

Solid Waste in Washington State



23rd Annual Status Report



DEPARTMENT OF
ECOLOGY
State of Washington

Waste 2 Resources Program
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Chapter 5: Moderate Risk Waste Management



The term “moderate risk waste” (MRW) was created by revisions to Washington State’s 1986 Hazardous Waste Management Act (RCW 70.105). MRW is a combination of household hazardous waste (HHW) and conditionally exempt small quantity generator (CESQG) waste. HHW is waste created in the home, while CESQG is small quantities of business or non-household waste. Both HHW and CESQG waste are exempt from state hazardous waste regulations.

- The total MRW collected in 2013 was about 23.6 million pounds.
- The average amount of HHW disposed of per participant was 67.4 pounds, and per capita was 1.95 pounds.
- A little more than 3 percent of Washington residents used a fixed facility or collection event to remove hazardous waste from their households, about 7.4 percent of all households.
- Counties that publicly collected the most CESQG waste per capita were Lewis, Whatcom, Yakima, Jefferson, and Kitsap.
- Counties that collected the most used oil per capita were Garfield, Stevens, Columbia, Wahkiakum, Skamania, and Lincoln.
- Approximately 88 percent of all MRW collected was recycled, reused, or used for energy recovery.

MRW collections started in the early 1980s primarily as HHW-only events, also known as “roundups” or collection events. These events usually happened once or twice a year.

In the late 1980s, permanent collection facilities now known as fixed facilities began to replace collection events to fulfill the need for year-round collection. Over time, local collection programs have further developed with the addition of mobile units and satellite facilities to supplement fixed facilities. These efforts resulted in a larger number of customers served, decreased costs, and increased reuse and recycling of MRW.

Please note the data in this chapter is only a portion of the MRW

waste stream. The MRW data presented here is reported through local governments, with a few private companies also reporting because they have a solid waste permit issued by the appropriate local authority. Chapter 4 includes additional statewide data.

Funding

RCW 70.105.235 authorizes Ecology to provide financial assistance through grants to locals for preparing, updating, and implementing local Hazardous Waste Plans, which detail local MRW

programs. Ecology uses the Coordinated Prevention Grants Program (CPG) to provide funding to local governments for these purposes. CPG is funded by the Local Toxics Control Account (LTCA).¹ CPG funding requires a 25 percent match from local agencies.

All local governments in the state of Washington have completed Hazardous Waste (HW) Plans. See Chapter 2 for the status of plans in each county. Every local HW plan must address:

- ✓ HHW collection.
- ✓ Household and public education.
- ✓ Small business technical assistance.
- ✓ Small business collection assistance.
- ✓ Enforcement.
- ✓ Used oil collection and education.

Accuracy of Data Collection

Ecology created and circulates a standard reporting form to all MRW programs. However, the reported data can vary depending on a program's collection process, and how data is reported and interpreted. All programs must provide an individual MRW report. However, some programs do not meet this obligation, which can create gaps in the data.

2013 Data

Chapter 173-350 WAC, Solid Waste Handling Standards, requires local programs to submit MRW report forms annually. Annual reports are required to be submitted by April 1 for the previous calendar year collections. Information received from local programs through MRW annual reports provides Ecology with data on MRW infrastructure, collection trends, costs, waste types received at collection events and fixed facilities, and disposition of wastes collected. Ecology translates this data into the information contained in this chapter, and designs it to be specifically useful to those who operate or work in MRW programs in Washington State.

This year's report focuses on 2013 data with some comparisons to data published in previous years' reports. In an effort to provide useful information for individual programs, data is provided in categories by county size.

In 2013, Chelan, Douglas, San Juan, and Skamania Counties did not report any HHW collections. Private collectors or used oil collection programs provided the numbers shown in this report for these counties. Due to budget constraints, some counties have decided to reduce hours of operations at their fixed facilities, or have discontinued or reduced collection events.

¹ Authorized by RCW 82.21.030 (Chapter 82.21 RCW, Hazardous substance tax -- Model toxics control act).

Permanent fixed facilities now service most of the state. In 2013, Benton, Chelan, Douglas, Ferry, Garfield, San Juan, Skamania, and Wahkiakum counties did not have fixed facilities. Garfield residents can use the facility in Asotin County and Cowlitz County conducts a mobile event in Wahkiakum County. Benton, Chelan, Douglas, Ferry, San Juan, and Skamania counties normally conduct collection events, though some of these counties were unable to do so in 2013.

In past reports, Ferry County was shown to have a fixed facility, but the facility is more properly categorized as a limited MRW Facility. Benton County had a permanent fixed facility until about mid-2010 when the facility was destroyed by a fire.

Collection services for CESQGs have leveled off statewide. In 2013, 17 fixed facilities serviced CESQGs, and 1 county provided a collection event for CESQGs.

