

## 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 2012 was about 23.1 million pounds.
- The average amount of HHW disposed of per participant was 65.8 pounds, and per capita was 1.76 pounds.
- More than 3 percent of Washington residents used a fixed facility or collection event to remove hazardous waste from their households, about 6.9 percent of all households.
- Counties that publicly collected the most CESQG waste per capita were Lewis, Yakima, Whatcom, Kitsap, and Jefferson.
- Counties that collected the most used oil per capita were Garfield, Stevens, Columbia, Asotin, Cowlitz, and Lincoln.
- Approximately 84 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. In addition, collection facilities have further developed with mobile units and satellite 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).<sup>1</sup> 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.

## 2012 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 2012 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 2012, Adams, Douglas, Mason, and San Juan Counties did not report any HHW or used oil collections. Private collectors 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.

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<sup>1</sup> 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 2012, 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 conduct collection events.

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 2012, 17 fixed facilities serviced CESQGs, and 3 different counties provided collection events for CESQGs.

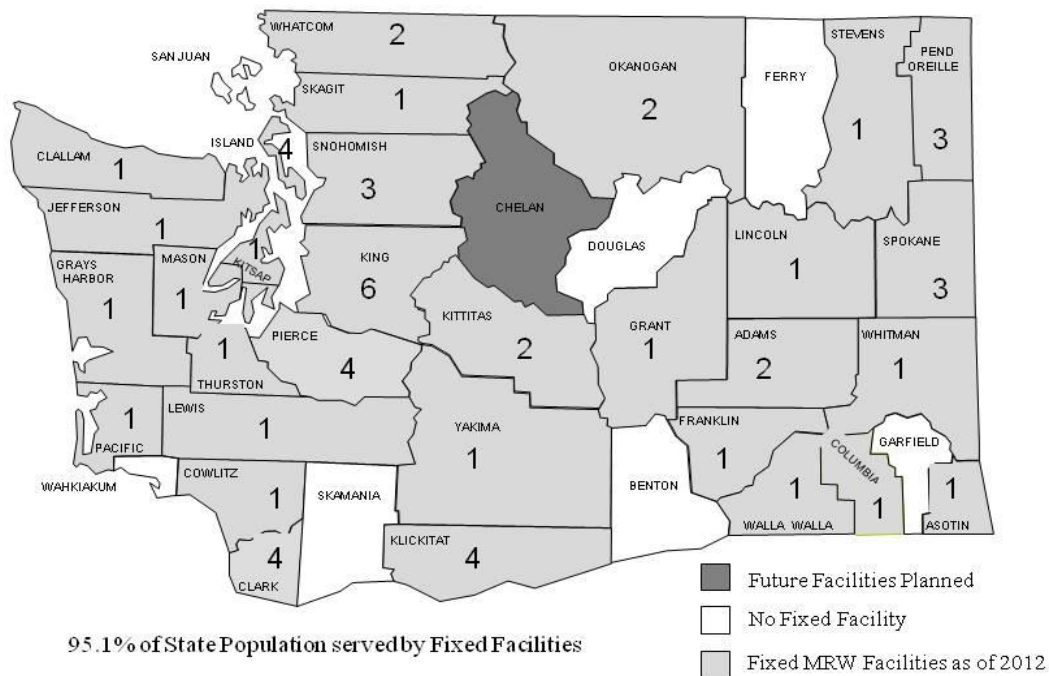
Table 5.1 shows the estimated population (based on data provided by the Office of Financial Management) by size of individual counties. In Washington State there are 42 programs that manage MRW. These programs include all 39 counties.

