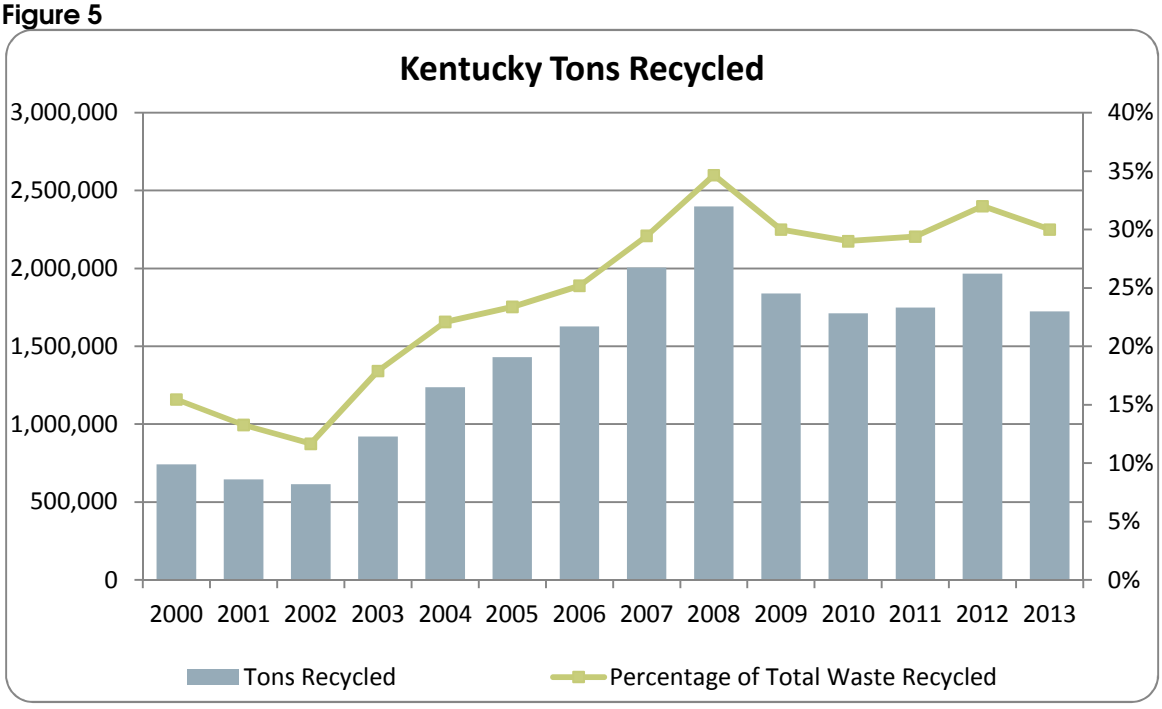
The Recycling and Local Assistance Branch provides continuous technical assistance and training to public and private entities on solid waste issues and regulatory requirements and promotes individual responsibility and accountability for proper solid waste management.

In accordance with Kentucky Revised Statute (KRS) 224.43-315, beginning March 1, 2004, recyclers are 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. Data received for the 2013 report year show a total recycling rate of 29.6 percent, which is a significant decrease from 2012's 32.2 percent recycling rate.

However, a closer look at the data shows a dramatic drop of nearly 300,000 tons in the category of ferrous metals. This decrease may be explained by market forces – prices for ferrous scrap metals were flat for all of 2013, after a price spike in mid-2012 (see Figure 10). Also, data for scrap metal recycling rates as reported to counties has generally been less reliable than for other commodities, and some part of the year-to-year change in the ferrous metals recycling rate may be related to imperfect data collection.

It should be noted that if the decrease in the recycling rate for ferrous metals is factored out, the recycling rate for all other tracked commodities (glass, paper, non-ferrous metals, plastics, etc.) would actually show a healthy increase to 34.7 percent.

Figure 5



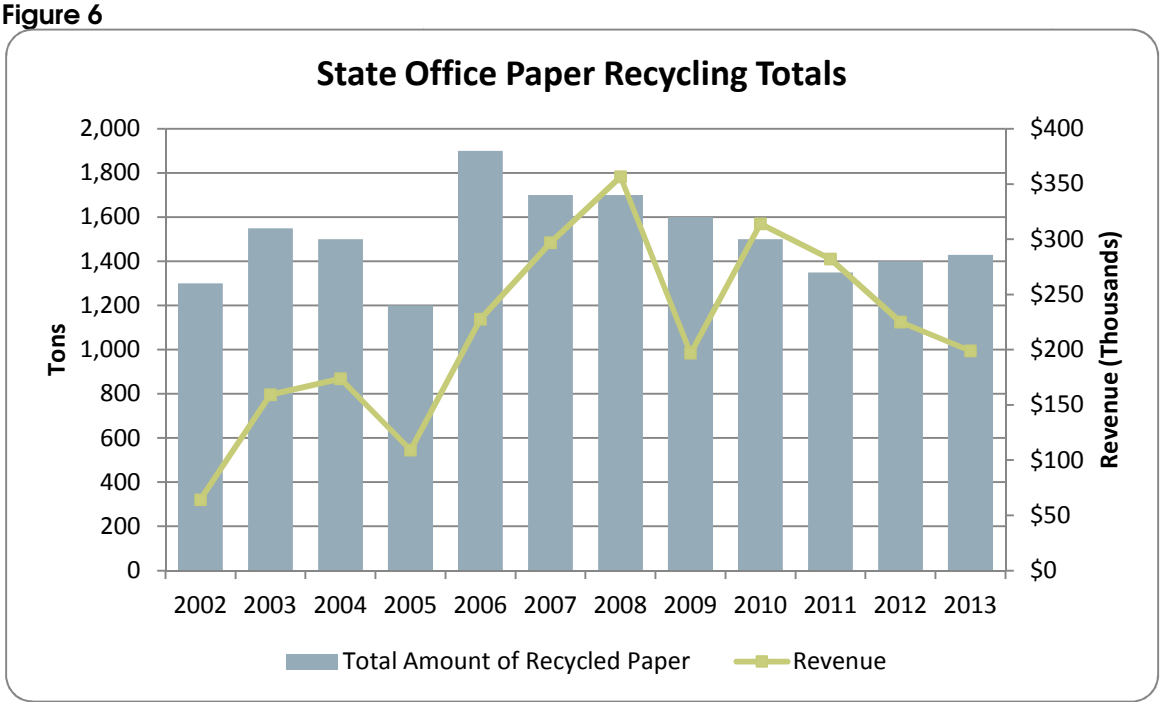
The State Office Paper Recycling Program

The Government Recycling Section continues to operate the State Office Paper Recycling Program, serving more than 115 agencies in Frankfort. This program continues to be self-supporting, funding eight full-time staff positions.

White office paper, collected from state government offices in Frankfort, awaits grinding and bailing. *Photo by Gary Logsdon*

The program offers free pickup and free document destruction of governmental office paper. The Government Recycling Section's location on Northgate Drive offers a secure 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 43 million pounds of paper being recycled through this program. Since 2002, state employees recycled more than 18,079 tons of waste paper, generating more than $2.6 million in revenue. In 2013, state employees recycled 1,429 tons of waste paper – approximately 226 pounds per state employee.

Figure 6

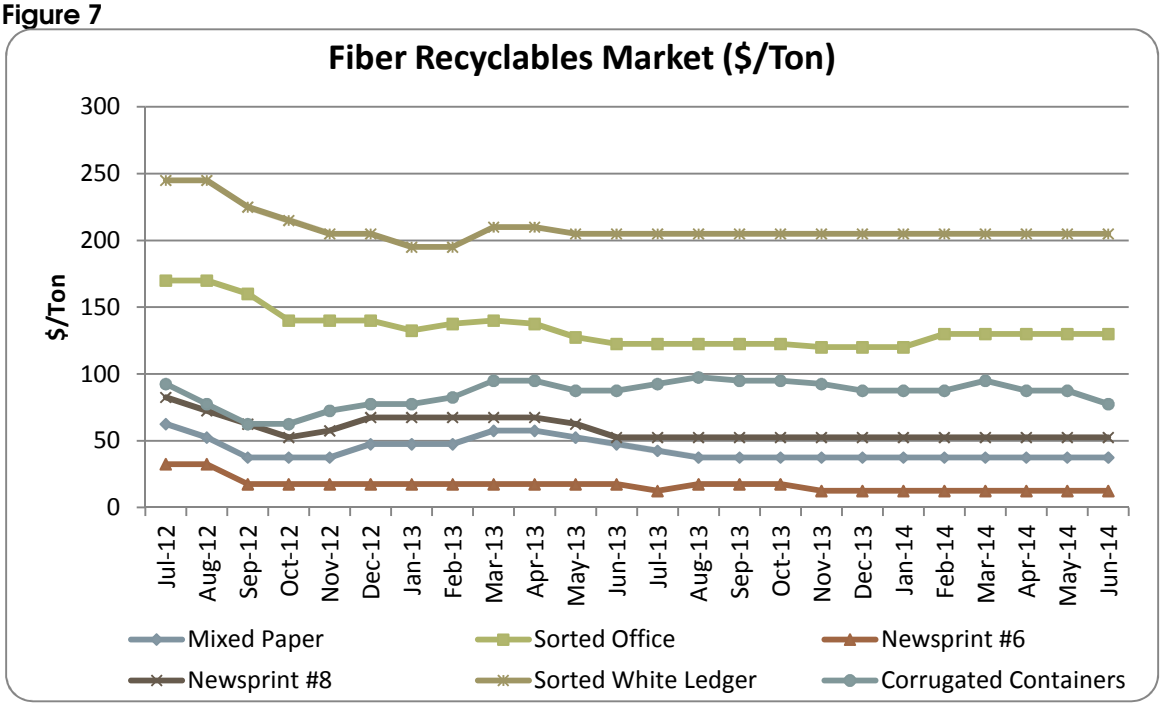


The Marketplace

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

The MARKETPLACE For Recycling Commodities

Figure 7

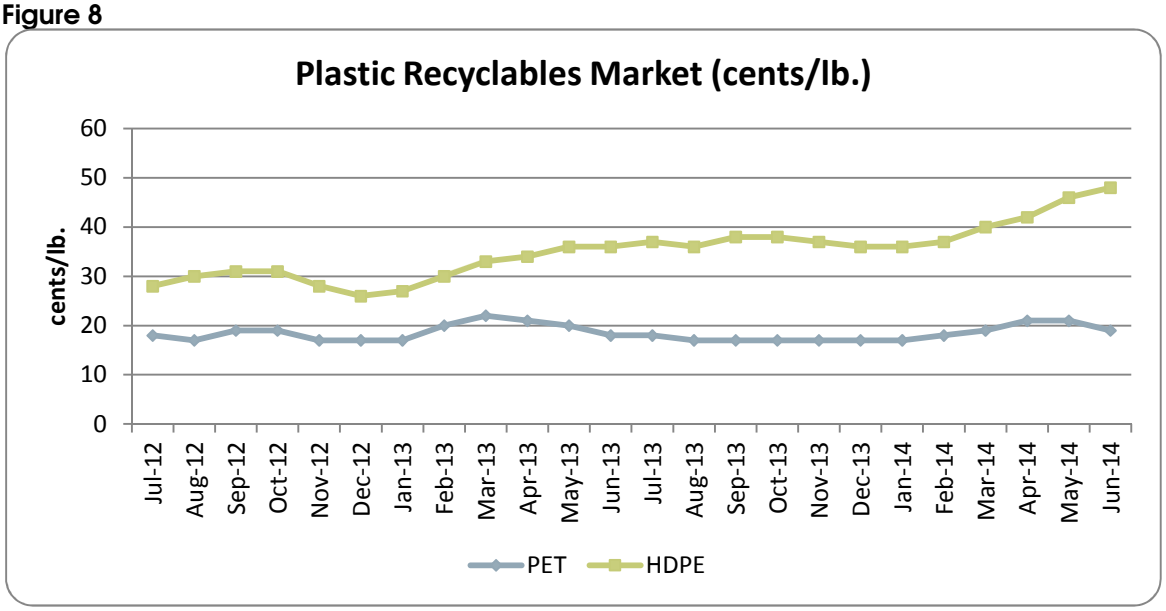


- "Newsprint #8" means baled sorted newspaper, with no sun exposure, with the typical amount of slick advertising inserts, as would be delivered to a home or at a news stand.
- "Newsprint #6" means baled newspaper that typically has more advertising slicks, paper and plastic bags, magazines, and types of paper other than newsprint.
- "Sorted Office" means an assortment of white, colored and coated, ground wood-free copier and printer paper.
- "Mixed Paper" means a lower grade of material that includes slick advertising inserts, junk mail, paperboard containers and other types of paper mixed together.
- "Sorted White Ledger" means white paper such as stationery, copy paper, book pages, and printing papers (free of ground wood fiber).
- "Corrugated Containers" means, typically, brown cardboard boxes.

