

**Spring 2017 Household Hazardous Waste Events**



# Spring 2017 Mobile HHW Analysis Season Report



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## **Overview**

Since the program's inception in 1993, the Tennessee Department of Environment and Conservation (TDEC) continues to provide the Tennessee Household Hazardous Waste Mobile Collection Event services to counties to aid in the management of household hazardous wastes (HHW). Regulations for HHW are found in Tennessee Code Annotated [Title 68 chapter 211](#). To date, there have been over 1,100 one-day collection events with over 342,000 Tennessee families safely disposing over 22 million pounds of HHW.

HHW is any unwanted, spent, used household product that can catch fire easily (flammable); eat away at or irritate living tissue (corrosive, both acid and base); react violently with water or other chemicals (reactive); or is poisonous to humans or animals (toxic). Usable household products may exhibit hazardous properties but until they become a waste they are not appropriate for the HHW program.

The Mobile Collection Service is open to any Tennessee resident and is limited to households. Businesses, institutions, schools, and agri-business operations may not use this service, but can participate as a Conditionally Exempt Small Quantity Generator (CESQG) which can assist with reduced mobilization fees for proper business waste disposal. Persons or businesses interested in participating in the business waste should refer to the following web site:

[http://tn.gov/assets/entities/environment/attachments/sw\\_cesqg.pdf](http://tn.gov/assets/entities/environment/attachments/sw_cesqg.pdf).

Counties request mobile HHW events using a tiered priority listing provided by TDEC. Interested parties can find the tiered guidelines on the Department's website in the [Mobile HHW Collection Service Guide](#). As the county requests are submitted, the schedule is set trying to maximize access of the majority of the citizens. Higher populated counties generally have greater participation and may have more than one event per year.

## **Season Participation Analysis**

The 2017 Spring HHW (March 18<sup>th</sup> - June 3<sup>rd</sup>) event season ended with 30 counties hosting 3,895 households showing a 6% increase from the previous year (see table 3) evaluated using same county participation. Five counties did not have a comparable time frame for household analysis.

Batteries, Oil, Paint, Electronics and Antifreeze (BOPAE) continue to be a focus through the year. The Department conducted nine oil based paint and four fluorescent lamp milk runs in Spring 2017. The frequency and convenience of BOPAE collections provides added service for the citizens and spreads the work load for the collection sites. TDEC provided laminated paint job aids that assisted counties to identify and segregate oil paint that needed to be collected. These tips for identifying latex and water based paint were useful to help solidify and manage latex paint in the solid waste stream. The Department further shared additional methods for managing discarded fire extinguishers with counties to assist with year round management of these materials and to reduce the cost associated with disposal.

The season concluded with a total of 152,179 pounds of discarded household hazardous waste that was collected in the combined 43 events. The Department collected through mobile events and milk runs: oil based paint and fluorescent bulbs at county facilities throughout the year and then picked up these materials by a contractor for proper disposal that resulted in a total cost of \$250,806.18.

## Summary of mobile HHW materials collected (Additional Data in Tables 1-3)

- Corrosives acids (Sulfuric acid, phosphoric acid, CLR cleaner, muriatic acid, battery acid); 6,814 pounds
- Corrosive Bases (Drano, sodium hydroxide); 10,320 pounds
- Pesticides, herbicides, rat poisons, insecticides, animal medications; 59,660 pounds
- Flammables, gasoline, charcoal lighter, kerosene, paint thinners; 38,762 pounds
- Aerosols, paint, health & beauty aids, insecticides, lubricants, cleaners; 14,718 pounds
- Mercury; 84 pounds
- Oxidizers, bleach, chlorine, pool sanitizers; spa and hot tub sanitizers; 4,088 pounds

## **Advertising**

The Materials Management Program requires advertising and information sharing. The Program created informational handouts to supplement standard stakeholder advertising requirements. Participants received information as a take away that directs them to contact information on the TDEC website. The Department shared as an outreach to the counties, recommendations for advertising and promoting the events to help maximize communication opportunities in the serviced areas. Program staff researched [Green Cleaning Products](#) and developed a handout to provide additional resources to participants. TDEC made available additional copies for distribution to participants. Handout materials summarized methods to manage used oil and the counties distributed to participants as consistent reminders of protecting and preserving our environment with particular emphasis on valued drinking water source. The Program encouraged counties and participating organizations to reach out to public utilities, business employee newsletters, social media, and other forms of information sharing. TDEC central office was very proactive with sharing schedules by using MyEmma as a platform for sending emails to interested citizens who have shared email addresses. As a result of this outreach, TVA staff shared the mobile HHW events through their newsletter to their distribution list.

Efforts to add additional value to the HHW collection event included on site information about [Radon](#) as an information sharing event with the Office of Sustainable Practices. Department drug take back programs coordinated by some counties increased the take back of products and increased awareness of the hazards of pharmaceuticals in households. Additional events associated with HHW collection events at some counties included beneficial item collection with local non-profits and electronics collections.