**Table 5.1  
Individual County Population by Size (2012)**

< 50 K		50 K – 100 K		> 100 K	
Garfield	2,250	Walla Walla	59,100	Cowlitz	103,050
Wahkiakum	4,025	Mason	61,450	Skagit	117,950
Columbia	4,100	Clallam	72,000	Benton	180,000
Ferry	7,650	Grays Harbor	73,150	Whatcom	203,500
Lincoln	10,675	Chelan	73,200	Yakima	246,000
Skamania	11,275	Lewis	76,300	Kitsap	254,500
Pend Oreille	13,100	Island	79,350	Thurston	256,800
San Juan	15,925	Franklin	82,500	Clark	431,250
Adams	19,050	Grant	91,000	Spokane	475,600
Klickitat	20,600	<b>50 K – 100 K Total</b>	<b>668,050</b>	Snohomish	722,900
Pacific	20,970			Pierce	808,200
Asotin	21,700			King	1,957,000
Jefferson	30,175			<b>&gt; 100K Total</b>	<b>5,756,750</b>
Douglas	38,900				
Okanogan	41,425				
Kittitas	41,500				
Stevens	43,700				
Whitman	45,950				
<b>&lt; 50K Total</b>	<b>392,970</b>			<b>State Total</b>	<b>6,817,770</b>

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 2012**



## MRW Collected

As shown in Table 5.2, Washington programs collected approximately 11.3 million pounds of HHW, 7.4 million pounds of used oil (UO) and 4.4 million pounds of CESQG waste, for a total of 23.1 million pounds of MRW during 2012.

**Table 5.2**  
**Total Pounds per Waste Category 2003-12**

Collection Year	HHW lbs (no UO)	Used Oil lbs	CESQG lbs	Total MRW lbs
2003	16.0M	11.7M	1.3M	29.0M
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

### Collection by Waste Category and Type

As shown in Table 5.3, the waste types of MRW collected most in 2012 were non-contaminated used oil, antifreeze, paint related materials, latex paint, oil-based paint, and electronics. These totals include used oil and antifreeze collected at all collection sites. These six specific waste types accounted for approximately 68 percent of the estimated 23.1 million pounds of MRW collected in 2012.

**Table 5.3**  
**Six Most MRW Waste Types Collected in 2012**

Waste Type	Total Lbs.
Non-Contaminated Used Oil	7,417,694
Antifreeze	2,537,926
Paint Related Materials	1,691,421
Latex Paint	1,508,477
Oil-based Paint	1,411,845
Electronics	1,194,708
<b>Total</b>	<b>15,762,071</b>

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 2012**

Waste Type	HHW	CESQG	Total
Acids	147,401	15,000	162,401
Acids (Aerosol Cans)	3	0	3
Aerosols (Consumer Commodities)	144,053	20,172	164,225
Antifreeze	626,168	1,911,758	2,537,926
Bases	219,998	17,764	237,762
Bases, Aerosols	205	6	211
Batteries (Auto Lead Acid)	723,712	6,035	729,747
Batteries (Small Lead Acid)	13,649	3,958	17,607
Batteries (Dry Cell)	335,375	25,076	360,451
Batteries (Nicad/NIMH/Lithium)	52,069	12,847	64,916
CFCs	2,384	57	2,441
Chlorinated Solvents	1,235	305	1,540
Compressed Gas Cylinders	282	375	657
CRT's	939,887	2,259	942,146
Cyanide Solutions	18	3	21
Dioxins	9	0	9
Electronics	1,173,439	21,269	1,194,708
Fire Extinguishers	13,779	959	14,738
Flammable Solids	6,258	21,482	27,740
Flammable Liquids	645,518	187,882	833,400
Flammable Liquids, Aerosols	871	0	871
Flammable Liquids Poison	131,789	8,339	140,128
Flammable Liquid Poison, Aerosols	50,796	595	51,391
Flammable Gas (Butane/Propane)	121,993	797	122,790
Flammable Gas Poison	1,798	0	1,798
Flammable Gas Poison, Aerosols	47,937	1,337	49,274
Latex Paint	1,440,105	68,372	1,508,477
Latex Paint, Contaminated	216,330	6,641	222,971
Mercury Compounds (Dental Amalgam)	42	11,062	11,104