Recovered paper prices have remained stagnant due in large part to significantly reduced export to China and lower domestic generation and mill use. China has also begun increasing their own domestic recovery/recycling programs which will further negatively affect their use of U.S. recyclable paper stock.

The expected increase in domestic use of recycled paper has not materialized to date. Recycled content packaging and container production has remained steady or declined slightly in FY 2014.

Figure 8

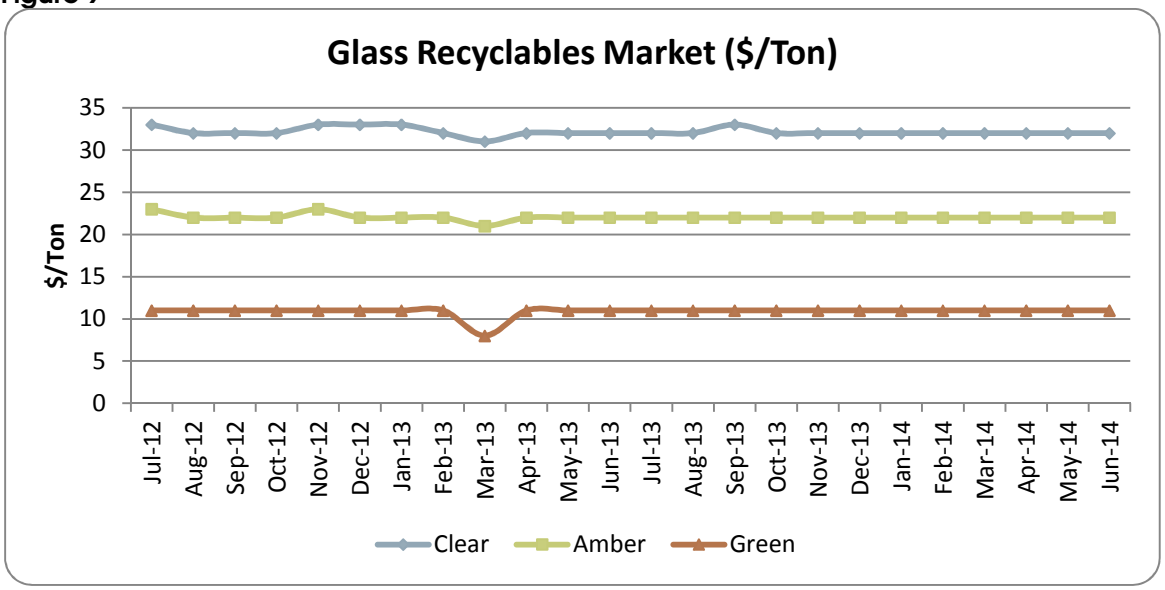


The price paid for number one plastics, polyethylene teraphthalate (PET #1) typically known as soda bottles has seen continued stagnation as the price for natural gas (which virgin PET is made from) has fallen due to improved extraction methods (fracking), making virgin resin more competitive with recycled PET. Also, with limited export movement for most of the year, an oversupply of material was left on the domestic market.

Prices for number two, high density polyethylene (HDPE #2) typically known as milk jugs, has slowly but steadily increased over the last fiscal year. This is due in large part to the tightening of supply as recycling companies and municipal recycling facilities have slowed down their sorting processes in order to increase quality as demanded by the Chinese "Green Fence" policy, thereby tightening available supply.

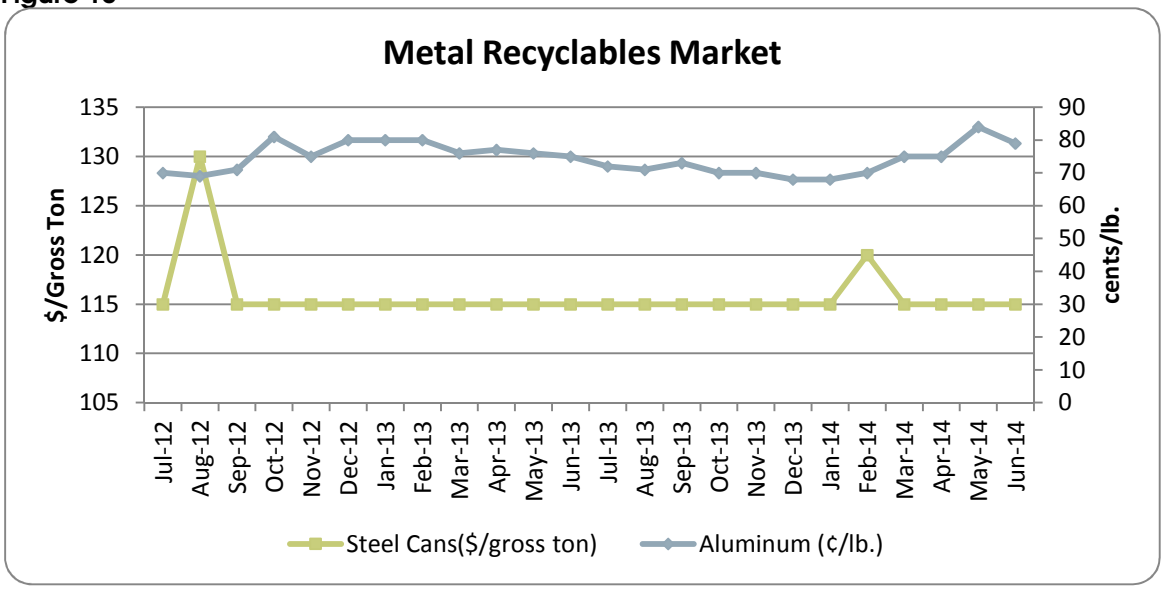
Export shipments of all plastics advanced significantly toward the end of the fiscal year, but prices, overall, were slightly lower from last year.

Figure 9



Glass prices remained at levels established two years ago due to the combination of increased interest in recycled content in glass containers (particularly wine bottles) and the shortage of clean recyclable cullet available since the widespread advent of "single stream" recycling collection. Cross contamination of all commodities, especially glass bottles and jars, required manufacturers that use recyclable cullet to increase pricing to stimulate the generation of more clean material suitable for their use in making new glass containers. Unfortunately, glass usage continues to decline against plastic and aluminum containers.

Figure 10



Recycling prices for aluminum cans have fallen somewhat, as have all non-ferrous scrap metal prices, due to lower demand as economies remain stagnant worldwide. Solid growth in world markets will be necessary to advance prices to previous levels.

Steel prices have dropped back to previous price levels after experiencing dramatic increases, due primarily to decreased use of new steel worldwide for new construction, other than for automobiles. Sustaining growth of emerging economies, such as China, India, Brazil and Japan will be needed to drive pricing up, both domestically and for export markets.

Waste Tire Trust Fund

The Waste Tire Trust Fund was reauthorized by the General Assembly in the 2014 session and is in effect until June 30, 2016. The cabinet submitted a report to the General Assembly in January 2012 recommending that the program continue to be reauthorized. Funding comes from a $1 fee on the sale of all new motor vehicle tires sold in Kentucky. The fund is used to conduct waste tire collection events, provide annual funding directly to counties for waste tire management, award crumb rubber grants, facilitate market development for the use of waste tires, and clean up waste tires at sites where tires have been mismanaged. 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 a report for the General Assembly. Beginning in 2011, the cabinet also made a $3,000 annual grant available to counties for recycling or disposal of waste tires.

In FY 2014, waste tire collection events (formerly referred to as “tire amnesties”) were conducted in 36 counties in the Buffalo Trace, FIVCO, Northern Kentucky., Gateway, Big Sandy and Kentucky River Area Development Districts (ADDs). Standard passenger car tires weigh approximately 20 pounds, thus 20 pounds of waste tire material is considered a “passenger-tire-equivalent” or PTE. The equivalents of 541,518 waste tires were recovered through FY 2014 collection events at a cost of $614,822.63.

Crumb Rubber Grants - From 2004–2013, the cabinet awarded 371 grants totaling more than $7.44 million to local governments, schools, daycares, churches and other entities for the use of crumb rubber made from recycled tires for athletic fields, playgrounds, walking trails, landscaping, gym floors, etc. In 2013, 24 grants totaling $400,000 were awarded to assist schools and communities in projects using crumb rubber from waste tires. Funding for the crumb rubber grants comes

from the Waste Tire Trust Fund. A total of 46,285 tons of waste tires were used in tire-derived fuel projects, crumb rubber grants and other beneficial reuse purposes in CY13.

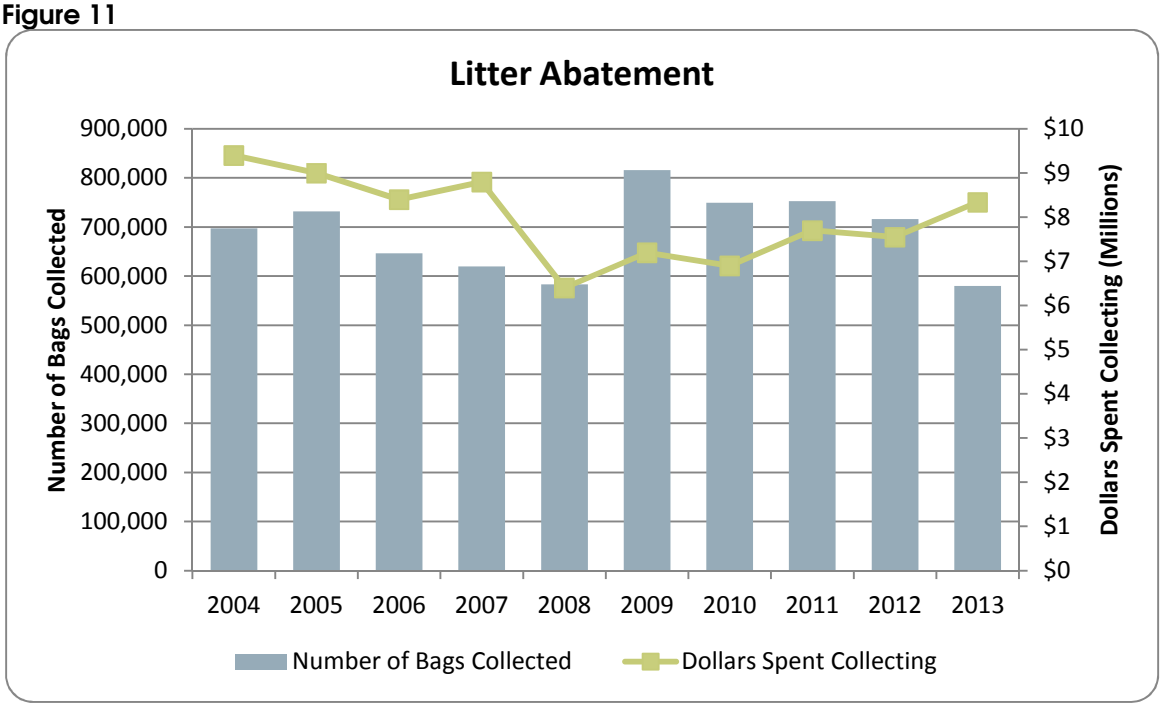
Kentucky Pride Fund

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 historical landfills, debt service, recycling grants, household hazardous waste management grants and remediation of illegal open dumps.