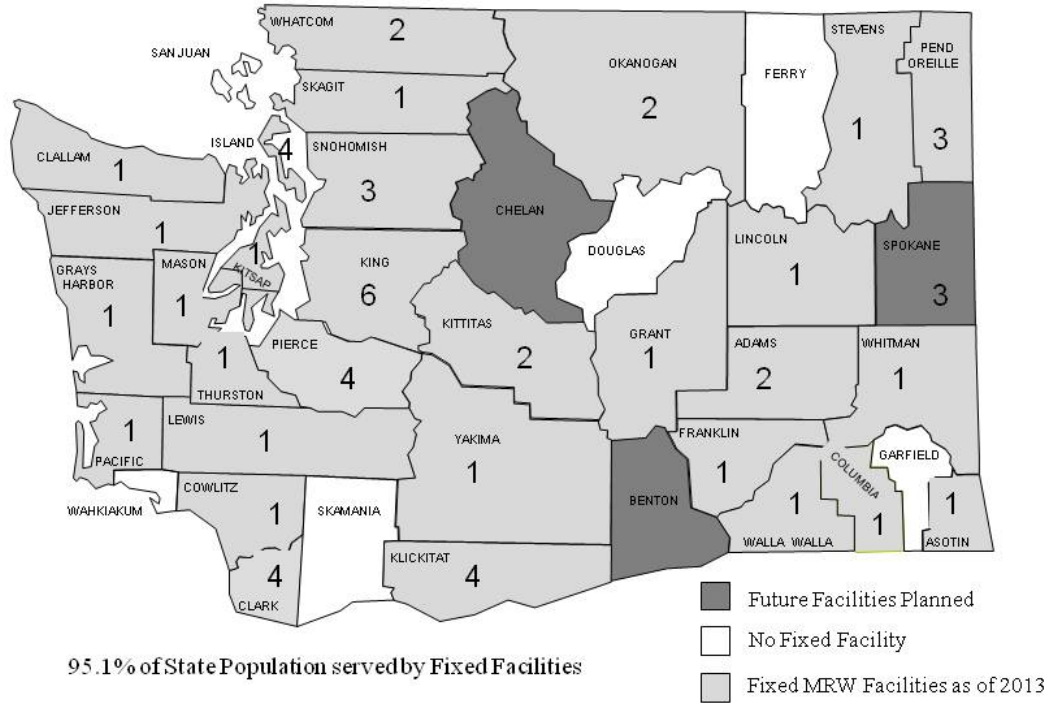
Table 5.1 shows the estimated population (based on data provided by the Office of Financial Management) by size of individual counties. In Washington State there are 42 programs that manage MRW. These programs include all 39 counties.

**Table 5.1
Individual County Population by Size (2013)**

< 50 K		50 K – 100 K		> 100 K	
Garfield	2,250	Walla Walla	59,500	Cowlitz	103,300
Wahkiakum	4,020	Mason	61,800	Skagit	118,600
Columbia	4,100	Clallam	72,350	Benton	183,400
Ferry	7,650	Grays Harbor	73,200	Whatcom	205,800
Lincoln	10,675	Chelan	73,600	Yakima	247,250
Skamania	11,300	Lewis	76,200	Kitsap	254,000
Pend Oreille	13,150	Island	79,700	Thurston	260,100
San Juan	16,000	Franklin	84,800	Clark	435,500
Adams	19,200	Grant	91,800	Spokane	480,000
Klickitat	20,700	50 K – 100 K Total	672,950	Snohomish	730,500
Pacific	21,000			Pierce	814,500
Asotin	21,800			King	1,981,900
Jefferson	30,275			> 100K Total	5,814,850
Douglas	39,280				
Okanogan	41,500				
Kittitas	41,900				
Stevens	43,800				
Whitman	46,000				
< 50K Total	394,600			State Total	6,882,400

Map 5.A shows which counties have permanent fixed facilities, the number of fixed facilities in each county, and which counties are likely to develop a permanent fixed facility in the future. Six of the fixed facilities represented on the map are owned and operated by private companies, either managing their own wastes from multiple facilities at one consolidation point or only servicing CESQG customers.

Map 5.A
58 MRW Facilities as of 2013



MRW Collected

As shown in Table 5.2, Washington programs collected approximately 12.7 million pounds of HHW, 7.2 million pounds of used oil (UO) and 3.7 million pounds of CESQG waste, for a total of approximately 23.6 million pounds of MRW during 2013.