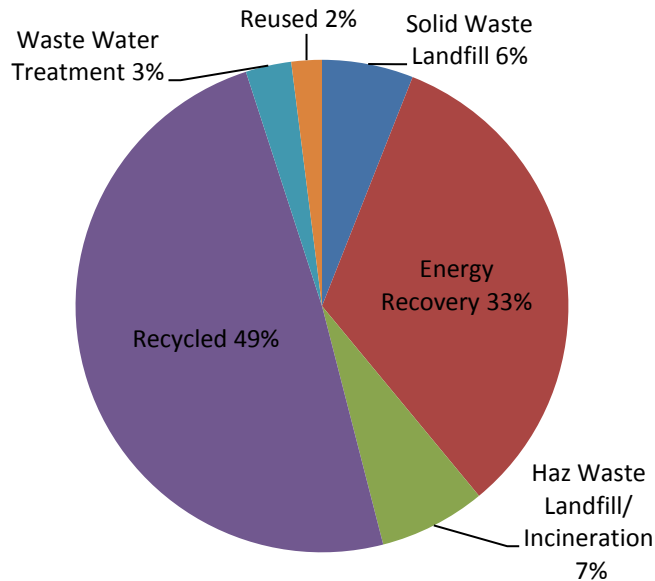
Waste Type	HHW	CESQG	Total
Mercury Containing Batteries (Button, etc)	34	15	49
Mercury Devices (Monometers, Barometers, etc.)	66	108	174
Mercury (Fluorescent Lamps & CFLs)	310,031	149,791	459,822
Mercury (Pure Elemental)	671	89	760
Mercury (Switches & Relays)	2	1	3
Mercury (Thermostats/Thermometers)	2,714	494	3,208
Nitrate Fertilizer	7,038	6	7,044
Non-PCB Containing Light Ballasts	7,227	2,650	9,877
Non-Regulated Liquids	86,797	83,080	169,877
Non-Regulated Solids	160,543	609,463	770,006
Oil-Based Paint	1,258,951	152,894	1,411,845
Oil-Based Paint, Contaminated	45,563	15,051	60,614
Oil Contaminated (oily H <sub>2</sub> O, oil w/PCB's, etc.)	21,634	116,813	138,447
Oil Filters	173,818	1,802	175,620
Oil Filters Crushed	3,213	0	3,213
Oil Non-Contaminated	7,256,142	161,552	7,417,694
Oil Stained Rags, Absorbent Pads, etc.	2,871	14,703	17,574
Organic Peroxides	882	190	1,072
Other Dangerous Waste	27,968	690,659	718,627
Oxidizers	32,189	2,536	34,725
Paint Related Materials	1,503,324	188,097	1,691,421
PCB Containing Light Ballasts	15,772	11,113	26,885
Pesticide/Poison Liquid	319,469	9,498	328,967
Pesticide/Poison Solid	211,379	15,284	226,663
Photo/Silver Fixer	765	14,002	14,767
Reactives	2,801	195	2,996
Tar and/or Adhesives	13,042	1,652	14,694
Used Cooking Oil	37,426	0	37,426
<b>MRW TOTAL</b>	<b>18,559,435</b>	<b>4,586,088</b>	<b>23,145,523</b>

\* 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 2012 MRW facilities recycled 307,012 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 facilities must deal with. The majority of MRW facilities 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. Seven 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  
2012 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 them. 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*	6,327	0	0%	\$0	0.00	0	2,376
Asotin	9,922	2,000	20.2%	\$57.56	108.96	217,910	219,379
Benton^^	70,764	0	0%	\$0	0.00	0	13,855
Chelan	35,743	716	2%	\$92.63	105.87	75,801	151,341
Clallam	35,971	604	1.7%	\$141.95	75.82	45,793	188,051
Clark	169,665	15,847	9.3%	\$43.46	163.14	2,585,241	4,156,377
Columbia^	2,150	0	0%	\$0	0.00	15,090	17,607
Cowlitz	43,691	1,959	4.5%	\$61.38	407.39	798,084	1,093,003
Douglas*	16,216	0	0%	\$0	0.00	0	6,595
Ferry	4,441	14	.3%	\$135.71	25.50	357	3,986
Franklin	25,585	334	1.3%	\$23.88	8.49	2,834	12,022
Garfield	1,231	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin	18,232
Grant	35,736	358	1%	\$142.76	127.85	45,772	57,046
Grays Harbor	35,399	1,637	4.6%	\$189.73	60.33	98,760	247,759
Island	40,572	1,991	4.9%	\$146.80	244.09	485,975	508,693
Jefferson	17,966	974	5.4%	\$69.59	36.74	35,786	98,782
King	861,965	69,713	8.1%	\$51.15	48.25	3,363,842	6,509,377
Kitsap	107,858	7,768	7.2%	\$98.16	89.85	697,942	1,162,962
Kittitas	22,256	337	1.5%	\$209.26	177.03	59,660	169,161
Klickitat	9,977	8,425	84.4%	\$3.07	12.71	107,062	139,557
Lewis	34,439	1,058	3.1%	\$118.21	279.86	296,096	390,148
Lincoln	5,838	300	5.1%	\$27.11	133.49	40,046	69,539
Mason*	32,810	0	0%	\$0	0.00	0	2,745
Okanogan	22,395	430	1.9%	\$143.27	42.86	18,430	61,135
Pacific	15,604	201	1.3%	\$122.41	69.53	13,975	47,348
Pend Oreille	7,992	3,287	41.1%	\$16.94	11.63	38,244	38,739
Pierce	329,158	9,971	3%	\$63.81	59.15	589,738	1,031,285
San Juan*	13,483	0	0%	\$0	0.00	0	0
Skagit	51,895	4,290	8.3%	\$30.18	22.50	96,529	298,090
Skamania	5,720	207	3.6%	\$98.35	128.21	26,539	49,734
Snohomish	290,592	9,544	3.3%	\$68.46	64.15	612,264	2,187,850
Spokane	203,882	5,120	2.5%	\$60.62	131.96	675,620	1,748,242
Stevens	21,301	183	.9%	\$130.93	302.21	55,304	249,776
Thurston	110,368	13,347	12.1%	\$27.80	20.55	274,255	594,276