Litter Abatement - The division began tracking the cost of litter activities and the number of bags of litter collected in 2001. State litter abatement grant funding through the 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. In 2013, counties cleaned up 580,069 bags of litter on 155,536 miles of roadways. A total of 11,601,380 pounds of litter was collected by counties through the Kentucky Pride Fund in 2013.

Litter collection costs totaled $8.3 million, an average cost of 72 cents per pound. Most of the items found on roadways are plastic bottles and food containers. Litter collection is costly, at $1,437 per ton, when compared to the average landfill disposal rate of $36.93 per ton.

Figure 11



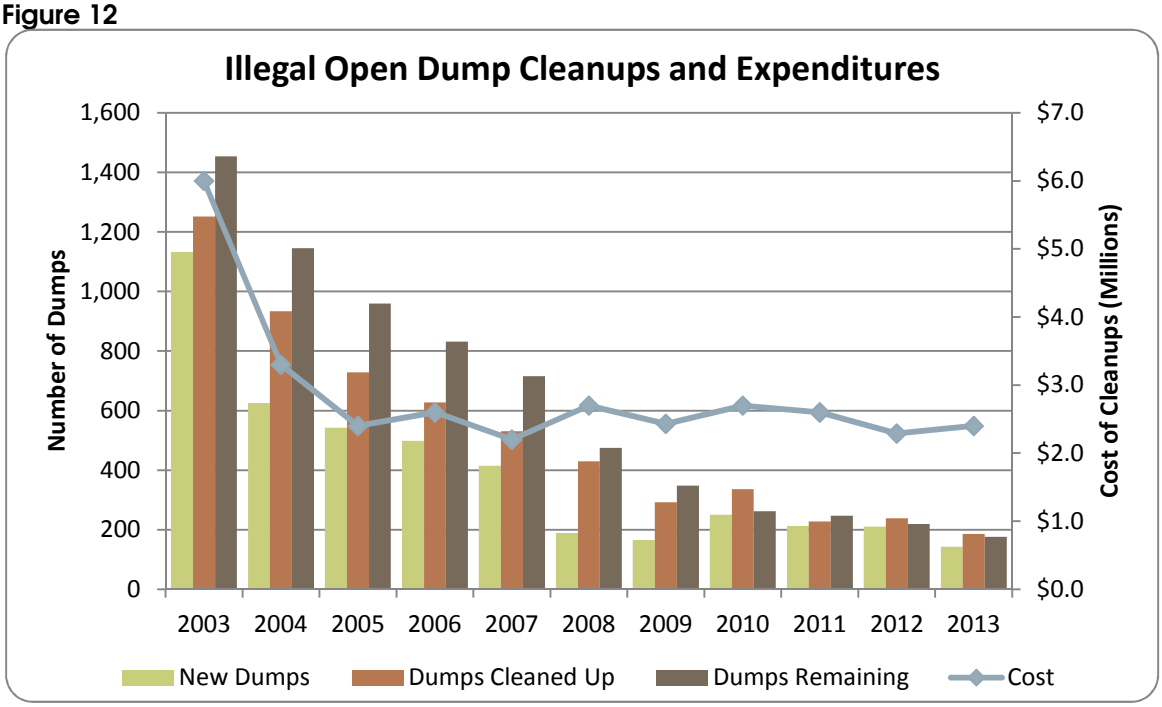
The amount of litter collected on public roads may not include litter collected by state road crews as part of the Department of Transportation's efforts to maintain state roads.

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 (HHW) management. In 2013, 72 entities were awarded grants for a total of over $3 million. Forty-nine recycling grants were awarded to cities,

counties, and universities. These grants are to help fund the establishment or expansion of recycling operations. Twenty-three 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 of in Kentucky landfills. The goal of the program is to build recycling infrastructure and fund HHW management collection events in areas where few of these opportunities for citizens exist, with an emphasis on regional cooperative efforts. In FY14, 139.9 tons of household hazardous waste were collected by counties through the Kentucky Pride Fund.

Cleanup of Illegal Open Dumps - More than 25,600 illegal open dumpsites have been cleaned at a cost of $75.4 million dollars since 1993. In 2013, counties cleaned 186 illegal open dumps at a cost of $2.4 million. Through the Kentucky Pride Fund, counties collected 8,435 tons of illegal open dump waste in 2013. The average cost to clean each dumpsite was $12,957. There were 176 known dumpsites remaining at the end of 2013 and the number of remaining illegal open dumps is decreasing.

Figure 12



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 old dumpsites. Since 2006, this program has funded the cleanup of 1,941 dumpsites at a cost of more than $13 million. The tenth round of illegal open dump grants was awarded in January 2014 for the remediation of 131 dumpsites at a projected $1.36 million.

E-Scrap Recycling

Collection of waste computer and electronic parts and equipment (e-scrap) continues to grow in the state, with over 50 counties reported offering some type of e-scrap collection, whether year-round e-scrap drop-off programs or periodic or annual events. More than 3,500 tons of e-scrap was reported having been collected in 2013. 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 Jan. 1, 2009. This "all-agency" contract allows the executive, judicial, and legislative branches of government, school districts, universities, and any other public not-for-profit organization convenient access to recycling. The contract provides for statewide pickup and recycling services with effectively zero percent of the scrap going to Commonwealth landfills. This contract is unique in that the vendor pays the agencies/school districts/universities/local governments for the majority of items aggregated for recycling. From January 2009 to July 2014, over 7,557 tons of e-scrap have been collected from over 600 agencies/locations and refurbished or recycled in an environmentally sound and data secure manner. Payments to generators have netted over $445,000.

RECYCLING AND LOCAL ASSISTANCE HIGHLIGHT

Kentucky's Successful Waste Tire Collection Program

By Shannon Powers

Kentucky's Waste Tire Trust Fund was created in 1998 to address waste tire issues in the state. Funding comes from a $1 fee on the sale of all new motor vehicle tires sold in Kentucky. The fund is used by the Kentucky Division of Waste Management (DWM) to clean up orphan tire piles, award waste tire and crumb rubber grants, facilitate market development for the use of waste tires, and to conduct waste tire collection events (WTCEs, formerly known as tire amnesties).

WTCEs are currently conducted in each county on a three-year cycle, and the program is in its fifth round, meaning counties are now conducting their fifth WTCE since approximately 1999. Although collection totals fluctuate up and down over the years (with a general increase in collections statewide in the third round), the clear trend is a small but steady decrease in the total number of tires collected at WTCEs.

In FY 2013, collection events were held in the counties of six Area Development Districts (ADDs), and each saw a decrease from the previous round: Northern Kentucky was down 37 percent, Big Sandy showed a 19 percent decrease, Buffalo Trace saw a 23 percent drop, Kentucky River dropped 22 percent, FIVCO decreased by 31 percent, and the Gateway ADD dropped 40 percent compared to their previous event. Overall, the fifth round of WTCEs is showing a nearly 28 percent decrease in collections.

There appear to be several reasons for this steady decrease, and fortunately, they all point to a healthy and successful waste tire program. First, the program went from what had generally been a four-year cycle to a three-year schedule in 2010. Although the schedule during the early rounds of the program was less uniform, when looking at data from individual counties, it is clear that total tires collected per county per year is still down. Second, an annual waste tire grant was made available in 2011, which gives each county a small amount (usually $3000) to help deal with stray dumped tires in between their scheduled WTCEs. Third, there has been more success in recent years in enforcing a ban on participating in WTCEs for scrap yards (for safety reasons) and for retailers (because they have already received compensation to properly manage their waste tires).

The final, and most important point to note about the program is that this noticeable decrease in WTCE collections coincides with no corresponding increase in the number of orphan tire piles that DWM is being called upon to clean. Taken together, all indications are that the various components of DWM's waste tire program are working together to make progress toward its mission to eliminate the problem of waste tires in Kentucky.

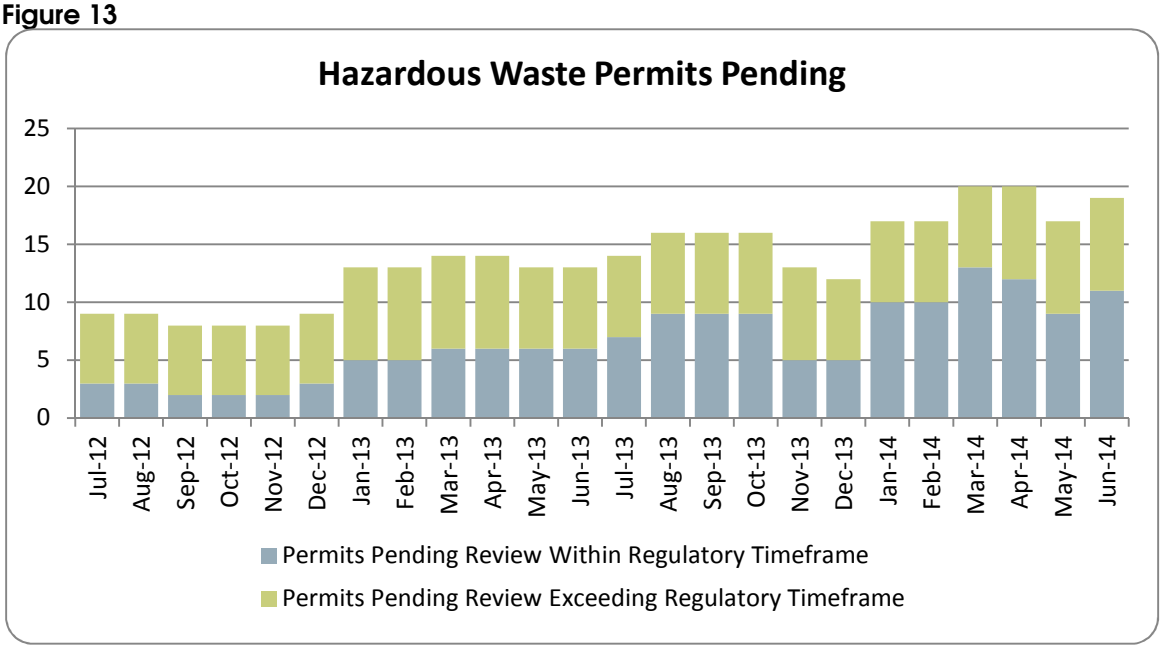
The Hazardous Waste Branch oversees the management of hazardous waste from generation to disposal. This involves the promotion of hazardous waste minimization, hazardous waste management and remediation of hazardous waste releases. These activities are accomplished through permitting, corrective action,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

Hazardous Waste Corrective Actions

In FY14, the Hazardous Waste Branch completed 190 hazardous waste program corrective actions (reviews, approvals, inspections, environmental indicators and meetings) and 32 were remaining at the end of the fiscal year.

Hazardous Waste Permitting

Figure 13



The total number of pending permit applications has remained steady. At the end of FY14, there were 11 hazardous waste permits pending review within the regulatory timeframe and eight pending review that exceeded the regulatory timeframe. In FY14, 73 percent of hazardous waste permit reviews were completed within the regulatory timeframe while 27 percent of reviews completed exceeded the regulatory timeframe.

