



Fall 2018 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 354,000 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: <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 2018 Fall HHW (September 8th – November 3rd) event season ended with 25 counties hosting 3,604 households showing a 3% decrease from the previous year (see table 3) evaluated using same county participation. Even though there was a reduction in event poundage from the previous year, there was a 5% overall increase in pounds because there was an increase in the milk run.

Batteries, Oil, Paint, Electronics and Antifreeze (BOPAE) continue to be a focus by the counties through the year. The Department conducted nine oil based paint and six fluorescent lamp milk runs in Fall 2018. 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 166,944 pounds of discarded household hazardous waste that was collected in the combined 44 events (19 milk runs of oil based paint and bulbs for a total of 62,947 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 \$248,800.35 (milk runs, \$19,022.09 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); 3,070 pounds
- Corrosive Bases (Drano, sodium hydroxide); 4,491 pounds
- Pesticides, herbicides, rat poisons, insecticides, animal medications; 27,972 pounds
- Flammables, gasoline, charcoal lighter, kerosene, paint thinners; 16,963 pounds
- Aerosols, paint, health & beauty aids, insecticides, lubricants, cleaners; 7,191 pounds
- Mercury; 65 pounds
- Oxidizers, bleach, chlorine, pool sanitizers; spa and hot tub sanitizers; 1,430 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, 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 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 December 3, 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/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
9/8/2018	Hickman	14	\$550.10	\$39.29	\$2.68	0.15%
9/8/2018	Marshall	77	\$5,701.21	\$74.04	\$2.44	0.68%
9/8/2018	Overton	19	\$1,273.90	\$67.05	\$1.19	0.23%
9/15/2018	Anderson	208	\$15,986.72	\$76.86	\$2.60	0.72%
9/15/2018	Monroe	110	\$2,992.04	\$27.20	\$2.03	0.64%
9/15/2018	Montgomery	363	\$17,611.85	\$48.52	\$2.10	0.62%
9/15/2018	Putnam	185	\$9,439.35	\$51.02	\$2.29	0.69%
9/22/2018	Blount	290	\$25,022.16	\$86.28	\$2.23	0.63%
9/22/2018	Coffee	94	\$6,129.89	\$65.21	\$2.67	0.46%
9/22/2018	Dickson	228	\$8,184.16	\$35.90	\$1.99	1.24%
9/22/2018	Mauzy	172	\$15,918.10	\$92.55	\$2.15	0.56%
9/29/2018	Lawrence	15	\$1,386.09	\$92.41	\$2.29	0.09%
9/29/2018	Loudon	81	\$5,404.81	\$66.73	\$2.87	0.47%
10/6/2018	Greene	78	\$5,840.58	\$74.88	\$1.78	0.30%
10/6/2018	McMinn	57	\$4,883.57	\$85.68	\$3.30	0.28%
10/6/2018	Wilson	362	\$22,336.63	\$61.70	\$2.19	0.90%
10/13/2018	Jefferson	64	\$5,332.06	\$83.31	\$1.66	0.33%
10/13/2018	Marion	24	\$2,255.81	\$93.99	\$1.40	0.22%
10/20/2018	Cumberland	274	\$12,930.33	\$47.19	\$2.74	1.33%
10/20/2018	Henderson	34	\$2,260.85	\$66.50	\$2.53	0.32%
10/20/2018	Unicoi	49	\$4,568.12	\$93.23	\$2.12	0.70%
10/27/2018	Madison	261	\$10,837.71	\$41.52	\$2.41	0.69%
10/27/2018	Sumner	225	\$20,500.38	\$91.11	\$2.16	0.39%
11/3/2018	Pickett	6	\$899.77	\$149.96	\$1.66	0.31%
11/3/2018	Rutherford	314	\$21,532.07	\$68.57	\$2.03	0.36%
	Season Totals	3,604	\$229,778.26	Average \$71.23	Average \$2.22	Average 0.53%