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	2,092	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz	11,160
Walla Walla	23,850	1,791	7.5%	\$89.71	60.85	108,979	111,176
Whatcom	91,682	7,059	7.7%	\$47.14	43.11	304,366	482,080
Whitman	19,462	789	4.1%	\$68.23	35.14	27,724	45,603
Yakima	86,345	12,238	14.2%	\$22.83	16.26	198,993	950,436
<b>STATEWIDE</b>	<b>2,922,343</b>	<b>182,492</b>	<b>6.2%</b>	<b>\$52.02</b>	<b>65.83</b>	<b>12,013,011</b>	<b>23,145,523</b>

\* These counties did not report in 2012 and total pounds shown represents the amount private companies collected from CESQG's in those jurisdictions.

^^ These counties scaled back operations in 2011 and HHW pounds reported represent those collected at limited MRW sites and CESQG amounts reported are from private companies.

^ These counties did not report participation or cost information numbers in 2012

## Household Hazardous Waste (HHW)

### Participants per Housing Unit

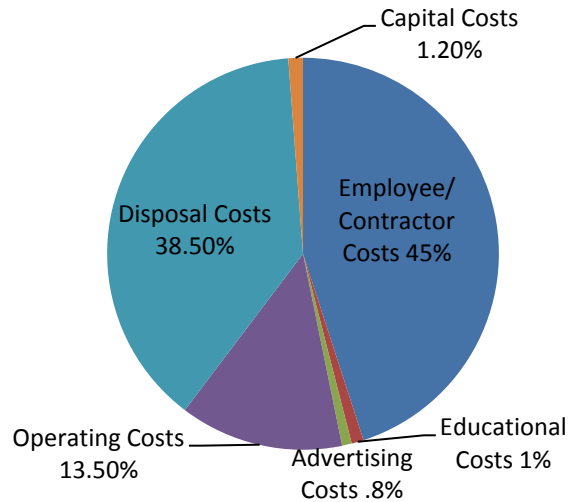
Counties that exhibit ten percent or higher of participants per housing unit provide excellent public education to encourage use of facilities or events, have very convenient locations for their collection facilities, or both.

### 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 under \$9.5 million in 2012 statewide (does not include CESQG costs). Figure 5.2 shows the overall breakdown of HHW costs reported to Ecology.

