



Spring 2019 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 1,300 one-day collection events with over 358,000 Tennessee families safely disposing over 23 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: <https://www.tn.gov/environment/hhw/cesqg>.

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 2019 Spring HHW (March 16th – June 1st) event season ended with 28 counties hosting 3,920 households showing a 3.8% increase from the previous year (see table 3) evaluated using same county participation.

Batteries, Oil, Paint, Electronics and Antifreeze (BOPAE) continue to be a focus by the counties through the year. The Department conducted fifteen oil based paint and ten fluorescent lamp milk runs in Spring 2019. 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 while also reducing hazards to the solid waste staff.

In an effort to increase year-round access for HHW disposal, the Department has strategically placed six temporary HHW containers across the state (Chester, Giles, Blount, McMinn, Loudon, Grainger Counties) that are available to all citizens of Tennessee. In the first six months of 2019, the containers have served 689 households and collected 5,584 lbs. of HHW via two milk runs.

The season concluded with a total of 195,095 pounds of discarded household hazardous waste that was collected in the combined 55 events (27 milk runs of oil based paint, bulbs, and other HHW for a total of 83,831 pounds, other mobile HHW events included in tables 1-3). The Department collected through mobile events and milk runs: oil based paint, fluorescent bulbs, and other HHW 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 \$288,737.49 (milk runs, \$26,724.31 other included in tables 1-3).

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

- Corrosives acids (Sulfuric acid, phosphoric acid, CLR cleaner, muriatic acid, battery acid); 3,649 pounds
- Corrosive Bases (Drano, sodium hydroxide); 6,123 pounds
- Pesticides, herbicides, rat poisons, insecticides, animal medications; 31,052 pounds
- Flammables, gasoline, charcoal lighter, kerosene, paint thinners; 19,439 pounds
- Aerosols, paint, health & beauty aids, insecticides, lubricants, cleaners; 8,627 pounds
- Mercury; 31 pounds
- Oxidizers, bleach, chlorine, pool sanitizers; spa and hot tub sanitizers; 1,412 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 which reached 10,000 staff and contractors in the state. Partnerships with Tennessee Poison Control, Vanderbilt Hospital Burn Center, UT Institute of Agriculture Family and Consumer Sciences, various electrical utilities shared the HHW information. Robert Sharp & Associates, the marketing specialist for Waste Connections shared the mobile HHW events in three of their Tennessee districts to include Memphis, Knoxville, and Clarksville. The information was extracted from the web site which gave additional outreach.

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 generated 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. As materials are removed from schools, green technology and micro chemistry techniques are encouraged to minimize the hazards associated with more harmful chemicals.

The Program urges counties to submit their recommended dates by December 2, 2019 so that staff may schedule the upcoming year's events by mid-January 2020. The Department will post the mobile event schedule at <http://tn.gov/environment/hhw/schedule> for public review.

Individual Counties-Participation-Table 1 of 3 (Weight in Pounds)						
Event Date	County	Participation	Cost	Cost/HH	Cost/lb	Participation Rate
3/16/2019	Hamblen	304	\$9,685.11	\$31.86	\$2.88	1.27%
3/16/2019	Montgomery	275	\$16,572.71	\$60.26	\$2.26	0.47%
3/23/2019	Putnam	259	\$15,158.70	\$58.53	\$3.08	0.97%
3/30/2019	Fayette	50	\$7,123.66	\$142.47	\$2.20	0.36%
4/6/2019	McMinn	23	\$450.24	\$19.58	\$2.02	0.11%
4/6/2019	Rutherford	346	\$20,675.68	\$59.76	\$2.32	0.40%
4/13/2019	Coffee	108	\$8,624.83	\$79.86	\$2.21	0.53%
4/13/2019	Sevier	318	\$14,707.49	\$46.25	\$1.91	1.00%
4/13/2019	Weakley	49	\$4,540.50	\$92.66	\$1.65	0.36%
4/27/2019	Cocke	53	\$3,141.64	\$59.28	\$2.17	0.38%
4/27/2019	Dyer	69	\$4,279.92	\$62.03	\$1.99	0.46%
4/27/2019	Meigs	20	\$3,823.20	\$191.16	\$2.77	0.43%
4/27/2019	Washington	92	\$7,177.56	\$78.02	\$1.74	0.20%
5/4/2019	Henry	143	\$3,788.25	\$26.49	\$3.13	1.13%
5/4/2019	Macon	16	\$1,181.51	\$73.84	\$2.02	0.19%
5/4/2019	Sullivan	311	\$27,829.50	\$89.48	\$2.24	0.51%
5/4/2019	Williamson	546	\$60,947.92	\$111.63	\$2.60	0.89%
5/11/2019	Bedford	52	\$7,070.75	\$135.98	\$2.48	0.31%
5/11/2019	Carter	71	\$2,972.21	\$41.86	\$1.88	0.30%
5/11/2019	Roane	95	\$5,731.23	\$60.33	\$2.40	0.45%
5/11/2019	Robertson	88	\$5,365.19	\$60.97	\$3.57	0.36%
5/18/2019	Humphreys	39	\$2,417.84	\$62.00	\$1.81	0.54%
5/18/2019	Madison	323	\$13,863.31	\$42.92	\$2.56	0.85%
5/18/2019	Tipton	155	\$10,066.03	\$64.94	\$1.90	0.69%
5/18/2019	Union	30	\$681.59	\$22.72	\$1.62	0.39%
6/1/2019	McNairy	25	\$1,330.77	\$53.23	\$3.71	0.25%
6/1/2019	Pickett	20	\$977.01	\$48.85	\$3.69	1.04%
6/1/2019	Stewart	40	\$1,828.83	\$45.72	\$2.63	0.77%
	Season Totals	3920	\$262,013.18	Average \$68.67	Average \$2.41	Average 0.56%