## **Safety**

TDEC Materials Management Program considers safety the highest priority for state, county, volunteer staff, and participants. The TDEC event staff prioritized safety by wearing high visibility safety vests, making first aid kits available and providing additional event resource materials that encourage site safety. Many event staff workers have received CPR and AED training with a goal for all staff to be prepared for unexpected situations that may occur at mobile events. Clean Harbors, the event contractor, provides an onsite chemist and

additional technical staffing who assists with the proper segregation of chemicals and Department of Transportation (DOT) requirements for safe packaging and transportation.

As industries develop household materials that may cause problems for proper disposal or impacts safe management, TDEC searches for consumer based solutions. Disposal option challenges for sharps, needles, lancets, and auto inject pens caused the Program to expand this option to HHW mobile events. As participants remove these materials from the solid waste stream, the safety of solid waste staff, haulers, landfill staff and maintenance staff is greatly increased. HHW participants appreciate this added option and benefit from this expansion.

The future for HHW events looks bright as the program reaches out to the public schools across the state for identification and proper management of materials and chemicals that from science, chemistry, biology and engineering labs, maintenance and janitorial areas, automotive, wood, metal, agricultural and cosmetology trade education areas. The HHW Cleanout Program leverages school programs in distressed areas to provide increased services and benefits where geography or other factors may play the role of limiting convenient access.

The Program urges counties to submit their recommended dates by November 15, 2017 so that staff may schedule the upcoming year's events by mid-January 2018. The Department will post the mobile event schedule at [http://tn.gov/environment/article/sw-mm-household-hazardous-waste-collection-event-schedule for public review](http://tn.gov/environment/article/sw-mm-household-hazardous-waste-collection-event-schedule-for-public-review).

**Individual Counties-Participation-Table 1 of 3 (Weight in pounds)**

Event Date	County	Participation	Event Cost	Cost/HH	Cost/Lb.	Participation Rate
3/18/2017	Hamblen	95	3,947.62	\$41.55	\$2.25	0.40%
3/18/2017	Montgomery	313	13,175.07	\$42.09	\$1.94	0.53%
3/25/2017	Bedford	100	7,444.45	\$74.44	\$1.82	0.59%
3/25/2017	Cocke	70	1,962.80	\$28.04	\$2.25	0.50%
3/25/2017	Fayette	33	5,049.05	\$153.00	\$2.42	0.24%
4/1/2017	Franklin	211	14,522.25	\$68.83	\$2.04	1.29%
4/1/2017	McMinn	22	3,535.76	\$160.72	\$4.45	0.11%
4/1/2017	Weakley	44	4,510.13	\$102.50	\$1.86	0.33%
4/8/2017	Coffee	210	10,699.92	\$50.95	\$2.47	1.03%
4/8/2017	Lincoln	51	4,731.55	\$92.78	\$1.72	0.39%
4/8/2017	Meigs	51	2,207.00	\$43.27	\$1.76	1.09%
4/22/2017	Giles	200	3,168.39	\$15.84	\$2.46	1.71%
4/22/2017	Madison	200	6,986.99	\$34.93	\$2.21	0.53%
4/22/2017	Union	33	2,209.77	\$66.96	\$2.45	0.43%
4/22/2017	Warren	56	4,757.13	\$84.95	\$2.36	0.35%
4/29/2017	Dyer	65	5,383.95	\$82.83	\$1.89	0.43%
4/29/2017	Loudon	167	14,201.18	\$85.04	\$2.94	0.96%
4/29/2017	Sevier	436	18,335.99	\$42.06	\$1.61	1.37%
4/29/2017	Washington	86	7,632.93	\$88.76	\$2.72	0.19%
5/6/2017	Henry	122	2,811.99	\$23.05	\$2.85	0.97%
5/6/2017	Sullivan	199	14,768.62	\$74.21	\$2.83	0.33%
5/6/2017	Williamson	453	43,973.02	\$97.07	\$2.40	0.74%
5/13/2017	Carter	36	819.62	\$22.77	\$1.62	0.15%
5/13/2017	Robertson	100	4,502.11	\$45.02	\$2.03	0.41%
5/13/2017	Rutherford	221	13,918.10	\$62.98	\$1.75	0.25%
5/20/2017	Hardeman	2	596.11	\$298.06	\$3.41	0.02%
5/20/2017	Humphreys	58	1,760.11	\$30.35	\$1.73	0.80%
5/20/2017	Roane	113	10,325.05	\$91.37	\$3.44	0.53%
5/20/2017	Tipton	112	8,289.45	\$74.01	\$1.48	0.50%
6/3/2017	Stewart	35	1,823.18	\$52.09	\$2.30	0.67%
<b>Season Totals</b>		<b>3894</b>	<b>\$ 238,049.29</b>	<b>Average \$74.35</b>	<b>Average \$2.31</b>	<b>Average 0.59%</b>