Table 5.2
Total Pounds per Waste Category 2004-13

Collection Year	HHW lbs (no UO)	Used Oil lbs	CESQG lbs	Total MRW lbs
2004	15.3M	12.4M	2.4M	30.1M
2005	14.7M	11.3M	6.3M	32.3M
2006	15.2M	10.0M	7.1M	32.3M
2007	14.9M	9.7M	7.6M	32.2M
2008	14,163,842	8,606,794	8,336,030	31,106,666
2009	12,257,316	8,916,633	4,867,334	26,041,283
2010	11,572,466	9,218,395	5,387,903	26,178,764
2011	10,965,429	7,857,614	4,977,625	23,800,668
2012	11,303,293	7,417,694	4,424,536	23,145,523
2013	12,722,719	7,196,140	3,768,763	23,687,622

Collection by Waste Category and Type

As shown in Table 5.3, the waste types of MRW collected most in 2013 were non-contaminated used oil, latex paint, antifreeze, oil-based paint, paint related material, and CRTs. These totals include used oil and antifreeze collected at all collection sites. These six specific waste types accounted for approximately 70 percent of the estimated 23.6 million pounds of MRW collected in 2013.

Table 5.3
Six Most MRW Waste Types Collected in 2013

Waste Type	Total Lbs.
Non-Contaminated Used Oil	7,196,140
Latex Paint	2,636,596
Antifreeze	2,556,989
Oil-based Paint	1,469,516
Paint Related Material	1,482,442
CRT's	1,093,987
Total	16,435,670

Table 5.4 provides summary information on total pounds of MRW collected from HHW and CESQG (publicly and privately collected) categories by waste types. Some waste type categories were changed and a few new ones added to the annual report form beginning in 2007.

**Table 5.4
Total Pounds of MRW Collected by Waste Category in 2013**

Waste Type	HHW	CESQG	Total
Acids	149,212	17,023	166,235
Acids (Aerosol Cans)	138	0	138
Aerosols (Consumer Commodities)	162,761	18,835	181,596
Antifreeze	557,033	1,999,956	2,556,989
Bases	206,500	28,279	234,779
Bases, Aerosols	122	1	123
Batteries (Auto Lead Acid)	630,405	6,661	637,066
Batteries (Small Lead Acid)	14,086	7,065	21,151
Batteries (Dry Cell)	335,088	15,741	350,829
Batteries (Nicad/NIMH/Lithium)	50,570	10,558	61,128
CFCs	5,511	63	5,574
Chlorinated Solvents	1,889	265	2,154
Compressed Gas Cylinders	655	875	1,530
CRT's	1,091,867	2,120	1,093,987
Cyanide Solutions	31	27	58
Dioxins	0	0	0
Electronics	1,009,778	17,097	1,026,875
Fire Extinguishers	16,358	2,080	18,438
Flammable Solids	20,106	30,840	50,946
Flammable Liquids	759,554	188,192	947,746
Flammable Liquids, Aerosols	180	0	180
Flammable Liquids Poison	146,070	17,984	164,054
Flammable Liquid Poison, Aerosols	57,654	99	57,753
Flammable Gas (Butane/Propane)	130,611	621	131,232
Flammable Gas Poison	2,900	63	2,963
Flammable Gas Poison, Aerosols	44,722	537	45,259
Latex Paint	2,579,262	57,334	2,636,596
Latex Paint, Contaminated	207,492	30,854	238,346
Mercury Compounds (Dental Amalgam)	576	13,085	13,661

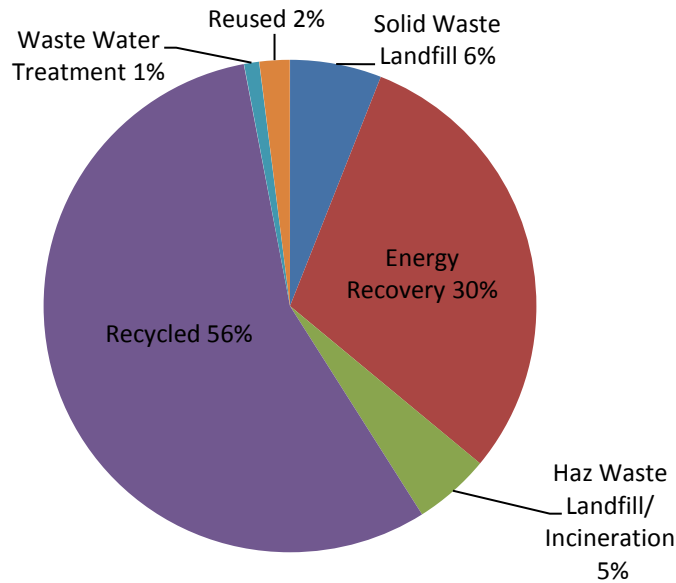
Waste Type	HHW	CESQG	Total
Mercury Containing Batteries (Button, etc)	53	1	54
Mercury Devices (Monometers, Barometers, etc.)	149	85	234
Mercury (Fluorescent Lamps & CFLs)	679,039	123,931	802,970
Mercury (Pure Elemental)	496	128	624
Mercury (Switches & Relays)	2	197	199
Mercury (Thermostats/Thermometers)	931	264	1,195
Nitrate Fertilizer	10,939	295	11,234
Non-PCB Containing Light Ballasts	6,387	4,728	11,115
Non-Regulated Liquids	56,236	87,645	143,881
Non-Regulated Solids	177,775	342,018	519,793
Oil-Based Paint	1,319,682	149,834	1,469,516
Oil-Based Paint, Contaminated	85,790	8,916	94,706
Oil Contaminated (oily H2O, oil w/PCB's, etc.)	31,366	72,725	104,091
Oil Filters	146,465	2,684	149,149
Oil Filters Crushed	3,287	0	3,287
Oil Non-Contaminated	7,112,220	83,920	7,196,140
Oil Stained Rags, Absorbent Pads, etc.	7,839	4,688	12,527
Organic Peroxides	677	127	804
Other Dangerous Waste	64,704	244,663	309,367
Oxidizers	28,088	3,776	31,864
Paint Related Materials	1,242,518	239,924	1,482,442
PCB Containing Light Ballasts	17,426	6,927	24,353
Pesticide/Poison Liquid	352,135	13,945	366,080
Pesticide/Poison Solid	212,531	20,747	233,278
Photo/Silver Fixer	284	12,500	12,784
Reactives	2,565	99	2,664
Tar and/or Adhesives	15,416	1,773	17,189
Used Cooking Oil	38,688	8	38,696
MRW TOTAL	19,794,819	3,892,803	23,687,622