**Figure 5.2**  
**2012 HHW Cost Breakdown**



**HHW Pounds per Participant and per Capita**

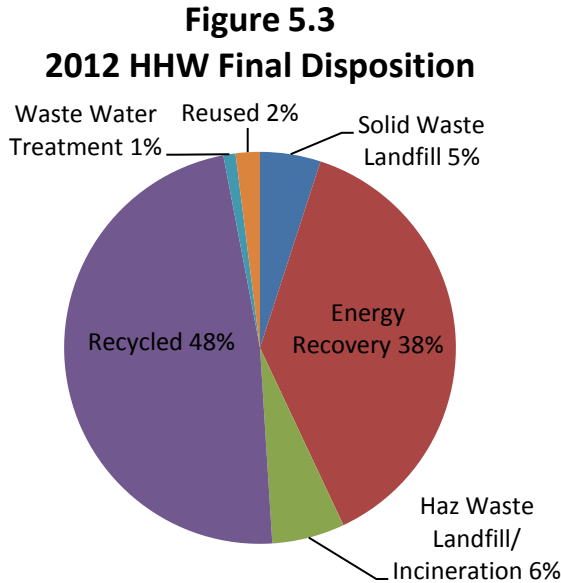
The average pounds collected statewide per participant for HHW was 65.83. Table 5.6 shows the top five counties with the highest collections of HHW in pounds per capita (not participant) for 2010-2012. Statewide, HHW pounds per capita collected was 1.76 pounds.

**Table 5.6**  
**High Collections of HHW (No Used Oil Sites)**  
**Pounds per Capita by County in 2010-12**

HHW 2010			HHW 2011			HHW 2012		
County	Size	Lbs	County	Size	Lbs	County	Size	Lbs
Thurston	>100K	7.68	Pend Oreille	<50K	7.30	Cowlitz	>100K	7.75
Cowlitz	>100K	6.65	Asotin	<50K	6.65	Asotin	<50K	6.98
Clark	>100K	5.15	Island	50-100K	6.32	Island	50-100K	6.12
Lincoln	<50KK	4.67	Lincoln	<50K	4.84	Clark	>100K	6.00
Klickitat	<50K	4.25	Clark	>100K	4.80	Klickitat	<50K	5.20

## HHW Disposition

Figure 5.3 shows the final disposition of all HHW collected throughout Washington State in 2012.



## Conditionally Exempt Small Quantity Generator (CESQG)

Nineteen local MRW programs collected CESQG wastes in 2012. The City of Tacoma\* (Pierce County) offers CESQG’s collection assistance for fluorescent lights only. San Juan County sponsored a CESQG collection event in the past and may have in 2012, but San Juan County did not provide an annual reports for 2012. Counties that sponsored CESQG waste collections are:

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

The top five counties that publicly collected the most CESQG waste per capita in 2012 were:

- Lewis
- Yakima
- Whatcom
- Kitsap
- Jefferson

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 2012 were:

- Clark
- Spokane
- King
- Lewis
- Columbia

**Table 5.7**  
**2012 Washington State Public and Private CESQG Collections**  
**in Pounds by County**

County	Publicly Collected CESQG Waste	Public CESQG Waste Collected/Capita	Privately Collected CESQG Waste	Total CESQG Waste Collected	Total CESQG Waste Collected/Capita
Adams	0	0	2,376	2,376	.13
Asotin	472	.02	997	1,469	.07
Benton	0	0	1,799	1,799	.01
Chelan	9,808	.13	11,922	21,730	.30
Clallam	0	0	2,519	2,519	.04
Clark	0	0	1,499,983	1,499,983	3.50
Columbia	0	0	2,517	2,517	.61
Cowlitz	11,152	.11	7,767	18,919	.18
Douglas	0	0	6,595	6,595	.17
Ferry	0	0	0	0	0
Franklin	0	0	9,188	9,188	.11
Garfield	0	0	232	232	.10
Grant	730	.01	10,544	11,274	.12
Grays Harbor	19,028	.26	4,504	23,532	.32
Island	20,543	.26	2,175	22,718	.28
Jefferson	9,625	.32	953	10,578	.35
King	91,361	.05	1,402,722	1,494,083	.76
Kitsap	87,216	.34	16,113	103,329	.41
Kittitas	2,934	.07	2,257	5,191	.13
Klickitat	0	0	675	675	.03
Lewis	39,283	.52	8,149	47,432	.62
Lincoln	0	0	3,262	3,262	.31
Mason	0	0	2,745	2,745	.05
Okanogan	8,224	.20	3,608	11,832	.29
Pacific	2,478	.12	555	3,033	.15
Pend Oreille	0	0	495	495	.04
Pierce*	3,491	.01	173,824	177,315	.22
San Juan	0	0	0	0	0
Skagit	15,555	.13	18,581	34,136	.30
Skamania	0	0	1,395	1,395	.12
Snohomish	94,417	.13	81,884	176,301	.24
Spokane	0	0	592,182	592,182	1.25
Stevens	0	0	3,090	3,090	.07
Thurston	30,155	.12	12,843	42,998	.17
Wahkiakum	0	0	0	0	0
Walla Walla	0	0	2,197	2,197	.04
Whatcom	92,365	.45	27,785	120,150	.60
Whitman	0	0	7,385	7,385	.16
Yakima	109,787	.45	11,646	121,433	.49
<b>Statewide Totals</b>	<b>648,624</b>	<b>.10</b>	<b>3,937,464</b>	<b>4,586,088</b>	<b>.67</b>