**Individual Counties-Hazard Classes: Table 2A of 3 (weight in pounds)**

County	Flammable Liquids	Poisonous Material	Acid	Oxidizers	Caustics	Reactives	Mercury	Fluorescent Lamps
Hamblen	846	407	71	61	97	0	1	126
Montgomery	936	1439	181	18	401	0	0	103
Bedford	150	722	48	7	150	0	9	237
Cocke	182	364	8	15	28	0	0	28
Fayette	322	1257	24	4	35	0	0	33
Franklin	634	1681	233	97	346	0	0	24
McMinn	194	173	17	352	18	0	0	7
Weakley	149	855	47	4	26	0	0	37
Coffee	703	1794	122	5	202	0	7	96
Lincoln	1410	969	64	7	200	2	0	
Meigs	286	176	22		102	0	1	2
Giles	422	521	60	12	33	0	0	55
Madison	736	1184	66	35	93	0	3	164
Union	134	323	10	54	53	4	1	48
Warren	829	583	259		74	0	0	12
Dyer	132	990	30	4	68	0	0	118
Loudon	754	2303	211	20	410	13	1	36
Sevier	645	1129	264	26	368	5	4	723
Washington	1120	804	111	204	181	0	2	55
Henry	55	206	47	3	116	0	0	312
Sullivan	1418	1564	281	452	213	0	0	478
Williamson	2519	6047	586	234	1004	0	8	138
Carter	107	65	3		2	0	0	227
Robertson	778	578	161		81	0	0	25
Rutherford	1516	1504	172	50	327	0	1	143
Hardeman		149	4		12	0	0	
Humphreys	649	158	18		75	0	0	55
Roane	831	825	188	325	313	16	1	111
Tipton	690	763	66	49	115	0	1	83
Stewart	234	297	33	6	17	0	2	20
<b>Season Totals</b>	<b>19381</b>	<b>29830</b>	<b>3407</b>	<b>2044</b>	<b>5160</b>	<b>40</b>	<b>42</b>	<b>3496</b>

**Individual Counties; Hazard Classes: Table 2B of 3 (Weight in pounds)**

County	Non Flam Liquid	Oil Paint	Oil	Aerosols	Dry Cell Batteries	Fire Extinguishers	Sharps	Total
Hamblen				126			19	1754
Montgomery	906	2288		493			40	6805
Bedford		2074	440	233			27	4097
Cocke		192		55			2	874
Fayette		356		35			21	2087
Franklin	661	2943		481			11	7111
McMinn				24			10	795
Weakley	424	834		31	15		2	2424
Coffee	916			464			22	4331
Lincoln				89			8	2749
Meigs	90	524		48				1251
Giles				181			2	1286
Madison	368	284		220			3	3156
Union		205		52			17	901
Warren		184		71			6	2018
Dyer	301	598	483	121			3	2848
Loudon	640			415			20	4823
Sevier	770	6132	644	604			43	11357
Washington				320			10	2807
Henry	95			142			12	988
Sullivan	451			353			10	5220
Williamson	2026	4063	335	1334		12	54	18360
Carter	90			9			4	507
Robertson	305	214		75			4	2221
Rutherford	3094	490		617			56	7970
Hardeman				10				175
Humphreys				54			10	1019
Roane				381			12	3003
Tipton	443	3130		253				5593
Stewart			117	68				794
<b>Season Totals</b>	<b>11580</b>	<b>24511</b>	<b>2019</b>	<b>7359</b>	<b>15</b>	<b>12</b>	<b>428</b>	<b>109324</b>



<b>HHW County Comparison Table 3 of 3</b>			
<b>County</b>	<b>Spring 2017</b>	<b>Spring 2016</b>	<b>Spring 16/17</b>
Hamblen	95	54	75.93%
Montgomery	313	354	-11.58%
Bedford	100	112	-10.71%
Cocke	70	n/a	
Fayette	33	50	-34.00%
Franklin	211	196	7.65%
McMinn	22	n/a	
Weakley	44	38	15.79%
Coffee	210	123	70.73%
Lincoln	51	43	18.60%
Meigs	51	34	50.00%
Giles	200	233	-14.16%
Madison	200	235	-14.89%
Union	33	n/a	
Warren	56	76	-26.32%
Dyer	65	117	-44.44%
Loudon	167	178	-6.18%
Sevier	436	475	-8.21%
Washington	86	77	11.69%
Henry	122	175	-30.29%
Sullivan	199	185	7.57%
Williamson	453	458	-1.09%
Carter	36	82	-56.10%
Robertson	100	41	143.90%
Rutherford	221	n/a	
Hardeman	2	n/a	
Humphreys	58	50	16.00%
Roane	113	142	-20.42%
Tipton	112	114	-1.75%
Stewart	35	35	0.00%
<b>Households</b>	<b>3894</b>	<b>3677</b>	<b>5.90%</b>
<p>The 2017 Spring HHW event season ended with 30 counties hosting 3,895 households showing a 6% increase from the previous year evaluated using same county participation. Five counties did not have a comparable time frame for household analysis</p>			



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