* These totals do not match the HHW and CESQG totals in Table 5.2 because these contain used oil, which was separated out in Table 5.2. Also, in past reports most of the used oil was included with the CESQG totals. It is impossible to know if used oil collected at facilities such as Jiffy Lube is HHW or CESQG. However, it seems more reasonable that most of it is HHW rather than CESQG. Therefore, since 2008 it has been included with the HHW total in Table 5.4 instead of the CESQG total as in the past. Note: In 2013 MRW programs recycled 486,625 pounds of materials such as propane tanks, cardboard, paint cans, etc. This number is not included in any of the data in the above table or elsewhere in this chapter. It is noted here because it is a waste stream that MRW programs must deal with. The majority of MRW programs manage these recyclables appropriately.

Disposition of MRW Waste

The disposition of MRW collected is generally well managed. Most MRW is recycled or used for energy recovery. Very little of the MRW collected is safe for solid waste disposal. Five percent of all MRW is disposed at a hazardous waste landfill or incinerator. Figure 5.1 shows final disposition of MRW between recycled, reused, energy recovery, hazardous waste landfill or incineration, solid waste landfill, and disposal through a wastewater treatment plant.

Figure 5.1
2013 MRW Final Disposition



MRW Data

Table 5.5 shows various data by county. HHW data is based on fixed facility and collection event information, but does not include HHW collected at limited MRW sites, such as used oil sites as participation numbers are not tracked at these sites. The last column of this table represents all MRW collected in that county, including privately collected CESGQ wastes, used oil, antifreeze, and oil filters collected at used oil sites. This information can be used to evaluate efficiencies within each county by comparing percentage of participants per housing units and costs, and HHW pounds per participant.

Housing units are the number of households in each county. This data is used instead of per capita because participants typically represent a household.

Table 5.5
Various HHW Data by County

County	Housing Units	HHW Participants	% Participant / Housing Units	HHW Cost / Participant	HHW lbs / Participant	HHW Total lbs	HHW, SQG, & Used Oil From Limited Sites Total lbs
Adams^	6,380	0	0%	\$0	0.00	1,132	3,798
Asotin	9,937	1,600	16.1%	\$69.96	143.6	229,794	237,169
Benton	71,955	1,449	2%	\$118.25	143.6	208,022	267,173
Chelan^^	35,938	0	0%	\$0	0.00	0	77,370
Clallam	36,135	601	1.7%	\$160.00	76.0	45,655	171,267
Clark	170,752	16,089	9.4%	\$46.80	245.6	3,951,821	5,276,650
Columbia^	2,158	0	0%	\$0	0	28,883	29,933
Cowlitz	43,814	2,144	4.9%	\$61.36	360.0	771,600	1,068,065
Douglas^^	16,299	0	0%	\$0	0	0	7,793
Ferry	4,462	14	.3%	\$135.71	11.3	158	3,664
Franklin	26,207	291	1.1%	\$26.24	23.8	6,935	430,554
Garfield	1,232	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin	19,125
Grant	36,028	346	1%	\$150.31	133.1	46,047	58,005
Grays Harbor	35,516	1,792	5%	\$138.13	81.6	146,254	291,830
Island	40,700	1,828	4.5%	\$106.10	143.1	261,500	429,128
Jefferson	18,034	1,024	5.7%	\$79.03	114.3	117,047	129,360
King	869,835	74,462	8.6%	\$47.92	44.7	3,329,436	5,858,902
Kitsap	108,449	8,405	7.8%	\$90.65	84.5	710,424	1,136,965
Kittitas	22,440	320	1.4%	\$241.04	146.5	46,876	147,987
Klickitat	10,060	8,425	83.7%	\$3.07	12.1	101,861	109,662
Lewis	34,482	1,087	3.2%	\$129.77	275.9	299,891	393,527
Lincoln	5,864	360	6.1%	\$31.91	116.7	42,013	78,473
Mason	32,905	453	1.4%	\$57.28	23.3	10,550	41,144
Okanogan	22,501	406	1.8%	\$159.67	73.2	29,700	61,372
Pacific	15,651	201	1.3%	\$153.15	53.9	10,830	51,599
Pend Oreille	8,025	2,044	25.5%	\$34.47	53.3	108,891	110,511
Pierce	331,861	10,958	3.3%	\$61.80	60.1	658,516	1,179,738
San Juan*	13,576	0	0%	\$0	0.00	0	0
Skagit	52,218	3,790	7.3%	\$47.68	30.2	114,330	277,367
Skamania^^	5,747	0	0%	\$0	0	0	39,942
Snohomish	293,586	10,494	3.6%	\$66.87	65.6	687,918	2,069,913
Spokane	205,488	9,630	4.7%	\$33.04	55.1	530,740	1,186,255
Stevens	21,347	158	.7%	\$242.66	351.0	55,456	239,891
Thurston	111,809	14,751	13.2%	\$22.66	13.4	197,143	536,234