HAZARDOUS WASTE BRANCH HIGHLIGHTS

Blue Grass Army Depot

By Heather Alexander

Aerial photo of the BGCAPP construction site, May 2014

The Blue Grass Army Depot (BGAD) is situated in Madison County, Ky., 6 miles southeast of Richmond, and 30 miles southeast of Lexington. This 14,600 acre facility was originally established in April 1942 for the receipt, issuance, storage, maintenance, and disposal of ammunition. Construction of BGAD was a product of the War Department's expansion of ordnance supply depots during World War II. The installation was operated by the federal government until October 1943, at which time the operation was assumed by a corporation under the name of Blue Grass Ordnance Depot, Inc., a subsidiary of the Firestone Tire and Rubber Company. The corporation operated the installation until October 1945 when the federal government again assumed control. In 1964, it merged with the Lexington Signal Depot in Avon, Kentucky, to become the Lexington-BGAD. The Lexington facility was selected for closure under the Base Realignment and Closure (BRAC) program in 1988, and closed in 1995. The remaining portion of the base in Richmond was then designated as BGAD.

The present day mission of BGAD is to provide munitions, chemical defense equipment, and special operations support to the Department of Defense (DoD):

- Support the Joint Warfighter by safely providing a full range of high quality defense products and services at the right place and time
- Maximize Warfighter capability through Ammunition Standard Depot Operations (store, issue, receipt, inspect, maintain, and demilitarize) of conventional munitions, missiles, non-standard ammunition, and chemical defense equipment
- Produce weapon system, combat vehicle, and ammunition components to fill critical Warfighter requirements today and in the future

There are different types of hazardous waste operations at BGAD, and accordingly separate and distinct Resource Conservation and Recovery Act (RCRA) Part B permit applications that are required:

Allows for the storage of Conventional Ammunition related waste managed by BGAD

Allows for the storage of Chemical Munitions and associated waste managed by the tenant Blue Grass Chemical Activity (BGCA)

A Research, Development, and Demonstration (RD&D) permit that develops into the Part B permit and allows for the process design and changes needed for the chemical demilitarization program
Being developed – allows for the open burn/open detonation/confined detonation chamber (OB/OD/CDC) operations which are currently under interim status
Being developed – allows for the destruction of mustard projectiles deemed unsuitable for processing through the main Blue Grass Chemical-Agent Pilot Plant (BGCAPP) plant

In 2013, there were several individual activities that occurred in different areas of the BGAD site. Here is a brief description on some of those activities:

- There was a lagoon on site, constructed many years ago, that collected water used in the rinsing of conventional munition bodies. It was determined that the lagoon and its water collection process was an environmental risk as it contained contamination from the TNT rinsed out of the munitions. Approximately 3 years of planning was involved to assess the nature and extent of contamination, analyze the data, and develop clean up plans before the physical cleanup work began and was completed in 2013. Phase 3 of the project is to complete the required permit modification work, planned for completion in early 2015.
- After successfully applying for a permit modification from the Division of Waste Management (DWM) in 2013, workers at the tenant BGCA have successfully and safely removed the motors from 42 nerve agent rockets as of March 26, 2014. The warhead segments of the rockets were over-packed into a single round container and placed back into storage in the earthen igloos that store the stockpile present at the Blue Grass Army Depot (BGAD). Twenty-three of the motor segments were shipped to U.S. Army Research, Development and Engineering Center at Picatinny Arsenal, NJ for compositional analysis and testing while the remaining 19 were placed in storage at the depot for future testing to support the chemical demilitarization effort at the BGCAPP currently under construction.
- In March 2014, BGAD submitted 3 different permit applications. The Munitions Storage 10 Year Renewal, the Class 3 EDT (explosive destruction technology) Permit Modification, and the RD&D Revision 5 were all submitted to the DWM. These applications will be reviewed by DWM permit reviewers as part of a lengthy process of information gathering, drawing review, regulations review, etc. The public is welcome and encouraged to get involved in this process, with many opportunities to attend meetings; ask questions; review documents; submit comments, questions, or concerns. The websites below are a great place to start.

For more information on BGCAPP: http://www.peoacwa.army.mil/bgcapp/
For more information on BGAD/BGCA: http://www.bluegrass.army.mil/Default.aspx
For public participation information: http://www.peoacwa.army.mil/bgcapp/public-involvement-at-bgcapp/

Paducah Gaseous Diffusion Plant

By Todd Mullins

The Paducah Gaseous Diffusion Plant (PGDP), an EPA Superfund site listed on the National Priorities List, was until recently an operating uranium enrichment facility. The facility is owned by DOE and leased and operated by the United States Enrichment Corporation (USEC). The PGDP was constructed 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. In recent times, the PGDP has produced low enriched uranium fuel for commercial nuclear power plants.

In May 2013, USEC announced that it would no longer continue operating the PGDP and in fact has ceased operations. USEC has continued work at the facility to render it safe for transfer back to the DOE. Pending contract finalization and return of the lease to DOE, Fluor Federal Services, Inc. will be the prime contractor for deactivation of the facility and will also take over management of environmental remediation efforts in 2015.

During the PGDP's operating lifetime, soils, sediments, groundwater and structures have become quite contaminated and require remediation. Soils and sediments at the site have been found to contain PCBs, radionuclides, and some heavy metals. Groundwater is contaminated primarily with trichloroethene (TCE) and technetium-99, a radionulclide. Remediation efforts at PGDP are prioritized and managed according to an Operable Unit (OU) strategy. An OU includes contaminated or potentially contaminated areas that share a common media (e.g., groundwater, surface water, sediment, soil) and similar exposure pathways (ingestion, inhalation, dermal exposure). For example, the Surface Water OU includes all surface water and associated sediment on the site (common media) where human exposure to contamination may occur through ingestion, dermal exposure, or perhaps through the consumption of fish tissue. Other OUs currently being addressed at the site include the Groundwater OU, the Decontamination and Decommissioning OU, the Soils OU, and the Burial Grounds OU.

In 2014 the primary Groundwater OU initiatives were remediation of TCE contaminated soils at the C-400 Cleaning Building and at the C-747-C Oil Landfarm. TCE is a chlorinated industrial solvent (and probable human carcinogen) that in the past was often used as a degreaser for metal parts. TCE is a dense non-aqueous phase liquid (DNAPL) that is denser than water and does not dissolve readily in water. Consequently, TCE typically sinks when spilled onto the ground or discharged into subsurface soils. As it sinks, the TCE DNAPL leaves residual traces of itself in the shallower soils. This is what occurred at both the C-400 Cleaning Building and at the Oil Landfarm.

The C-400 Cleaning Building is the source of much of the TCE that now contaminates over a billion gallons of groundwater at the site. TCE used to remove grease from parts leaked into the ground at this location and eventually made its way into the groundwater. The second phase of an Electrical Resistance Heating (ERH) remedy intended to address part an estimated 75,000 gallons of TCE thought to have been released to the environment was initiated during the summer of 2013. ERH is used to heat the soils near the C-400 Building. The heat vaporizes the TCE so that it can be removed from the soil. Once

this phase of the C-400 remedy is complete a final phase will be initiated to address TCE present at greater depths within an aquifer. A technology other than ERH will be used to address this contamination due to a confirmed inability of ERH to adequately heat deeper aquifer materials. A treatability study is being developed to evaluate the use of steam enhanced extraction as a technology.

The Oil Landfarm was historically used as a dumping ground for various waste oils and associated contaminates. These contaminants included TCE. The technology selected to address this contamination is deep soil mixing. Field implementation of this remedy began in 2014. Deep soil mixing uses a large mixing apparatus to agitate the contaminated soil and volatilize TCE. Hot steam is injected into the soil while it is being mixed to better liberate the TCE from the soil. The liberated TCE vapor is then captured for subsequent disposal.

The Decontamination and Decommissioning (D&D) OU was created to address structures that have no further use at the site. Most recently, D&D activities at the PGDP have involved the demolition of the C-340 Metals Reduction Plant (which was completed) and the ongoing demolition of the former C-410/420 Feed Plant. The C-410/420 Feed Plant demolition should be completed by the end of 2014; however, final disposition of the generated waste will not be completed until 2015. The slabs and underlying contaminated soils at both these facilities will be addressed under the Soils & Slabs Operable Unit, which has yet to be scheduled.

The Burial Grounds OU consists of eleven solid waste management units or burial areas, each with their own Solid Waste Management Unit (SMWU) designation. During 2014, Burial Ground OU activities included the continuing characterization of the SWMU 4 Classified Burial Yard and review of the SWMUs 2, 3, 7 and 30 burial grounds feasibility study and SWMUs 5&6 Proposed Plan. The third phase of the SWMU 4 characterization effort is being completed and will be followed by a fourth and final phase. It is anticipated that portions of SWMU 4 will be excavated at some point in the future since this unit is believed to be a contributor to groundwater contamination. Remedial actions to address the SMWUs 2, 3, 7, and 30 burial grounds are being evaluated as alternatives in a feasibility study which is current under review. The Division's review of the Proposed Plan for the SWMU 5&6 burial grounds has been placed on hold pending a decision on the potential citing of an on-site CERCLA waste disposal facility. A potential site for this facility encompasses the SWMUs 5 & 6 footprint and could impact remedy selection for these two burial grounds. Even when accounting for current delays, an action to address SWMUs 5&6 will likely occur several years before any action to address the other burial grounds.

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. A feasibility study currently under review attempts to compare and contrast the various waste disposition options available. According to this study, approximately $500 million dollars could be saved if wastes were dispositioned within a newly constructed on-site landfill rather than being shipped to the western U.S. for disposal. The Division is continuing to evaluate the efficacy of constructing a new landfill at the PGDP.

In FY 2014 DOE secured funding to expedite investigation for the Soils OU project. Work plans are being finalized under an expedited schedule for Soils OU projects with the investigations scheduled for completion in 2015.

USDOE and contractors submitted a permit application for the facility's storage, treatment and post-closure care 10-year permit reissuance in 2014. The application is currently under review with plans to reissue the permit in 2015.

Initial scoping for the 2015 Site Management Plan is ongoing in 2014. The Division is interested in beginning discussions for schedules pertaining to the D&D of the gaseous diffusion plant.

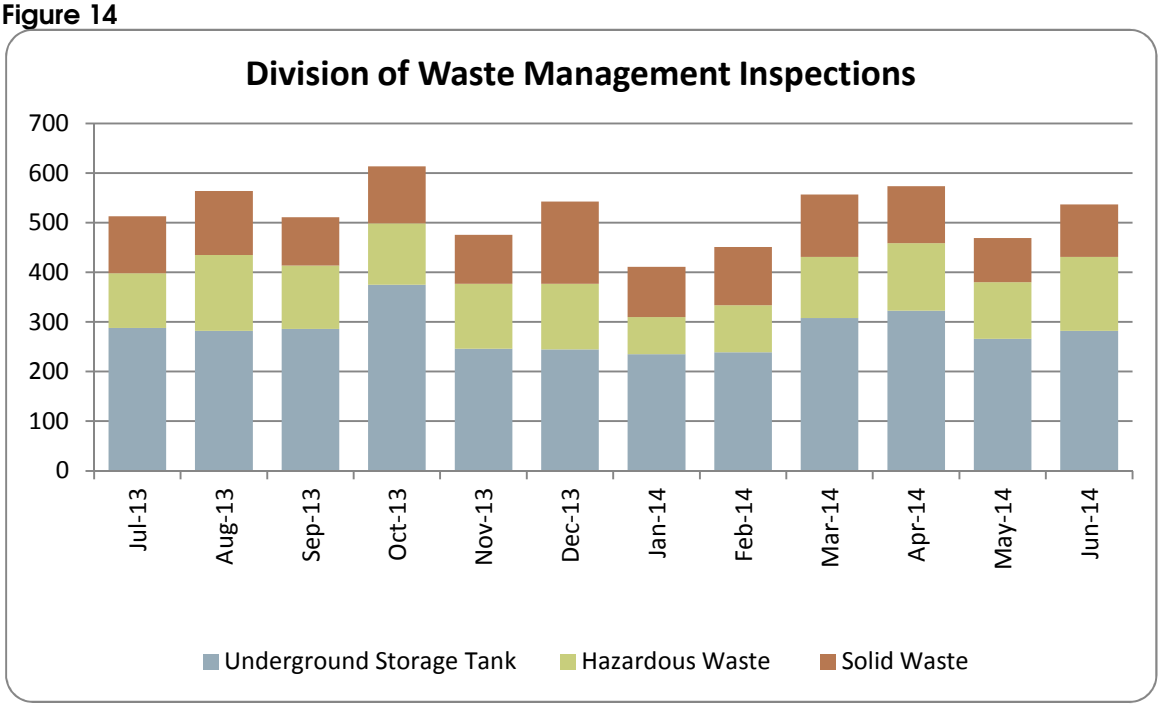
In 2014, the Division continued to conduct independent sampling at the PGDP in close proximity to known zones of groundwater contamination. The purpose of this sampling was to evaluate and substantiate DOE's sampling procedures and to verify the quality of their laboratory analysis. Split sampling was 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, the Division's laboratory results have been similar to those reported by DOE. The Division continues to sample private water wells to insure that groundwater contamination is not expanded beyond the area within which DOE supplies for municipal water to residents.

