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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 1,450 one-day collection events with over 367,000 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 Very Small Quantity Generator (VSQG) 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/sw-mm-household-hazardous-waste-program/very-small-quantity-generators.html>.

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.

Season Participation Analysis

The 2021 Fall HHW (August 28th – November 20th) event season ended with 38 counties hosting 5,271 households versus 24 counties and 3,498 households in Fall 2019. The season saw an 9.22% decrease in participation from the previous season (see table 3) when evaluated among counties with comparative events in Fall 2019. Seventeen counties did not have a comparable time frame for household analysis and therefore not included in Table 3. Overall, however, we saw a 58% increase in counties served and a 50% increase in households served in Fall 2021 vs Fall 2019.

Batteries, Oil, Paint, Electronics and Antifreeze (BOPAE) continue to be a focus by the counties through the year. The Department conducted thirteen oil-based paint and nineteen fluorescent lamp milk runs in Fall 2021. 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.

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 second half of 2021, the containers collected 15,662 lbs. of HHW via four milk runs. Sevier County funded their own container and is scheduled to be operational in 2022.

The season concluded with a total of 280,198 pounds of discarded household hazardous waste that was collected in the combined 79 events (41 milk runs of oil-based paint, bulbs, and other HHW for a total of 123,631 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 \$438,888.40 (milk runs, \$49,656.90 other included in tables 1-3).

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

- Corrosive acids (Sulfuric acid, phosphoric acid, CLR cleaner, muriatic acid, battery acid); 5,090 pounds
- Corrosive Bases (Drano, sodium hydroxide); 8,522 pounds
- Pesticides, herbicides, rat poisons, insecticides, animal medications; 52,597 pounds
- Flammables, gasoline, charcoal lighter, kerosene, paint thinners; 30,443 pounds
- Aerosols, paint, health & beauty aids, insecticides, lubricants, cleaners; 12,130 pounds
- Mercury; 181 pounds
- Oxidizers, bleach, chlorine, pool sanitizers; spa and hot tub sanitizers; 1,448 pounds

Advertising

The Materials Management Program requires advertising and information sharing. 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. The Program encouraged counties and participating organizations to reach out to public utilities, business employee newsletters, social media, and other forms of information sharing.

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 Program urges counties to submit their recommended dates by December 1, 2022 so that staff may schedule the upcoming year's events by mid-January 2023. The Department will post the mobile event schedule at <http://tn.gov/environment/hhw/schedule> for public review.

Special Flood Response

Devastating floods that impacted Humphreys County in August caused the cancellation of the scheduled mobile HHW event. TDEC DSWM determined that there was a possible need for an emergency temporary HHW site. Materials Management sections of Problem Waste and Recovered Materials coordinated with the Humphreys County Mayor to establish this emergency HHW site. With contract availability for disaster situations, Clean Harbors mobilized a container for paint and coatings to a site identified by the county and endorsed by the Nashville Environmental Field office. Plastic ground cover was placed on the site and surrounded by fencing for security. DOT approved containers were placed in the designated area to accept the material. Due to limited staffing available from the county, TDEC Materials management staff provided staffing for a two week period at the emergency location. The two week period allowed the initial materials to be received. As the response slowed, the site was relocated to a convenience center north of Waverly, but easily available to the citizens. Convenience Center staff was able to provide oversight of the materials dropped off by citizens. The county monitored site continued for an additional two weeks. County and TDEC staff made the determination that response had dropped off and it would be time to close the site. Clean Harbors continued the proper segregation, packaging and transportation for disposal. A total of 9,372 pounds of waste were received during the event at a cost of \$3,956.12.

In addition to receiving the HHW materials, two 55 gallon stray drums were recovered and identified for disposal. The availability of this service is a great benefit to the citizens and respective communities. Plans for HHW collection should be incorporated with Disaster Debris Management Plans in all counties and possibly incorporated for FEMA funding recovery.