County	Housing Units	HHW Participants	% Participant / Housing Units	HHW Cost / Participant	HHW lbs / Participant	HHW Total lbs	HHW, SQG, & Used Oil From Limited Sites Total lbs
Wahkiakum	2,099	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz	14,280
Walla Walla	23,996	1,765	7.4%	\$46.77	56.1	98,934	102,131
Whatcom	92,363	8,171	8.8%	\$37.54	35.0	285,352	464,248
Whitman	19,574	871	4.4%	\$66.02	33.2	28,933	66,749
Yakima	86,885	15,363	17.7%	\$17.88	17.9	274,762	1,019,848
STATEWIDE	2,946,308	199,292	6.8%	\$48.51	67.4	13,437,404	23,687,622

* These counties did not report in 2013 and any total pounds shown represents the amount private companies collected from CESQG's in those jurisdictions.

^^ These counties scaled back operations in 2013 and any HHW pounds reported represent those collected at limited MRW sites and any CESQG amounts reported are from private companies.

^ These counties did not report participation and/or cost information numbers in 2013

Household Hazardous Waste (HHW)

Participants per Housing Unit

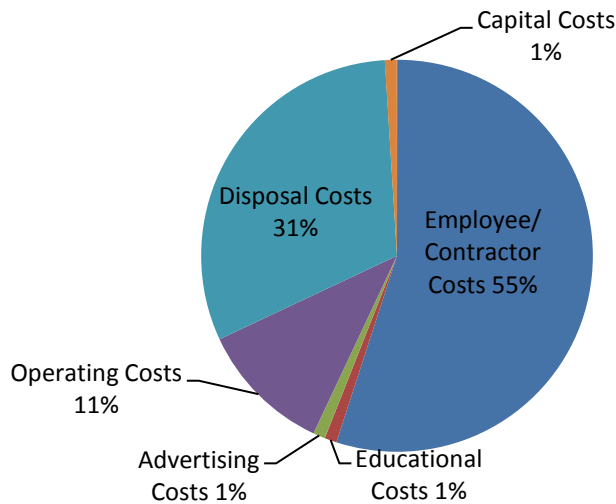
Counties that exhibit ten percent or higher of participants per housing unit provide excellent public education to encourage use of facilities or events, have very convenient locations for their collection facilities, or both.

Cost per Participant and Overall HHW Cost Breakdown

This statistic is hard to compare because of the many variables in program costs. Some programs record every cost, whether direct or indirect. Others record only the disposal and basic operation costs.

Larger counties have the advantage of efficiency in scale, both in quantities received and in disposition options. Also, there are differences in service levels of the basic program, accounting differences, and errors. However, this data does provide an idea of what is possible and an incentive to contact those counties that seem to operate efficiently. According to annual reports submitted to Ecology, HHW programs spent just over \$9.6 million in 2013 statewide (does not include CESQG costs). Figure 5.2 shows the overall breakdown of HHW costs reported to Ecology.