Individual Counties-Participation-Table 2A of 3 (Weight in pounds)							
County	Flammable Liquids	Non Flam Liquid	Poisonous Material	Acid	Caustics	Oxidizers	Reactives
Hickman	68		88		1	7	0
Marshall	161	111	662	76	68	15	0
Overton	68		91	1	8		1
Anderson	746	818	2,301	198	344	41	9
Monroe	766		462	74	14		0
Montgomery	1,524	807	1,725	272	440	82	3
Putnam	702	393	1,264	127	108		4
Blount	1,888	2,951	3,283	296	335	336	3
Coffee	471	305	978	77	179	5	0
Dickson	298	1,205	679	252	88	26	0
Maury	1,183	1,836	2,094	292	324	50	0
Lawrence	306		158	6	71		0
Loudon	698		637	51	97	117	0
Greene	1,254		733	130	74	4	0
McMinn	149	291	335	8	80	308	0
Wilson	951	1,731	2,560	312	495	84	0
Jefferson	189	1,152	523	107	108	9	0
Marion	316		218	15	12		0
Cumberland	638	1,206	1,696	156	355	9	0
Henderson	158	60	359	27	30	12	1
Unicoi	421		588	37	146		0
Madison	975	878	1,563	72	294	28	2
Sumner	1,422	1,671	2,095	304	344	212	13
Pickett			118	6	3	2	0
Rutherford	1,611	1,990	2,762	174	473	83	0
Season Totals	16,963	17,405	27,972	3,070	4,491	1,430	36

Individual Counties-Participation-Table 2B of 3 (Weight in pounds)								
County	Oil Paint	Aerosols	Oil	PCBs	Mercury	Fluorescent Lamps	Sharps	Total
Hickman		26			1	14		205
Marshall	605	392			0	218	32	2,340
Overton	896	3			0	2		1,070
Anderson	1,102	398			4	148	46	6,155
Monroe		138			0	10	10	1,474
Montgomery	2,648	759			0	88	57	8,405
Putnam	832	269			1	386	29	4,115
Blount	756	716	360		4	269	12	11,209
Coffee	141	119			3	1	20	2,299
Dickson	542	259	475	75	2	137	76	4,114
Maury	1,098	462			1	61	15	7,416
Lawrence		57			0		6	604
Loudon	96	166			0	15	7	1,884
Greene	901	104			1	86		3,287
McMinn	100	63		2	0	127	16	1,479
Wilson	644	914	1,984		5	446	53	10,179
Jefferson	370	110	584		1	37	24	3,214
Marion	941	76			0	23	11	1,612
Cumberland		500			8	127	22	4,717
Henderson	93	76			0	77	1	894
Unicoi	788	111			0	41	19	2,151
Madison	162	386			5	107	27	4,499
Sumner	1,518	534	1,123		14	204	57	9,511
Pickett	378	19			0	15		541
Rutherford	1,416	534	1,215		15	291	59	10,623
Season Totals	16,027	7,191	5,741	77	65	2,930	599	103,997

HHW County Participation Comparison Table 3 of 3			
County	Fall 18	Fall 17	Fall 18/17
Hickman	14	82	-82.93%
Marshall	77	75	2.67%
Overton	19	16	18.75%
Anderson	208	279	-25.45%
Monroe	110	86	27.91%
Montgomery	363	363	0.00%
Putnam	185	254	-27.17%
Blount	290	347	-16.43%
Coffee	94	116	-18.97%
Dickson	228	211	8.06%
Maury	172	167	2.99%
Lawrence	15	23	-34.78%
Loudon	81	105	-22.86%
Greene	78	90	-13.33%
McMinn	57	70	-18.57%
Wilson	362	310	16.77%
Jefferson	64	69	-7.25%
Marion	24	18	33.33%
Cumberland	274	217	26.27%
Henderson	34	65	-47.69%
Unicoi	49	50	-2.00%
Madison	261	223	17.04%
Sumner	225	194	15.98%
Pickett	6	7	-14.29%
Rutherford	314	293	7.17%
Households	3,604	3,730	-3.38%

The 2018 Fall HHW event season ended with 25 counties hosting 3,604 households showing a 3% decrease from the previous year evaluated using same county participation.



Tennessee Department of Environment and Conservation,
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