Individual Counties-Participation-Table 1 of 3						
Event Date	County	Participation	Cost	Cost/HH	Cost/lb	lbs/HH
8/28/2021	Henry	184	\$11,157.90	\$60.64	\$3.09	19.62
8/28/2021	Marshall	73	\$5,076.30	\$69.54	\$2.76	25.22
8/28/2021	Warren	79	\$4,529.20	\$57.33	\$2.26	25.35
9/11/2021	Union	14	\$3,907.15	\$279.08	\$2.94	94.79
9/11/2021	Washington	152	\$12,891.70	\$84.81	\$2.81	30.20
9/11/2021	Williamson	655	\$73,262.95	\$111.85	\$2.66	41.98
9/18/2021	Cocke	17	\$356.20	\$20.95	\$2.34	8.94
9/18/2021	Coffee	103	\$8,702.70	\$84.49	\$2.38	35.45
9/18/2021	Dickson	37	\$6,451.40	\$174.36	\$2.66	65.65
9/18/2021	Overton	13	\$686.75	\$52.83	\$1.37	38.62
9/25/2021	Bedford	50	\$4,667.60	\$93.35	\$2.36	39.50
9/25/2021	Maury	97	\$7,487.90	\$77.19	\$2.58	29.91
9/25/2021	Meigs	25	\$1,100.60	\$44.02	\$2.80	15.72
9/25/2021	Montgomery	261	\$26,096.70	\$99.99	\$2.56	39.12
10/2/2021	Cumberland	381	\$22,210.75	\$58.30	\$2.78	20.96
10/2/2021	Hamblen	465	\$17,590.30	\$37.83	\$2.17	17.41
10/2/2021	Sullivan	172	\$13,104.35	\$76.19	\$2.22	34.27
10/9/2021	Carter	128	\$7,362.65	\$57.52	\$2.05	28.07
10/9/2021	Cheatham	92	\$7,488.75	\$81.40	\$2.26	36.09
10/9/2021	Weakley	36	\$3,241.30	\$90.04	\$2.39	37.69
10/16/2021	Jefferson	57	\$6,825.15	\$119.74	\$2.93	40.88
10/16/2021	Lawrence	32	\$1,903.15	\$59.47	\$1.98	30.03
10/16/2021	Lincoln	70	\$5,638.00	\$80.54	\$2.71	29.70
10/16/2021	Unicoi	34	\$4,223.25	\$124.21	\$2.63	47.21
10/23/2021	Anderson	155	\$13,572.30	\$87.56	\$2.42	36.24
10/23/2021	Madison	493	\$17,264.10	\$35.02	\$2.17	16.17
10/23/2021	Sevier	330	\$13,394.85	\$40.59	\$2.59	15.70
10/30/2021	Macon	28	\$3,069.60	\$109.63	\$2.08	52.79
10/30/2021	Marion	27	\$2,537.35	\$93.98	\$1.54	60.89
10/30/2021	Roane	61	\$9,265.55	\$151.89	\$2.47	61.56
10/30/2021	Sumner	183	\$15,226.20	\$83.20	\$2.25	37.00
11/6/2021	Monroe	29	\$2,076.35	\$71.60	\$2.24	31.97
11/6/2021	Rutherford	355	\$24,411.45	\$68.76	\$2.20	31.23
11/13/2021	Franklin	118	\$7,662.25	\$64.93	\$2.52	25.79
11/13/2021	Greene	120	\$7,876.60	\$65.64	\$2.18	30.08
11/13/2021	Robertson	36	\$4,116.05	\$114.33	\$3.11	36.78
11/20/2021	Stewart	41	\$4,323.85	\$105.46	\$2.27	46.51
11/20/2021	Tipton	68	\$8,472.30	\$124.59	\$2.67	46.62
	Season Totals	5,271	\$389,231.50	Average \$87.18	Average \$2.43	Average 35.83