Figure 5.2
2013 HHW Cost Breakdown



HHW Pounds per Participant and per Capita

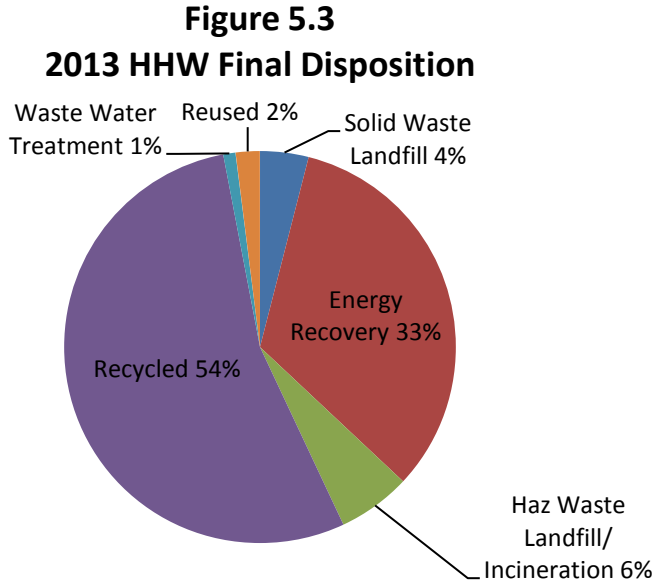
The average pounds collected statewide per participant for HHW was 67.4. Table 5.6 shows the top five counties with the highest collections of HHW in pounds per capita (not participant as is shown above in Table 5.5) for 2011-2013. Statewide, HHW pounds per capita collected was 1.95 pounds.

Table 5.6
High Collections of HHW (No Used Oil Sites)
Pounds per Capita by County in 2011-13

HHW 2011			HHW 2012			HHW 2013		
County	Size	Lbs	County	Size	Lbs	County	Size	Lbs
Pend Oreille	<50K	7.30	Cowlitz	>100K	7.75	Asotin	<50K	10.5
Asotin	<50K	6.65	Asotin	<50K	6.98	Clark	>100K	9.07
Island	50-100K	6.32	Island	50-100K	6.12	Pend Oreille	<50K	8.28
Lincoln	<50K	4.84	Clark	>100K	6.00	Cowlitz	>100K	7.47
Clark	>100K	4.80	Klickitat	<50K	5.20	Columbia	<50K	7.04

HHW Disposition

Figure 5.3 shows the final disposition of all HHW collected throughout Washington State in 2013.



Conditionally Exempt Small Quantity Generator (CESQG)

Eighteen local government MRW programs collected CESQG wastes in 2013. This number is down from 2009 when there were 22 programs providing collection service to CESQGs. Some programs have decided to discontinue CESQG collection service, while others have had to suspend their CESQG collections temporarily. The City of Tacoma* (Pierce County) offers CESQGs collection assistance for fluorescent lights only. Following are the counties that sponsored CESQG waste collections in 2013:

Asotin	King	Pierce*
Cowlitz	Kitsap	Skagit
Grant	Kittitas	Snohomish
Grays Harbor	Lewis	Thurston
Island	Okanogan	Whatcom
Jefferson	Pacific	Yakima

The top five counties that publicly collected the most CESQG waste per capita in 2013 were:

- Lewis
- Whatcom
- Yakima
- Jefferson
- Kitsap

Table 5.7 shows the total amount of CESQG waste collected publicly and privately in each county. When we take into account both public and private collection numbers, the top five counties for CESQG collections per capita in 2013 were:

- Franklin
- Clark
- Lewis
- Whatcom
- Yakima

Table 5.7
2013 Washington State Public and Private CESQG Collections
in Pounds by County

County	Publicly Collected CESGQ Waste	Publicly Collected CESGQ Waste /Capita	Privately Collected CESGQ Waste	Total CESQG Waste Collected	Total CESQG Waste Collected/Capita
Adams	0	0	2,666	2,666	.14
Asotin	5,927	.27	1,448	7,375	.34
Benton	0	0	7,635	7,635	.04
Chelan	0	0	10,425	10,425	.14
Clallam	0	0	9,472	9,472	.13
Clark	0	0	1,251,233	1,251,233	2.87
Columbia	0	0	1,050	1,050	.26
Cowlitz	10,497	.10	5,974	16,471	.16
Douglas	0	0	7,793	7,793	.20
Ferry	0	0	113	113	.02
Franklin	0	0	423,619	423,619	5.0
Garfield	0	0	225	225	.10
Grant	655	.01	11,303	11,958	.13
Grays Harbor	19,033	.26	1,827	20,860	.29
Island	9,279	.12	2,389	11,668	.15
Jefferson	11,060	.37	1,253	12,313	.41
King	106,729	.05	809,072	915,801	.46
Kitsap	79,202	.31	11,078	90,280	.36
Kittitas	2,914	.07	2,415	5,329	.13
Klickitat	0	0	68	68	.01
Lewis	48,249	.63	7,462	55,711	.73
Lincoln	0	0	3,113	3,113	.29
Mason	0	0	2,522	2,522	.04
Okanogan	1,826	.04	4,508	6,334	.15
Pacific	729	.04	3,484	4,213	.20
Pend Oreille	0	0	1,620	1,620	.12
Pierce*	4,360	.01	286,803	291,163	.36
San Juan	0	0	0	0	0
Skagit	15,598	.13	15,889	31,487	.27
Skamania	0	0	142	142	.01
Snohomish	103,662	.14	46,651	150,313	.21
Spokane	0	0	207,455	207,455	.43
Stevens	0	0	2,047	2,047	.05
Thurston	32,516	.13	21,930	54,446	.21
Wahkiakum	0	0	0	0	0
Walla Walla	0	0	3,197	3,197	.05
Whatcom	101,812	.50	21,017	122,829	.60
Whitman	0	0	17,308	17,308	.38
Yakima	117,976	.48	14,123	132,099	.53
Statewide Totals	672,024	.10	3,220,779	3,892,803	.56

* City of Tacoma's CESQG program collects fluorescent lighting only.