The mission of the Field Operations Branch 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 (USTs) and polychlorinated biphenyls (PCBs). The primary duty of a regional inspector is to check the compliance of regulated facilities.

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

Figure 14



During FY14, the Field Operations Branch conducted 6,486 UST, solid waste, and hazardous waste inspections. This was a 7.4 percent increase over FY13.

Field Operations conducted 3,619 UST inspections in FY 14. This accounted for 56 percent of the total inspections for FY14. This was up 21 percent from the previous year. The compliance rate for UST inspections continued its upward trend for the fifth consecutive year to 58.9 percent. Notice of Violations grew by 32 percent from FY13 to FY14. The increase in the compliance rate can be attributed in part to the passage of new regulations which incorporated provisions of the Energy Policy Act of 2005 including full implementation of Designated Compliance Managers and the issuance of annual Compliance Management Plans.

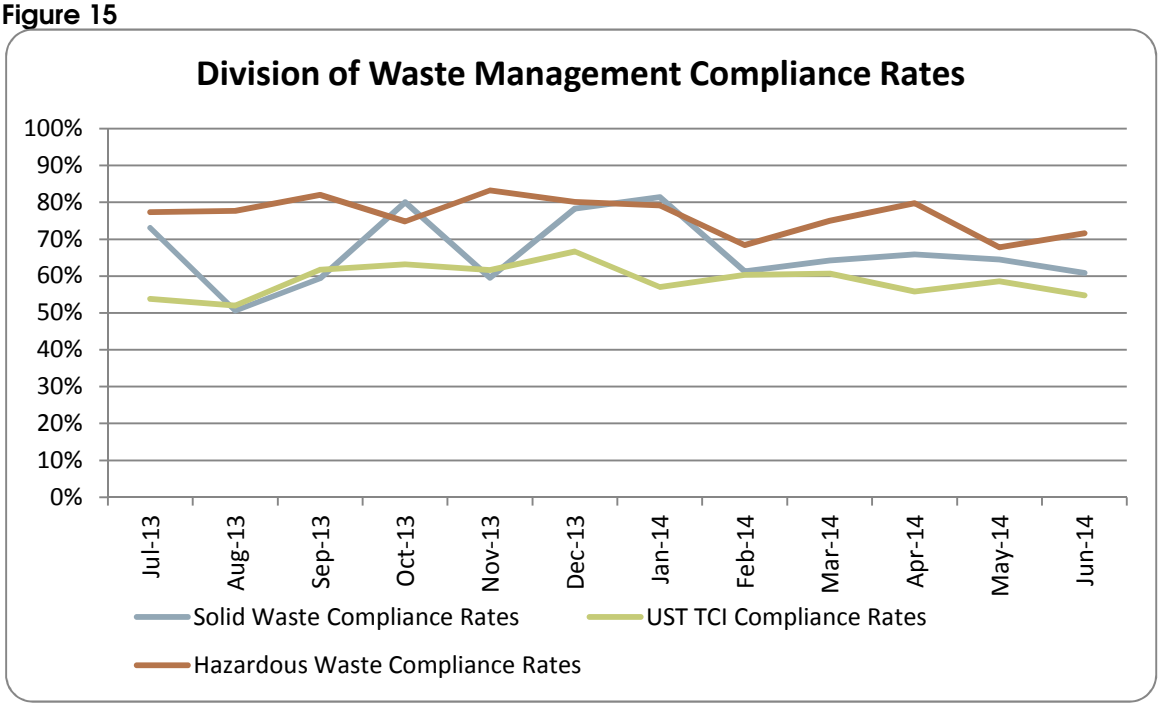
Field operations conducted 1,468 solid waste inspections in FY14. The compliance rate for solid waste inspections fell from 71.2 percent in FY13 to 65.7 percent in FY14. The decline can be attributed to an increase in open dump inspections and the increase in notices of violations issued for those inspections.

Field operations conducted 1,399 hazardous waste inspections during FY14 which was up by 4 percent over the previous year. The compliance rate was flat to last year at 76.3 percent.

Field operations conducted 1,998 complaint investigations in FY14 which was down 17.4 percent from the previous year.

A total of 8,484 inspections and investigations were conducted by the Field Operations Branch in FY13. This was an increase of 1.2 percent over the previous year.

Figure 15



Note: "Compliance Rate" means the percent of total inspections where an inspector noted that no violation had occurred. This does not include investigations triggered by citizen complaints.
Note: "UST TCI" means a technical compliance inspection for a site's USTs.

Emergency Response

KRS 224.1-400 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. They are the first to respond to environmental emergencies. In FY14, the Environmental Response Team had 14,309 incidents, 588 emergency responses, and 586 closed cases.

FIELD OFFICE BRANCH HIGHLIGHTS

Tanker Fuel Spill

By Brian Osterman

Tanker Truck Crash Scene, Jan. 30, 2014

On Jan. 30, 2014, a Cumberland Lake Shell petroleum tanker was involved in an accident which resulted in a catastrophic loss of 8,200 gallons of gasoline into the environment around the community of Sloan's Valley in Pulaski County, Ky. In addition to the fuel loss, another 6,000 gallons of water/foam mix was dispersed to prevent possible ignition at the accident scene.

Division of Waste Management (DWM) Emergency Response Team (ERT) inspectors were onsite to help with the coordination of cleanup efforts. If was determined that the fuel and water/foam residuals traveled down a dry stream bed to the Sloan's Valley Cave system. DWM ERT responders coordinated with the environmental contractors and U.S. Environmental Protection Agency to determine a plan of attack on cleanup and remediation. Plans included construction of collection points/underflow dams along the flow path of the fuel, exploration and source removal via excavation and investigation of the Sloan's Valley cave system. DWM worked closely with the Division of Water when dye tracing was used in investigation and the Division for Air Quality when air monitoring was conducted in the cave systems and karst features.

Fuel Ignition during Excavation, Jan. 31, 2014

The site has been referred to the state's Superfund cleanup section for further remedial activities. The DWM's inspector involvement in active site cleanup and remediation will be ongoing to ensure the protection of human health and the environment.

CSX Tunnel Fire

By Brian Osterman

On April 28, 2014, A CSX railroad found that the railroad tunnel in the Robinson Creek area of Pike County was engulfed in flames.

DWM ERT Inspectors were on site during the process of extinguishing the fire. DWM ERT inspectors coordinated with EPA, Division of Water, and Division for Air Quality to effectively contain the fire while minimizing the impact to the environment around the small community that was affected.

It was determined the best way to extinguish the fire was to seal both sides of the tunnel to "smother" the fire out. Large mounds of dirt were used to seal the entrances on May 6, 2014.

For approximately two weeks, the tunnel was sealed to allow the fire to smolder out.

Finally, water was used to finish extinguishing the fire. All materials were removed and the tunnel was repaired for continued use.

Tunnel on Fire, April 28, 2014

Entrance sealed to smother fire, May 6, 2014

Tunnel repaired and open for use, June 26, 2014

UNDERGROUND STORAGE TANKS

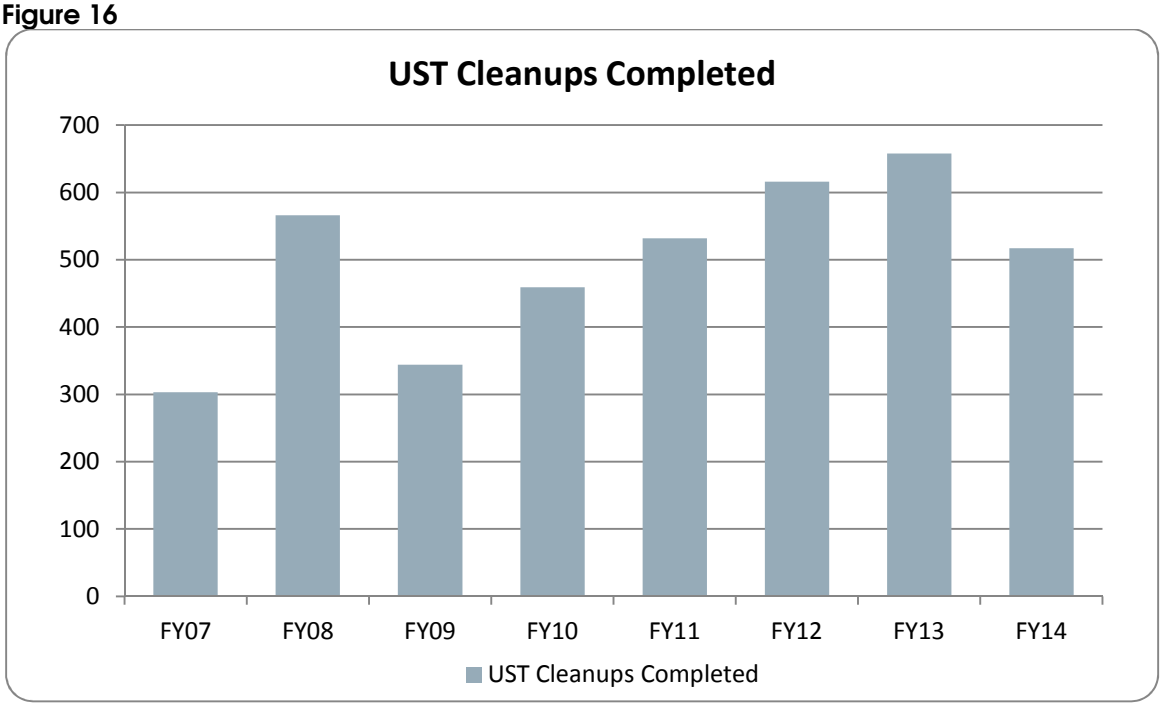
waste.ky.gov/UST

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

Through cleanup, former UST sites become assets to their communities. Vacant UST properties in cities and towns are often on busy street corners and main thoroughfares, making them potential opportunities for economic development, community development, and neighborhood revitalization.

UST removal is taking place at a fueling station.
Photo by Division of Waste Management staff.