\* 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 2012 were:

- Antifreeze
- Non-Regulated Solids
- Paint Related Materials
- Flammable Liquids
- Mercury Collections

**Table 5.8**  
**Washington State Public and Private CESQG Collections**  
**for 2012 in Pounds by Waste Type**

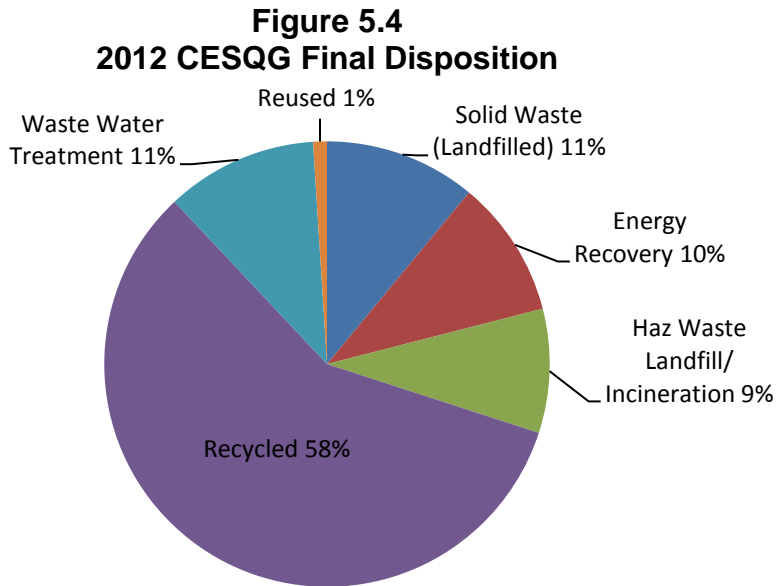
Waste Type	Public Collections	Private Collections	Totals
Antifreeze	13,458	1,898,300	1,911,758
Other DW	7,765	682,894	690,659
Non-Regulated Solids	5,823	603,640	609,463
Paint Related Materials	18,952	169,145	188,097
Flammable Liquids	100,414	87,468	187,882
Mercury Collections	100,910	60,650	161,560
Used Oil - Non-Contaminated	28,817	132,735	161,552
Paint - Oil Base	123,402	29,492	152,894
Used Oil-Cont. (oily water, etc)	8,430	108,383	116,813
Non-Regulated Liquids	29,257	53,823	83,080
Paint – Latex	58,684	9,688	68,372
Batteries - Alkaline/Carbon	15,007	10,069	25,076
Flammable Solids	2,331	19,151	21,482
Electronics	0	21,269	21,269
Aerosols - Consumer Commodities	3,314	16,858	20,172
Bases	16,704	1,060	17,764
Pesticides - Poison/Solids	15,284	0	15,284
Paint - Oil Base –Contaminated	14,861	190	15,051
Acids	13,931	1,069	15,000
Oil Stained Rags, Absorbent Pads, etc.	5,634	9,069	14,703
Photo/Silver Fixer	5,984	8,018	14,002
Batteries-Nicad/Lithium	6,075	6,772	12,847
PCB Containing Light Ballasts	10,829	284	11,113
Pesticides - Poison/Liquid	8,407	1,091	9,498
Flammable Liquid Poison	8,339	0	8,339
Paint - Latex Contaminated	6,641	0	6,641
Batteries – Auto Lead Acid	4,137	1,898	6,035
Batteries - Small Lead Acid	2,486	1,472	3,958
Non-PCB Containing Light Ballasts	2,440	210	2,650
Oxidizers	2,430	106	2,536
CRT's	0	2,259	2,259
Oil Filters	1,802	0	1,802
Tar/Adhesives	1,652	0	1,652
Flammable Gas Poison – Aerosols	1,337	0	1,337
Fire Extinguishers	959	0	959
Flammable Butane/Propane	777	20	797
Flammable Liquid Poison – Aerosols	595	0	595
Compressed Gas Cylinders	325	50	375
Chlorinated Solvents	180	125	305
Reactives	188	7	195
Organic Peroxides	41	149	190
CFC's	7	50	57
Nitrate Fertilizer	6	0	6
Bases - Aerosols	6	0	6
Cyanide Solutions	3	0	3
<b>Totals</b>	<b>648,624</b>	<b>3,937,464</b>	<b>4,586,088</b>