Table 5.8 shows the total amount of CESQG waste collected publicly and privately by waste type. Excluding the “Other DW” category, the top five CESQG waste types collected in 2013 were:

- Antifreeze
- Non-Regulated Solids
- Paint Related Materials
- Flammable Liquids
- Paint – Oil Base

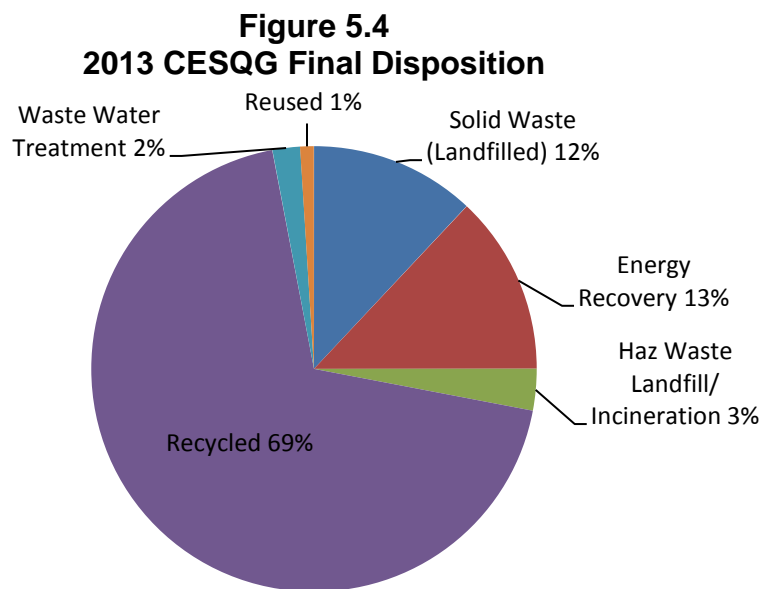
**Table 5.8
Washington State Public and Private CESQG Collections
for 2013 in Pounds by Waste Type**

Waste Type	Public Collections	Private Collections	Totals
Antifreeze	14,496	1,985,460	1,999,956
Non-Regulated Solids	2,953	338,900	341,853
Other DW	9,356	228,519	237,875
Paint Related Materials	28,043	186,590	214,633
Flammable Liquids	94,345	85,944	180,289
Paint - Oil Base	125,614	22,992	148,606
Used Oil - Non-Contaminated	38,476	91,707	130,183
Mercury Collections	108,136	15,311	123,447
Used Oil-Cont. (oily water, etc)	16,166	54,680	70,846
Paint – Latex	54,840	1,994	56,834
Non-Regulated Liquids	28,646	2,600	31,246
Flammable Solids	5,326	25,335	30,661
Pesticides - Poison/Solids	14,842	5,835	20,677
Bases	15,935	3,844	19,779
Paint - Latex Contaminated	19,312	387	19,699
Aerosols - Consumer Commodities	3,763	14,532	18,295
Flammable Liquid Poison	8,936	9,048	17,984
Electronics	920	15,500	16,420
Acids	14,323	1,699	16,022
Batteries - Alkaline/Carbon	5,930	8,609	14,539
Pesticides - Poison/Liquid	9,793	2,640	12,433
Batteries-Nicad/Lithium	3,182	6,636	9,818
Paint - Oil Base –Contaminated	8,916	0	8,916
Batteries - Small Lead Acid	2,512	4,553	7,065
PCB Containing Light Ballasts	6,275	639	6,914
Photo/Silver Fixer	6,503	0	6,503
Batteries – Auto Lead Acid	4,013	1,896	5,909
Non-PCB Containing Light Ballasts	4,688	0	4,688
Oxidizers	2,769	806	3,575
Oil Filters	2,684	0	2,684
Fire Extinguishers	2,000	0	2000
Tar/Adhesives	1,773	0	1,773
Compressed Gas Cylinders	780	0	780
Flammable Butane/Propane	501	120	621
Flammable Gas Poison – Aerosols	537	0	537
Nitrate Fertilizer	295	0	295
Chlorinated Solvents	265	0	265
Organic Peroxides	108	8	116
Flammable Liquid Poison – Aerosols	81	18	99
Reactives	73	26	99
Flammable Gas Poison	63	0	63
Cyanide Solutions	27	0	27
Used Cooking Oil	8	0	8
Bases - Aerosols	1	0	1
Totals	672,024	3,117,697	3,789,721

CESQG Disposition

Eight-two percent of all CESQG waste collected in 2013 was either recycled or used for energy recovery. See Figure 5.4 for the complete disposition breakdown of CESQG wastes in 2013. There are a couple differences between final disposition of HHW and CESQG wastes worth noting:

- 33 percent of HHW was sent for energy recovery versus 13 percent of CESQG wastes.
- More CESQG waste is disposed via a solid waste landfill (12%) compared to only 4% of HHW.