Individual Counties-Participation-Table 2A of 3 (Weight in Pounds)								
County	Flammable Liquids	Non Flam Liquid	Poisonous Material	Acid	Caustics	Oxidizers	Reactives	Dry Cell Batteries
Henry	538	448	1,678	100	201	46		
Marshall	631		608	78	174	31		
Warren	542	480	610	34	67	58		
Union	105		481	9	27			
Washington	1,249		1,972	155	244	106	19	
Williamson	4,510	3,103	12,547	811	1,261	199	6	
Cocke	3		1	3	30		4	
Coffee	664	297	1,143	95	256			
Dickson	233	453	993	119	112	9		
Overton	347		37	24	11			
Bedford	523	375	522	147	100	62		
Maury	406	544	1,099	102	225	19		
Meigs	100		104	7	36	2		26
Montgomery	1,424	1,312	2,518	423	927	172		
Cumberland	1,008	1,832	3,229	404	452	58	6	
Hamblen	1,120	324	1,394	212	369	48		
Sullivan	1,107	1,007	1,892	119	203	8		
Carter	806		852	54	153			
Cheatham	803	806	991	126	135	15		
Weakley	243	253	424	22	90	43		
Jefferson	231		927	104	232	5		1
Lawrence	163	402	225	16	20	9		
Lincoln	805		870	72	189	21		
Unicoi	228		178	38	8			
Anderson	1,222	794	1,721	314	348	22		
Madison	1,632	956	1,989	228	645			
Sevier	618	1,149	1,589	234	304	42		
Macon	448	246	285	24	167			
Marion	629		123	5	54	39		
Roane	1,659		1,341	162	181	61		
Sumner	921	849	2,056	161	217	64	40	
Monroe	448		327	55	6			
Rutherford	1,826	3,401	3,027	290	514	170	5	
Franklin	1,254		1,059	127	229	19		
Greene	792	463	1,190	51	97	19	4	
Robertson	293		725	62	139	7		
Stewart	173	824	619	16	25	94		
Tipton	739		1,611	87	74			
Season Totals	30,443	20,318	52,957	5,090	8,522	1,448	84	27

Individual Counties-Participation-Table 2B of 3 (Weight in Pounds)							
County	Oil Paint	Aerosols/ Compressed Gas	Oil	Mercury	Fluorescent Lamps	Sharps	Total
Henry		492			105	2	3,610
Marshall		250		1	45	23	1,841
Warren		146			19	47	2,003
Union	626	27		41	11		1,327
Washington	218	347		4	249	28	4,591
Williamson	2,986	1,735		5	196	138	27,497
Cocke	11	9			90	1	152
Coffee	881	288			17	10	3,651
Dickson	107	144		1	110	148	2,429
Overton		27			43	13	502
Bedford	74	111			59	2	1,975
Maury	303	197		1	4	1	2,901
Meigs		35		1	5	77	393
Montgomery	2,342	938			79	76	10,211
Cumberland		916		4		77	7,986
Hamblen	3,616	927		8		77	8,095
Sullivan	591	415	160	11	365	16	5,894
Carter	1,271	241		1	205	10	3,593
Cheatham		294		2	127	21	3,320
Weakley	126	42		1	90	23	1,357
Jefferson	578	221		3	1	27	2,330
Lawrence		68		1	23	34	961
Lincoln		119		1		2	2,079
Unicoi	1,009	46		70	27	1	1,605
Anderson	601	359			82	154	5,617
Madison	557	582	892	4	434	53	7,972
Sevier	360	678		1	153	53	5,181
Macon	181	94		1	32		1,478
Marion	712	65			15	2	1,644
Roane		330		1	10	10	3,755
Sumner	944	419	946	1	82	71	6,771
Monroe		82			9		927
Rutherford	676	645		11	281	242	11,088
Franklin		285		3	67		3,043
Greene	564	198		1	189	41	3,609
Robertson		80			18		1,324
Stewart	56	85		1	14		1,907
Tipton	391	193		1	41	33	3,170
Season Totals	19,781	12,130	1,998	181	3,297	1,513	157,789

HHW County Participation Comparison Table 3 of 3			
County	Fall 21	Fall 19	Fall 21/19
Montgomery	261	330	-20.91%
Overton	13	33	-60.61%
Marshall	73	64	14.06%
Dickson	37	170	-78.24%
Anderson	155	322	-51.86%
Coffee	103	135	-23.70%
Maury	97	144	-32.64%
Greene	120	95	26.32%
Warren	79	82	-3.66%
Monroe	29	64	-54.69%
Weakley	36	65	-44.62%
Sullivan	172	163	5.52%
Cumberland	381	464	-17.89%
Carter	128	39	228.21%
Jefferson	57	78	-26.92%
Sumner	183	227	-19.38%
Unicoi	34	63	-46.03%
Marion	27	24	12.50%
Lawrence	32	20	60.00%
Madison	493	228	116.23%
Rutherford	355	346	2.60%
Households	2865	3156	-9.22%

The 2021 Fall HHW event season ended with 38 counties hosting 5,271 households versus 24 counties and 3,498 households in Fall 2019. A 9.22% decrease in participation from the previous fall season can be seen when evaluated using same counties. Seventeen counties did not have a comparable time frame for household analysis and therefore not included in Table 3.



Tennessee Department of Environment and Conservation,
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