## CESQG Disposition

Sixty-eight percent of all CESQG waste collected in 2012 was either recycled or used for energy recovery. See Figure 5.4 for the complete disposition of CESQG wastes in 2012. There are several differences between final disposition of HHW and CESQG wastes worth noting:

- 38 percent of HHW was sent for energy recovery versus 10 percent of CESQG wastes.
- More CESQG waste is disposed via the waste water treatment process (11%) compared to only 1% of HHW.



## Collection/Mobile Events

Table 5.9 represents the number of mobile and collection events held statewide from 2010-12. The number of events increased over the previous 2 years.

The amount of waste collected through these types of events was approximately 1.8 million pounds in 2012, which is approximately 8 percent of all MRW collected in 2012. 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 2012.

**Table 5.9  
2010-12 Collection/Mobile Event Collection Amounts**

Type of Event	Number of Events			Pounds Collected		
	2010	2011	2012	2010	2011	2012
Mobile	79	73	80	1,606,286	1,130,122	1,217,135
Collection	46	47	69	439,572	876,410	637,664
<b>Totals:</b>	<b>125</b>	<b>120</b>	<b>149</b>	<b>2,045,858</b>	<b>2,006,532</b>	<b>1,854,799</b>

## Used Oil Sites

In 2012, facilities and collection sites reported collecting a total of 7,417,694 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 2010-12.

**Table 5.10  
Used Oil High Collection Counties - Pounds per Capita by County Size  
Collected at Facilities and Used Oil Collection Sites 2010-12**

Used Oil Sites - 2010			Used Oil Sites - 2011			Used Oil Sites - 2012		
County	Size	Lbs	County	Size	Lbs	County	Size	Lbs
Garfield	<50K	7.8	Garfield	<50K	8.0	Garfield	<50K	8.0
Skamania	<50K	4.1	Stevens	<50K	4.2	Stevens	<50K	4.3
Stevens	<50K	4.0	Skamania	<50K	4.0	Columbia	<50K	3.2
Lincoln	<50K	3.8	Columbia	<50K	3.4	Asotin	<50K	3.1
Wahkiakum	<50K	3.5	Lincoln	<50K	3.3	Cowlitz	50-100K	2.5
Cowlitz	50-100K	2.9	Wahkiakum	<50K	3.1	Lincoln	<50K	2.4

## Statewide Level of Service

The Washington State Office of Financial Management reported that as of 2012, Washington State had an estimated 2,922,343 housing units<sup>2</sup>. MRW Annual Reports revealed there were 182,492 participants who used the services of either an MRW collection event or MRW fixed

<sup>2</sup>This 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 200,741 participants served in 2012. This number represents 6.9 percent of all households in Washington State. Table 5.11 shows the percent of participants served statewide since 2001.

**Table 5.11**  
**Percent of Participants Served Statewide**

Year	Percent Participants Served	Year	Percent Participants Served
2001	6.1	2007	9.1
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

## 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 recycling program. In 2010, the Washington State Legislature passed a product stewardship bill for mercury-containing lighting products. Paint and rechargeable batteries legislation was introduced in the 2012 Legislative Session, brought back again in the 2013 Legislative Session, and paint is scheduled to be 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?