Figure 16

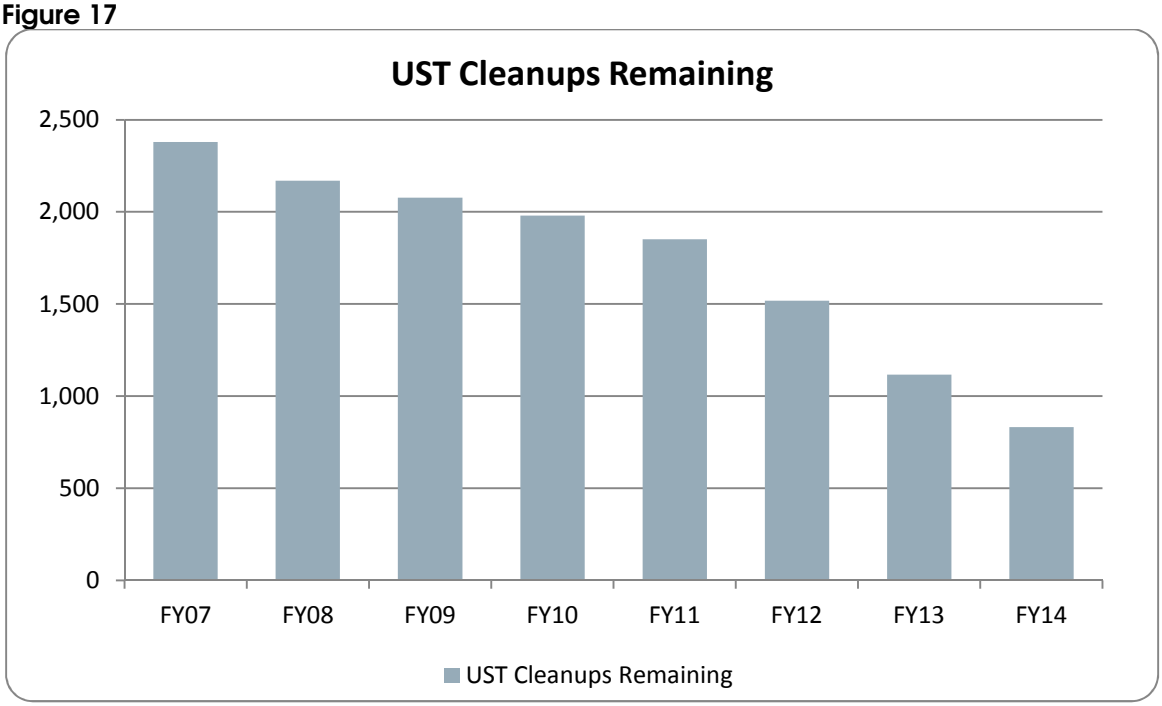


The above chart includes sites that have received a No Further Action letter from the Underground Storage Tank Branch (cleanups completed). There were regulatory changes in FY07 which in part account for the spike in FY08 NFA letters. In FY14, 517 NFA letters were issued to UST sites.

Kentucky is fortunate to have a funding mechanism that provides recurring financial assistance to eligible UST owners and operators for cleanup costs, and, in certain cases, the removal of old UST systems. This facilitates cleanups that may not otherwise take place since it helps UST owners who in many cases do not have the financial viability to self-fund the cost of removal and cleanup. The funds come from the Petroleum Storage Tank Environmental Assurance Fund (PSTEAF) and are from an assurance fee of $0.014 assessed on each gallon of gasoline and special fuels imported to Kentucky.

As a direct result of changes in the regulatory process in 2006 and 2011, the total number of UST cleanups remaining has decreased substantially. At the end of FY14, there were 832 UST cleanups remaining.

Figure 17



While these charts reveal the clear success of the changes in the UST cleanup program and regulatory process, it should also be noted that as long as USTs and piping have an opportunity to leak, there will continue to be new UST releases and the need for a UST cleanup program.

In fact, the number of new cases being added to the cleanup list average roughly 280 per year over the last seven years.

In fact, the number of new cases being added to the cleanup list has averaged roughly 280 UST sites per year for the last eight years.

The UST Quarterly publication and the UST Branch website are focused on aiding UST owners, operators, contractors and companies with timely information regarding the regulatory aspects of owning and managing USTs and the cleanup of UST-related contamination.

UST QUARTERLY

The Kentucky Underground Storage Tank Operator Online Learning System (TOOLS) officially kicked off on Jan. 28, 2014. Since that time, approximately 2,500 of Kentucky's 3,369 active facilities have successfully designated a compliance manager and completed online training in order to satisfy state- and federal-mandated training requirements for UST personnel. Successful completion of the training will be required on an annual basis.

Assuming consistent and ongoing funding being provided for the UST cleanup program, coupled with the expected advancements in release prevention and enhancements in the cleanup and reimbursement processes, the agency is hopeful that the number of cleanups completed will continue to outpace the number of cleanups added to the list in the years to come.

UNDERGROUND STORAGE TANK BRANCH HIGHLIGHT

Moving UST Sites to Completion

By Edward J. Winner, Ph.D.

The goal for the UST Branch is outlined in the enabling statutes which provide the legal basis for the UST Branch's existence. Paraphrased, the legislature found that the people of Kentucky need fuel, but these petroleum products may pose a threat to public health and the environment. Thus, the General Assembly created a fund to encourage owners and operators of USTs to investigate and clean up releases without delay. The UST Branch must, therefore, fully support owners and operators of USTs in the immediate and timely cleanup of releases.

In recent years, the UST Branch has identified three elements in the program that have historically slowed cleanup. First, the technical approach has been to determine the complete and total extent of contamination before initiating cleanup. Second, work has been delayed due to deficient reports from UST contractors. Third, disputes over reimbursement have hindered cooperation between UST contractors and the UST Branch.

At first glance, it seems reasonable to keep sampling both soil and groundwater until a "clean" outer parameter is identified. The view would be that then the contamination is surrounded. This approach is consistent with a superficial reading of the federal regulations, as well as the state regulations. But to understand why this approach will fail, imagine fighting a fire using the same approach. The fire fighters would arrive at the scene of a burning house. The chief would first direct his firemen to trace out the farthest reaches of the smoke to see how many properties the smoke crosses and identify those properties. Next, the chief would place smoke monitoring points at all the impacted properties. Only after determining the full extent of the smoke's impact would the chief actually direct his fire fighters to start spraying water on the flames. By that time, the house may be completely destroyed and the fire may have spread to neighboring homes. Instead, the good chief will douse the flames first, and then seek out the embers and at the end address the smoke. Thus, by application, to address a UST release, one first wants to clean up the tanks and pipes as well as the soil which has adsorbed the released fuel. Determining "full extent" can, generally, be pursued in parallel to initial remediation activities, if not somewhat behind remediation activities.

Project managers in the UST Branch have the responsibility to direct actions either suggested by UST contractors or at their own initiative in order to clean up UST releases. Their primary source of information, concerning a UST site, is the report provided by the UST contractor. While for the most part, Kentucky's UST contractors do a fine job in putting together reports, small to large oversights can make a report difficult and, at times, impossible to understand. Given the heavy workload the UST Branch has historically carried, the approach has been to send the contractor a formal deficiency letter and wait for a written response. The back and forth between UST staff and the UST contactors could and often did consume months of time. While not an ideal solution, UST project managers are now encouraged to go ahead and direct the next round of work if they understand the site and understand what needs to be done despite a report's deficiencies. UST project managers will call, email and text UST contractors directly to resolve issues. Only as a last ditch effort are formal deficiency letters mailed. This approach saves time and illustrates the Branch's commitment to resolving issues and completing work.

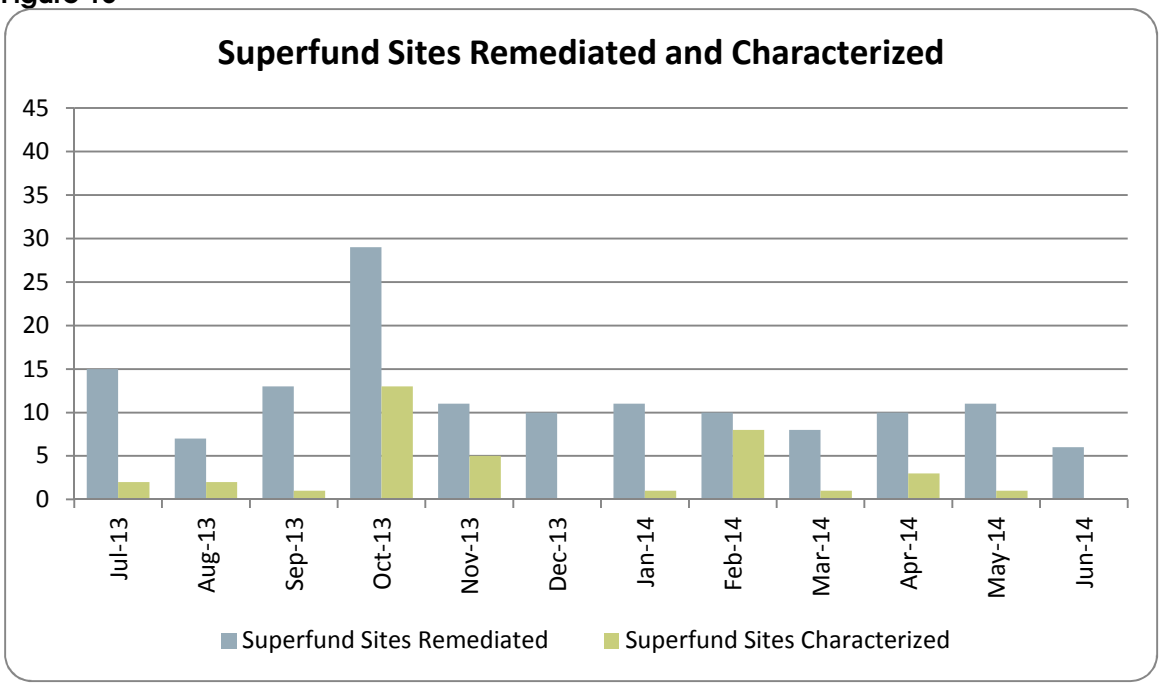
Disputes over reimbursement for completed UST work have been a continual source of delay, project inefficiency, and, generally, a barrier to communications between UST project managers and UST contractors. Nothing generates more hard feelings than fighting over money. With adoption of the 2011regulations, the UST Branch expanded the use of "fixed cost" directives, which were first introduced in 2006. UST contractors now know exactly what to expect regarding reimbursement for a completed job. Similarly, staff knows the costs associated with particular work items and are, therefore, able to consider costs when weighing options for a particular project. When work arises for which fixed costs have not been developed, UST contractors provide cost estimates. If those cost estimates are appropriate for the work, a fixed cost can be established for that work. By providing a reasonable levels of certainty regarding reimbursement rates, the UST Branch has strengthened cooperation with the UST contractors and has reduced delays in bring UST sites to a close.

By initiating UST cleanup as soon as possible, and before determining the complete and total extent of contamination; by avoiding, when possible, holding up work over deficiencies in reports; and by having fixed cost directives, the UST Branch has greatly reduced the time needed to complete UST cleanups.

The Superfund Branch 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. The program handles oversight of cleanup of hazardous substance releases and non-UST petroleum releases across the Commonwealth.

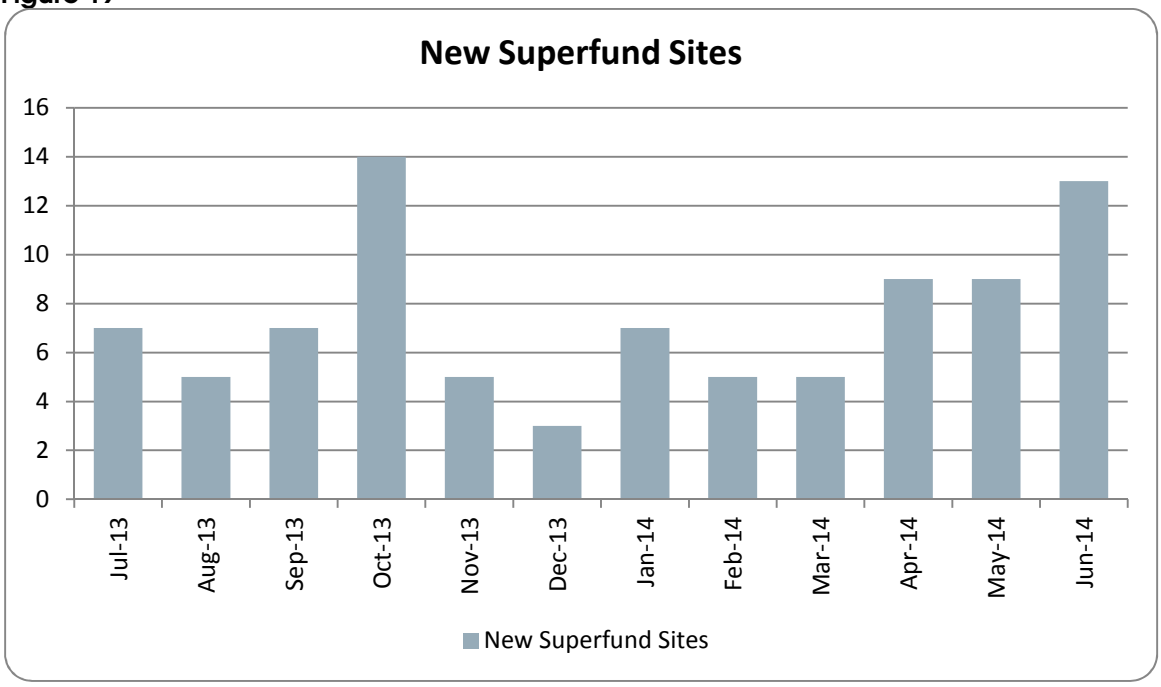
The Superfund Branch must maintain a list of sites where waste is managed on site through some form of engineering control (such as a cap or structure) or institutional control such as an environmental covenant or deed restriction. There are currently 197 sites where waste is managed on site. These sites 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.

