



Fall 2017 Mobile HHW Analysis Season Report



(This Page Intentionally Left Blank)

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 346,000 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.

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 2017Fall HHW (September 9th – November 4th) event season ended with 26 counties hosting 3,737 households showing a 43% 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 by the counties through the year. The Department conducted twelve oil based paint and five fluorescent lamp milk runs in Fall 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 158,736 pounds of discarded household hazardous waste that was collected in the combined 43 events (17 milk runs of oil based paint and bulbs for a total of 52,703 pounds, other mobile HHW events included in tables 1-3). 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 \$238,073.50 (milk runs, \$52,703 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); 3,474 pounds
- Corrosive Bases (Drano, sodium hydroxide); 3,827 pounds
- Pesticides, herbicides, rat poisons, insecticides, animal medications; 25,377 pounds
- Flammables, gasoline, charcoal lighter, kerosene, paint thinners; 21,273 pounds
- Aerosols, paint, health & beauty aids, insecticides, lubricants, cleaners; 6,699 pounds
- Mercury; 46 pounds
- Oxidizers, bleach, chlorine, pool sanitizers; spa and hot tub sanitizers; 1,169 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.

Efforts to add additional value to the HHW collection event included on site information about permanent drug take back sites 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, 2018 so that staff may schedule the upcoming year's events by mid-January 2019. 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
9/9/2017	Coffee	116	3,060.62	\$26.38	\$2.67	0.57%
9/9/2017	Mauzy	167	13,737.06	\$82.26	\$2.40	0.55%
9/9/2017	Overton	16	1,322.48	\$82.66	\$1.22	0.19%
9/16/2017	Anderson	279	18,654.58	\$66.86	\$2.36	0.96%
9/16/2017	Dickson	211	5,091.87	\$24.13	\$1.54	1.15%
9/16/2017	Montgomery	363	15,055.66	\$41.48	\$1.73	0.62%
9/23/2017	Hickman	82	3,370.73	\$41.11	\$3.49	0.86%
9/23/2017	Marshall	75	6,239.98	\$83.20	\$1.75	0.66%
9/23/2017	Monroe	86	4,550.27	\$52.91	\$2.17	0.50%
9/23/2017	Putnam	254	11,142.15	\$43.87	\$2.23	0.95%
9/30/2017	Chester	7	683.90	\$97.70	\$2.71	0.11%
9/30/2017	Lawrence	23	1,502.63	\$65.33	\$1.63	0.14%
10/7/2017	Greene	90	6,224.23	\$69.16	\$1.88	0.34%
10/7/2017	McMinn	70	6,088.10	\$86.97	\$2.56	0.34%
10/7/2017	Wilson	310	17,731.60	\$57.20	\$2.14	0.77%
10/14/2017	Henderson	65	4,127.38	\$63.50	\$2.82	0.61%
10/14/2017	Jefferson	69	4,100.95	\$59.43	\$2.48	0.36%
10/14/2017	Loudon	105	5,334.43	\$50.80	\$2.40	0.61%
10/21/2017	Blount	347	24,363.75	\$70.21	\$1.76	0.75%
10/21/2017	Cumberland	217	13,793.56	\$63.56	\$1.69	1.06%
10/21/2017	Unicoi	50	1,981.10	\$39.62	\$1.63	0.71%
10/28/2017	Madison	223	7,960.01	\$35.70	\$2.43	0.59%
10/28/2017	Marion	18	988.75	\$54.93	\$2.16	0.16%
10/28/2017	Sumner	194	24,898.77	\$128.34	\$3.36	0.33%
11/4/2017	Pickett	7	887.15	\$126.74	\$1.01	0.36%
11/4/2017	Rutherford	293	19,502.06	\$66.56	\$1.81	0.34%
	Season Totals	3737	222,393.77	Average \$64.64	Average \$2.16	Average 0.56%