Individual Counties-Participation-Table 2A of 3 (Weight in Pounds)							
County	Flammable Liquids	Non Flam Liquid	Poisonous Material	Acid	Caustics	Oxidizers	Reactives
Hamblen	1,068		952	225	246	91	
Montgomery	879	1,247	1,721	335	296	23	42
Putnam	1,175	454	1,283	341	757	40	
Fayette	710		926	75	144	77	
McMinn	108		69		4	3	
Rutherford	1,152	2,280	2,795	274	442	55	
Coffee	454	722	1,156	98	72	11	2
Sevier	739	1,116	1,368	134	298	2	
Weakley	770		507	14	87	8	
Cocke	220		282	16	45	5	3
Dyer	304	623	536	56	73	20	
Meigs	236		144	3	2	319	
Washington	782		510	69	108	21	
Henry	118	146	348	71	89	21	
Macon	200		142		36		
Sullivan	2,669	1,769	2,995	382	523	325	
Williamson	3,229	2,824	8,442	706	2014	151	
Bedford	367	666	789	44	287	5	
Carter	219	213	389	7	16		7
Roane	814		975	57	74	13	
Robertson	241	151	479	240	72	128	
Humphreys	853		295	44	9		
Madison	843	903	2,203	223	240	6	
Tipton	1,082	405	1,070	144	98	86	
Union	43		46	5	10		
McNairy	50		200	24	48	2	
Pickett			196	16	12		
Stewart	114	230	234	46	21		
Season Totals	19,439	13,749	31,052	3,649	6,123	1,412	54

Individual Counties-Participation-Table 2B of 3 (Weight in Pounds)								
County	Oil Paint	Aerosols	Oil	Dry Cell Batteries	Mercury	Fluorescent Lamps	Sharps	Total
Hamblen		522			0	197	63	3,364
Montgomery	1,951	613			0	219	23	7,349
Putnam	204	327			1	207	128	4,917
Fayette	1,086	115		1	0	8	94	3,236
McMinn		23			0	5	11	223
Rutherford	795	743			4	272	107	8,919
Coffee	595	194			10	567	15	3,896
Sevier	2,780	452			3	789	38	7,719
Weakley	1,074	98			1	180	6	2,745
Cocke	711	145			0	10	11	1,448
Dyer	330	154			0	44	14	2,154
Meigs	500	68	94		0	10	5	1,381
Washington	2,252	239			1	99	53	4,134
Henry		307		8	1	92	11	1,212
Macon	125	64			0	5	12	584
Sullivan	1,611	716			1	1,376	36	12,403
Williamson	3,956	1,875			2	251	13	23,463
Bedford	129	191			1	353	21	2,854
Carter	507	120			1	103	3	1,585
Roane	46	249			0	144	13	2,385
Robertson		137			0	46	10	1,504
Humphreys		108			4	17	7	1,337
Madison	193	533			0	177	91	5,412
Tipton	1,856	504			0	27	27	5,299
Union	259	43			0	10	5	421
McNairy		24			1		10	359
Pickett		27		14	0			265
Stewart		36			0	13	2	696
Season Totals	20,960	8,627	94	23	31	5,221	829	111,264

HHW County Participation Comparison Table 3 of 3			
County	Spring 19	Spring 18	Spring 19/18
Hamblen	304	280	8.57%
Montgomery	275	436	-36.93%
Putnam	259	185	40.00%
Fayette	50	87	-42.53%
McMinn	23	33	-30.30%
Rutherford	346	221	56.56%
Coffee	108	166	-34.94%
Sevier	318	394	-19.29%
Weakley	49	48	2.08%
Cocke	53	44	20.45%
Dyer	69	27	155.56%
Meigs	20	26	-23.08%
Washington	92	96	-4.17%
Henry	143	155	-7.74%
Macon	16	15	6.67%
Sullivan	311	299	4.01%
Williamson	546	456	19.74%
Bedford	52	66	-21.21%
Carter	71	59	20.34%
Roane	95	110	-13.64%
Robertson	88	57	54.39%
Humphreys	39	42	-7.14%
Madison	323	268	20.52%
Tipton	155	93	66.67%
Union	30	28	7.14%
McNairy	25	46	-45.65%
Pickett	20	6	233.33%
Stewart	40	33	21.21%
Households	3,920	3,776	3.81%

The 2019 Spring HHW event season ended with 28 counties hosting 3,920 households showing a 3.8% increase from the previous year evaluated using same county participation.



Tennessee Department of Environment and Conservation,
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