Figure 18



In FY14, the Superfund Branch remediated 141 sites, characterized 37 sites and registered 89 new sites. Nine state-lead sites were remediated utilizing the Hazardous Waste Management Fund. There was one cleanup conducted under state oversight via the Voluntary Environmental Remediation Program.

Figure 19



There were also 44 sites with a release of petroleum or a petroleum product remediated from a source other than a petroleum storage tank and at the end of FY14, and 91 awaiting review.

Brownfields

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 of Waste Management and the Division of Compliance Assistance.

In FY14, there were seven Targeted Brownfields Assessments conducted, and one awaiting review. Multiple other sites have been reviewed and technical assistance was provided for recipients of various USEPA 128(a) Brownfields Grants.

Also in FY14, there were 34 brownfield sites reviewed under KRS 224.01-415, 21 Notice of Eligibility letters issued, 23 Notification of Concurrence letters issued and no sites pending review at the end of the fiscal year.

Methamphetamine Lab Cleanup

In cases where homes are contaminated with meth waste, the Kentucky Division of Waste Management works in conjunction with law enforcement and health departments to remediate structures through the division's Methamphetamine Lab Cleanup Program. Because meth waste is so toxic, especially to small children, and absorbs into home surfaces and structures, it must be remediated by certified contractors. In FY14, 222 contaminated residences were reported and 83 residences were decontaminated through the Methamphetamine Lab Cleanup Program.

Future of the Hazardous Waste Management Fund

The hazardous waste management fund (HWMF) is the sole source of funding for emergency response and state-lead remediation. Contaminated sites can range from large industrial site projects and dry cleaners to small projects such as roadside drums, orphan wastes and transformers.

The HWMF is the Commonwealth's only fail-safe mechanism for addressing contaminated sites where there is no responsible or viable party to take action. Failure to act at these sites could result in harm to human health and natural resources of the Commonwealth. There are no other available funding sources to conduct emergency response, state-lead cleanup actions, or regulatory oversight.

There are currently 17 known sites requiring remedial actions that will result in significant expenses to the HWMF. Over 300 additional sites have been identified as potential state-lead projects. Additionally, there are numerous sites where viable responsible parties are conducting cleanups and the HWMF supports the necessary regulatory oversight.

The fastest growing encumbrance on the HWMF is dry cleaning facilities. This is due to the number of facilities located across the Commonwealth, remedial difficulties and lack of financially viable responsible parties. While dry cleaners themselves are a public and economic benefit, the use of dry cleaning solvents such as, perchloroethylene (PCE) also known as "perc" can present an environmental challenge. PCE groundwater contamination and vapor intrusion into homes and buildings are the primary routes leading to human health risks and natural resource damage in Kentucky. PCE contaminant plumes are much larger, more mobile, more persistent than other types of chemicals, and can remain in the ground for decades. PCE plume lengths average 1,933 feet with maximum plume lengths reaching 13,700 feet or more. This is ten times larger and longer than the average contamination plume from a gas station. Due to the density of PCE, plumes reach much deeper into the groundwater and are more likely to affect present and future potable drinking water sources.

Approximately 28 dry cleaner sites are being actively addressed by the cabinet. This represents roughly 12 percent of the registered dry cleaning businesses in Kentucky. There are currently over 219 existing and former dry cleaner facilities registered as hazardous waste handlers in the Kentucky RCRIS database. These facilities are not yet in the active Superfund universe. Dry cleaner facilities are registered in RCRIS due to their use of dry cleaning solvents. The vast majority of dry cleaning facilities have never been registered. A nationwide survey of insurers estimated that more than 70 percent of past and present dry cleaners accidentally or intentionally have released PCE into the soil or groundwater. Cleanup costs can range from tens of thousands of dollars to several million dollars, with an average of $500,000 per cleanup. Many dry cleaning operators do not have adequate assets or insurance to pay these cleanup costs, which easily could exceed the equity in a retail center. Currently, 13 states have established a specific dry cleaning fund, five of which are in the same EPA region as Kentucky.

As a result of decreases to the HWMF through exemptions, and decreases to general and federal funds available to the cabinet since 2008, the HWMF is projected in FY2015-16 to not provide sufficient funds to adequately (a) respond to environmental emergencies,

or (b) provide cleanup of contaminated properties. The available funding on an annual basis will not be sufficient to meet the baseline needs for the program moving forward let alone the additional dry cleaner and other future superfund sites.

Currently, the cabinet has suspended cleanup activities on state-lead sites so that it can maintain a balance in the HWMF to respond to an emergency that may arise. Unless there are modifications in the form of an increase of funding to the HWMF, it will become increasingly difficult for the cabinet to respond to emergencies and to cleanup sites where there is no viable responsible party. Cleanup of sites where there is no responsible party will be particularly damaged by the funding shortfall. Some of these sites, which the cabinet cannot currently respond to, may present appreciable risk to human health and over time mount up to a significant backlog of environmental liability.

These shortfalls will have a direct negative impact on the cabinets mandate to protect human health and the environment. The cabinet is currently formulating options to address the coming shortfall in funding.

Maxey Flats Disposal Site

The final Remedial Design Report, taking into account EPA comments, was delivered to EPA in July 2014. This completes the substantive design effort on behalf of the Commonwealth. Substantial completion of sump abandonment and related preparatory activities also occurred in July 2014, though the final report documenting those activities has not yet been submitted as of July 25, 2014. The modification of the contract with URS was completed and carried out concurrent with the sump abandonment field activities and is also substantially complete. The Request for Proposal for cap construction was published in July 2014 and it is expected that bid selection will take place in September 2014 with cap construction field efforts to start, in earnest, in early 2015 (contingent upon the selection of a contractor, preparation, submittal, and acceptance of construction work plan documents to EPA). The URS contract has been modified to provide for assistance in cap construction oversight on behalf of the Commonwealth.

SUPERFUND BRANCH HIGHLIGHT

Black Leaf Chemical – Residential Removal Actions 2013-2014

By Cheryl Brown, Sheri Adkins and Jim Kirby

Black Leaf Chemical operated as a pesticide manufacturing facility at from 1920-1959 on property that is now a 29-acre abandoned industrial park near downtown Louisville. Pesticides such as DDT, BHC and their trademark Black Leaf 40, were either manufactured or distributed at the Jefferson County facility. In addition to Black Leaf Chemical, several other business have occupied the property over the past 120 years including a cooperage, lumber distribution companies, and warehousing. The property has been abandoned for the past 10 years.

Aerial photo of historical Black Leaf Chemical, Louisville, Ky.

Contamination discovered at the site in 2010 prompted a large-scale residential sampling event in 2011. By the time the residential removal was set to begin in 2013, the Kentucky Department for Environmental Protection (KDEP) and EPA had confirmed contamination in 77 residential yards adjacent to the site. The joint removal action was the largest of its kind in KDEP history. From August 2013-April 2014, KDEP and EPA removed contaminated soil from 68 of the 77 yards. KDEP's portion of the final bill was close to $1.6 million.

The removal plan involved excavating 1 foot of contaminated soil from each backyard (2 feet in garden areas) where owners gave access, placing clean soil in the yards, and laying sod or planting seed for vegetative group cover. The yards were watered for up to 3 weeks to ensure proper growth. A large number of trees and shrubbery were professionally trimmed or pruned to allow access and equipment passage. Any landscaping or yard features that were removed or destroyed in the course of the project were replaced and/or updated. Due to the number of properties cleaned up, weather delays and difficulties accessing areas around existing structures, the cleanup took longer than expected. The last yard was fully restored in July 2014 and the project is complete.

Residential Yard "Before"

Residential Yard "After"

A removal action of this scale involves extensive preparation. KDEP and EPA worked hard to ensure that the residents and the surrounding community were well informed every step of the way: numerous public meeting were held, media outlets were briefed, and KDEP employees canvassed the neighborhood on several different occasions to make sure residents were aware of the issues. Access agreements needing signatures were hand delivered to property owners who didn't live in the neighborhood. KDEP employees put forth extra effort in attempting to locate out of state property owners and local owners who failed to return access agreements.

The concerns of the residents were at the forefront of the removal action. To keep communication open between KDEP and the residents, an information booth was set up in the neighborhood and manned by staff during set hours – where questions regarding the progress, scope, and general inquiries could be made. This information booth was very successful, with a number of residents visiting throughout the course of the project. KDEP and the removal contractor, CMC, Inc., conducted pre-construction surveys of the yards with every property owner prior to conducting any removal work in their yard. KDEP worked hard to address any concerns the residents or owners had. To alleviate concerns with dust that may be generated during the cleanup, EPA conducted continuous air monitoring for the first several weeks of the project to confirm that the residents were not at risk. CMC watered the yards prior to excavation and watered roadways in the neighborhood and on site to minimize dust generation. Saving the urban tree canopy was a community concern. In response, KDEP partnered with the Kentucky Division of Forestry to conduct a tree survey in the neighborhood. The survey identified aspects such as tree health and native species. The survey helped KDEP and its contractor identify yards where special care was needed to ensure tree roots were not damaged during excavation.

At the conclusion of the project, a total of 58 yards were cleaned up by KDEP, with 10 yards being addressed by EPA. The result of this project was not only effective in protecting residents from contact with environmental contaminants in yards adjacent to the former Black Leaf Chemical Plant, but also left behind a swath of updated, renewed residential lots that made a significant positive impact for the community.

Concurrent with the residential removal action, the Commonwealth was negotiating with potentially responsible parties (PRPs) and is actively seeking to have the actual site, the former Black Leaf Chemical property, cleaned up at the earliest possible date. To date, the PRP group has submitted and received approval for a site investigation plan for determining the extent of contamination on-site; the first step in the on-site clean up process. KDEP is awaiting PRP submittal of the results and reporting on the on-site soil and water investigations upon completion of sampling.