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

County	Flammable Liquids	Poisonous Material	Acid	Oxidizers	Caustics	Reactives	Mercury	Fluorescent Lamps
Coffee	368	280	75	52	76	0	0	58
Maury	1614	2132	273	87	272	0	0	38
Overton	158	145				0	0	5
Anderson	1697	1891	325	238	503	0	1	232
Dickson	2000	607	24	58	55	0	1	220
Montgomery	1258	1523	196	56	275	0	0	171
Hickman	181	293	266	7	39	0	1	9
Marshall	1656	604	146	6	122	0	0	20
Monroe	859	777	44	7	81	0	1	3
Putnam	712	1245	212	5	98	0	9	532
Chester	129	43	35		36	0	0	
Lawrence	623	164	19		39	0	1	13
Greene	1330	659	183	14	137	0	1	103
McMinn	413	687	61	198	98	0	1	113
Wilson	967	2158	378	42	367	0	1	299
Henderson	416	517	106	17	103	0	1	138
Jefferson	412	396	88	123	53	2	1	16
Loudon	288	741	85	35	84	0	1	42
Blount	1547	2913	308	106	376	0	14	412
Cumberland	547	1439	201	9	153	0	2	56
Unicoi	180	195	9		66	0	0	49
Madison	671	1224	114	5	198	0	2	53
Marion	137	44		25	4	13	0	
Sumner	998	2231	132	71	185	414	6	86
Pickett	268	71				0	0	
Rutherford	1844	2398	194	8	407	23	2	250
Season Totals	21273	25377	3474	1169	3827	452	46	2918

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
Coffee		92		146				1147
Maury	394	533		348	13		10	5714
Overton		746		29				1083
Anderson	850	1621		540			4	7902
Dickson		153		60			121	3299
Montgomery	2241	2303		688			16	8727
Hickman	86	23		61				966
Marshall	440	186		366			16	3562
Monroe		135		186			6	2099
Putnam	684	1056		275			176	5004
Chester				9				252
Lawrence				60			5	924
Greene		388	345	154			1	3315
McMinn	661			144				2376
Wilson	1344		1976	716			30	8278
Henderson				165			1	1464
Jefferson		484		38			42	1655
Loudon	655			286			10	2227
Blount	2657	1827	3033	606			55	13854
Cumberland	1104	4187		449			19	8166
Unicoi	179	508		30			2	1218
Madison	566	122		290			26	3271
Marion		193		41				457
Sumner	1113	1077	627	443			18	7401
Pickett		520		15			1	875
Rutherford	3904	1144		554			69	10797
Season Totals	16878	17298	5981	6699	13	0	628	106033

HHW County Comparison Table 3 of 3			
County	Fall 2017	Fall 2016	Fall 16/17
Coffee	116	n/a	
Maury	167	108	54.63%
Overton	16	14	14.29%
Anderson	279	181	54.14%
Dickson	211	66	219.70%
Montgomery	363	333	9.01%
Hickman	82	27	203.70%
Marshall	75	84	-10.71%
Monroe	86	n/a	
Putnam	254	192	32.29%
Chester	7	n/a	
Lawrence	23	22	4.55%
Greene	90	58	55.17%
McMinn	70	65	7.69%
Wilson	310	289	7.27%
Henderson	65	47	38.30%
Jefferson	69	61	13.11%
Loudon	105	106	-0.94%
Blount	347	n/a	
Cumberland	217	169	28.40%
Unicoi	50	n/a	
Madison	223	254	-12.20%
Marion	18	32	-43.75%
Sumner	194	287	-32.40%
Pickett	7	12	-41.67%
Rutherford	293	201	45.77%
Households	3737	2608	43.29%
<p>The 2017 Fall HHW event season ended with 26 counties hosting 3,737 households showing a 43% increase from the previous year evaluated using same county participation. Five counties did not have a comparable time frame for household analysis</p>			



Tennessee Department of Environment and Conservation,
Authorization No. 327455, No. of copies, **0**. This public document was promulgated at a cost of **\$0** per copy.