Collection/Mobile Events

Table 5.9 represents the number of collection/mobile events held statewide from 2011-13.

The amount of waste collected through these types of events was just under 2.0 million pounds in 2013, which is approximately 8.5 percent of all MRW collected in 2013. The Waste Mobile in King County conducted 73 mobile events, including a weekly event at the Auburn Supermall that collected a little more than 1 million pounds of MRW in 2013.

Table 5.9
2011-13 Collection/Mobile Event Collection Amounts

Type of Event	Number of Events			Pounds Collected		
	2011	2012	2013	2011	2012	2013
Mobile	73	80	73	1,130,122	1,217,135	1,125,529
Collection	47	69	76	876,410	637,664	870,670
Totals:	120	149	149	2,006,532	1,854,799	1,996,199

Used Oil Sites

In 2013, facilities and collection sites reported collecting a total of 7,196,140 pounds of used oil. Used oil collection peaked statewide (12.4 million pounds) in 2004 and has mostly steadily declined over the years. Used oil collections need to be continually monitored. There are more cars on the road than ever, so one would expect this category to keep increasing. The recent trend to change oil every 5,000 miles compared to 3,000 miles and less do-it-yourself oil changers may be impacting this category. Table 5.10 shows the six counties with the highest collections in pounds per capita by county size for 2011-13.

Table 5.10
Used Oil High Collection Counties - Pounds per Capita by County Size Collected at Facilities and Used Oil Collection Sites 2011-13

Used Oil Sites - 2011			Used Oil Sites - 2012			Used Oil Sites - 2013		
County	Size	Lbs	County	Size	Lbs	County	Size	Lbs
Garfield	<50K	8.0	Garfield	<50K	8.0	Garfield	<50K	8.4
Stevens	<50K	4.2	Stevens	<50K	4.3	Stevens	<50K	4.1
Skamania	<50K	4.0	Columbia	<50K	3.2	Columbia	<50K	3.6
Columbia	<50K	3.4	Asotin	<50K	3.1	Wahkiakum	<50K	3.5
Lincoln	<50K	3.3	Cowlitz	50K-100K	2.5	Skamania	<50K	3.4
Wahkiakum	<50K	3.1	Lincoln	<50K	2.4	Lincoln	<50K	3.1

Statewide Level of Service

The Washington State Office of Financial Management reported that as of 2013, Washington State had an estimated 2,946,308 housing units². MRW Annual Reports revealed there were 199,292 participants who used the services of either an MRW collection event or MRW fixed

²This information was downloaded from <http://ww.ofm.wa.gov/>

facility. The actual number of households served is larger, because most used oil sites do not record or report numbers of participants. The actual number of households served is also larger, because some participants counted at events or by facilities bring HHW from multiple households.

One way to estimate the approximate number of households served is to add ten percent to the participant values. This method gives an estimate of 219,221 participants served in 2013. This number represents 7.4 percent of all households in Washington State. Table 5.11 shows the percent of participants served statewide since 2002.

Table 5.11
Percent of Participants Served Statewide

Year	Percent Participants Served	Year	Percent Participants Served
2002	6.8	2008	8.7
2003	8.9	2009	8.3
2004	8.9	2010	7.9
2005	9.0	2011	7.8
2006	8.6	2012	6.9
2007	9.1	2013	7.4

Trends in Collection

The majority of counties in Washington State have at least one fixed facility. Collection events can be a useful strategy to supplement collection services for residents inconveniently located from fixed facilities.

Overall, MRW collections leveled off between 2005 and 2007. 2008-12 saw a significant reduction in the amount of MRW collected, with the biggest drops in 2009 and 2011. This is likely due to local policies of no longer collecting latex paint, a decrease in CESQG antifreeze collections by private companies, and the overall state of the economy.

Product Stewardship

Some other methods of managing MRW are gaining wider acceptance in Washington State and across the country. Product stewardship efforts have resulted in the statewide electronics and mercury lights recycling programs. Paint and rechargeable battery legislation was introduced in the 2012 Legislative Session and brought back again in the 2013 Legislative Session. Paint was introduced again in 2014.

It remains to be seen what role MRW facilities will play in the future as product stewardship becomes more widespread. Will MRW facilities continue to collect products, but be reimbursed by industry for management of their products, or will MRW facilities choose to let industry find alternative locations and personnel to manage their programs?