PROGRAM PLANNING AND ADMINISTRATION

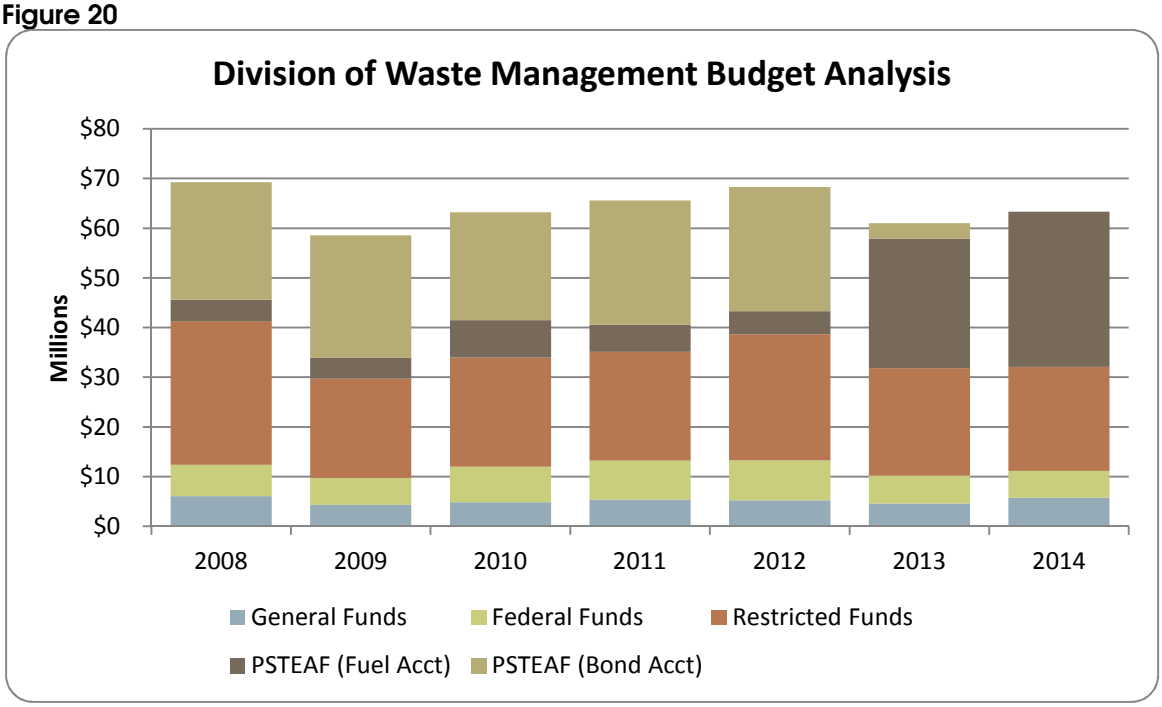
waste.ky.gov/PPA

The mission of the Program Planning and Administration Branch (PPA) 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.

Budget

The division's activities are financially supported by general funds, federal grants, and restricted funds, which include fees collected for permits and registration activities, Petroleum Storage Tank Environmental Assurance Fund (PSTEAF), the waste tire fee, the environmental remediation fee, and an annual appropriation from the road fund. The division must utilize available funding sources in the most resourceful and equitable manner possible, while striving to achieve the cabinet's environmental goals and division priorities.

Figure 20



The division had the budget to employ 239 full-time permanent employees in 2014. The number of employees the division could fiscally maintain decreased nearly 15 percent since 2008. This reduction in personnel continues to challenge the division programs to operate more efficiently and identify program priorities.

Figure 21

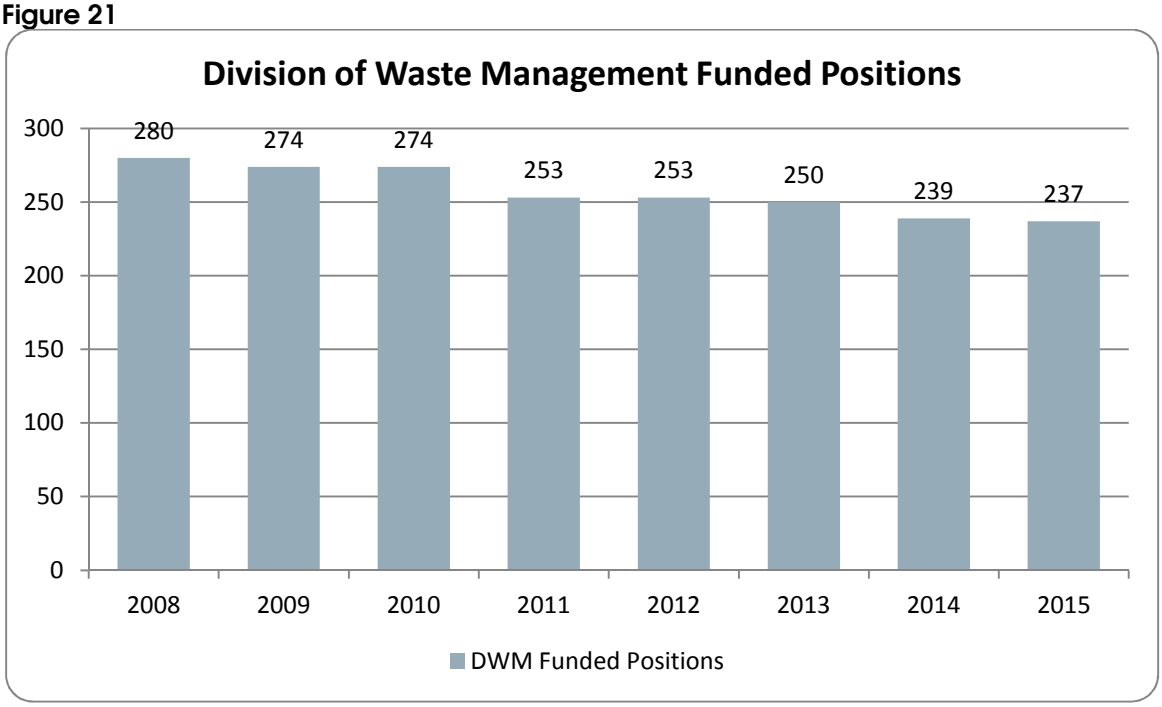
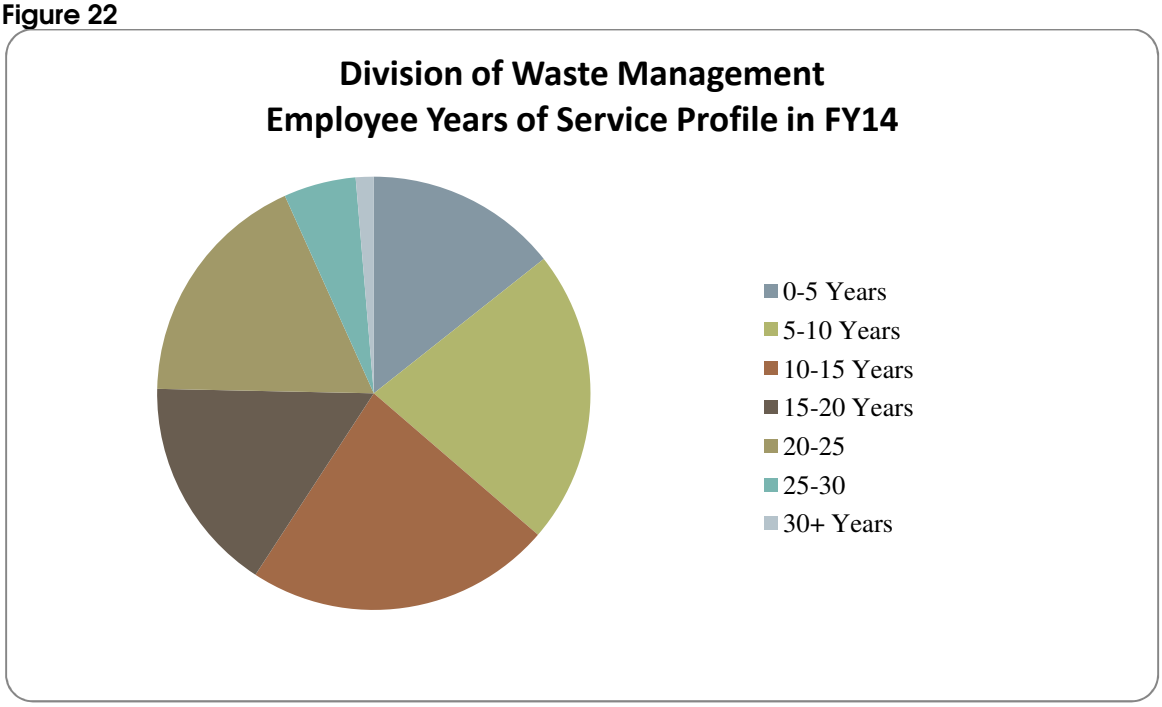


Figure 22



Project Administration Section

The Project Administration Section performs administration of purchasing, managing of grants received, memoranda of understanding and agreement by the division along with payments for major fee-supported programs.

Due to the way the division is organized, some programs are 100 percent federally funded, some are partially federally funded, and some receive no federal funding. This makes a cut in federal funding levels extremely detrimental to programs that are 100 percent federally funded, such as Brownfields, the Paducah Gaseous Diffusion Plant, and the chemical weapon demilitarization at the Bluegrass Army Depot.

Personnel and Administrative Support Section

The Personnel and Administrative Support Section performs personnel and support-related duties, including new employee hiring, transfers, resignations, retirements, register requests, position description development and updates, Family medical leave requests and monitoring, sick/annual leave sharing requests, initiating and monitoring worker's compensation claims, and all employee disciplinary actions. This section also coordinates and monitors all aspects of the employee performance evaluation program. Support functions include, coordinating and managing employee training, updating and managing the DWM portion of the Pathlore training history database, travel logistics and reimbursement, coordination of new telephone hookups, and management of state issued cellular telephones, cost recovery report review and invoice payment, procurement, including all Central Office, office supply ordering, payment of registration fees, uniform and boot purchases for Central Office, and staffing the division's Central Office switchboard. The supervisor of this section serves as EEO Counselor and ADA coordinator for the division. In FY14, division staff attended 708 trainings and career development opportunities.

Program Development Section

The Program Development Section performs a variety of functions related to the division's future such as managing planning initiatives and development of regulations along with coordinating review of proposed bills during legislative session.

Regulation Development:

Administrative regulations for the Brownfield Redevelopment Program became effective in February 2014. Already proving successful, the division has issued 40 letters of eligibility or concurrence to applicable sites.

The division is currently drafting regulations to incorporate federal rulemakings in the Hazardous Waste Program. These changes will then be incorporated into a new authorization package for EPA submittal.

Amendments to the Solid Waste Management Area Annual Report Form, utilized by the Recycling and Local Assistance Branch, are also in progress. These changes will eliminate the redundancy in the report and streamline the reporting process.

Legislation:

The new tire fee established in KRS 224.50-868 was extended as a part of the budget bill until June 30, 2016, to provide funding for waste tire amnesties, crumb rubber grants, tire-derived fuel projects, grants to counties for tire recycling and disposal, and to administer the waste tire and solid waste programs.

The Waste Tire Working Group was established to review numerous aspects of the Kentucky waste tire program and to provide advice to the cabinet for proposed changes to applicable statutes and regulations in an effort to improve the program. Membership changes to the group include a new appointment of Donna Fechter, replacing Mary Dickey, and a term expiration for Keith Brock in August of 2014.

PPA assisted in preparing two legislative reports in FY13-14. The Waste Tire Trust Fund Report discussed the history, expenditures, revenues, and current status of the Waste Tire Program in Kentucky. The Hazardous Waste Management Fund Report discussed the use of the Hazardous Waste Management Fund, highlighting specific cleanups that have occurred in the last biennium.

Other reports prepared include the division's strategic operational plan and mid-year status updates of planning initiatives for 2014, and the division's portion of the Quality Assurance Annual Report.

In addition, PPA assisted in hosting the light non-aqueous phase liquids (LNAPL) Interstate Technology and Regulatory Council training in June of 2014. This renowned training equipped division staff and attending consultants with a better understanding of LNAPL contaminated sites.

ACKNOWLEDGEMENTS

Commonwealth of Kentucky
Governor Steve Beshear

Energy and Environment Cabinet
Secretary Leonard K. Peters

Kentucky Department for Environmental Protection
Commissioner R. Bruce Scott, P.E.
Deputy Commissioner Aaron Keatley

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:

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

Cover photograph: Former Old Taylor Distillery in Woodford County, Ky., a subject of the Brownfield Redevelopment Program. Photo by Shawn Cecil.

Compiled by Virginia B. Lewis, D.C.

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