
West County Costa Integrated Waste Management Authority



Household Hazardous Waste Program Metrics Analysis



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RecycleMore Household Hazardous Waste Program Metrics Report

Objective

The West Contra Costa Integrated Waste Management Authority (WCCIWMA) and its contractor, West County Resource Recovery (WCRR) a division of Republic Services, operate one of the most robust Household Hazardous Waste (HHW) programs in California. The West County HHW program continues to provide increased household hazardous waste services to service area residents.

RecycleMore requested this update of the West County Household Hazardous Waste (HHW) Program. The previous update was in November 2021 with the previous updates in July 2018 and October 2017. Significant program improvements occurred with the opening of the El Cerrito Satellite Household Hazardous Waste Facility on June 20, 2017 and the addition of the Richmond Facility's opening on Wednesdays starting August 2, 2017. There have also been one-day HHW events held annually since 2017 in Hercules, El Sobrante, and Richmond. In addition, a Door-to-Door program has been serving elderly and disabled residents since January 2009.

During COVID-19 there was a temporary decrease in participation and a pause in the Door-to-Door program.

This review will focus on the following metrics for the program:

- Review the participation per program.
- Review pounds of HHW collected.
- Compare Richmond and El Cerrito Facility usage.
- Review participation by jurisdiction.
- Present Reuse Program quantities and cost savings.

Participation Analysis

The HHW program participation since January 2016 through October 2022 is presented in the chart and table below. The tables indicate the number of participants per month with the first table indicating all participants and the second table is without the one-day HHW events participation. The table below shows participation since 2012. Participation dropped during 2012 to 2014 then increased subsequent years even when not including the participation at the one-day events. Seasonal fluctuations are also obvious (slow in winter).

Participation is on track for 2022 to be similar to 2021 participation.

RecycleMore Household Hazardous Waste Program Metrics Report

Household Participation Totals Facilities with Events

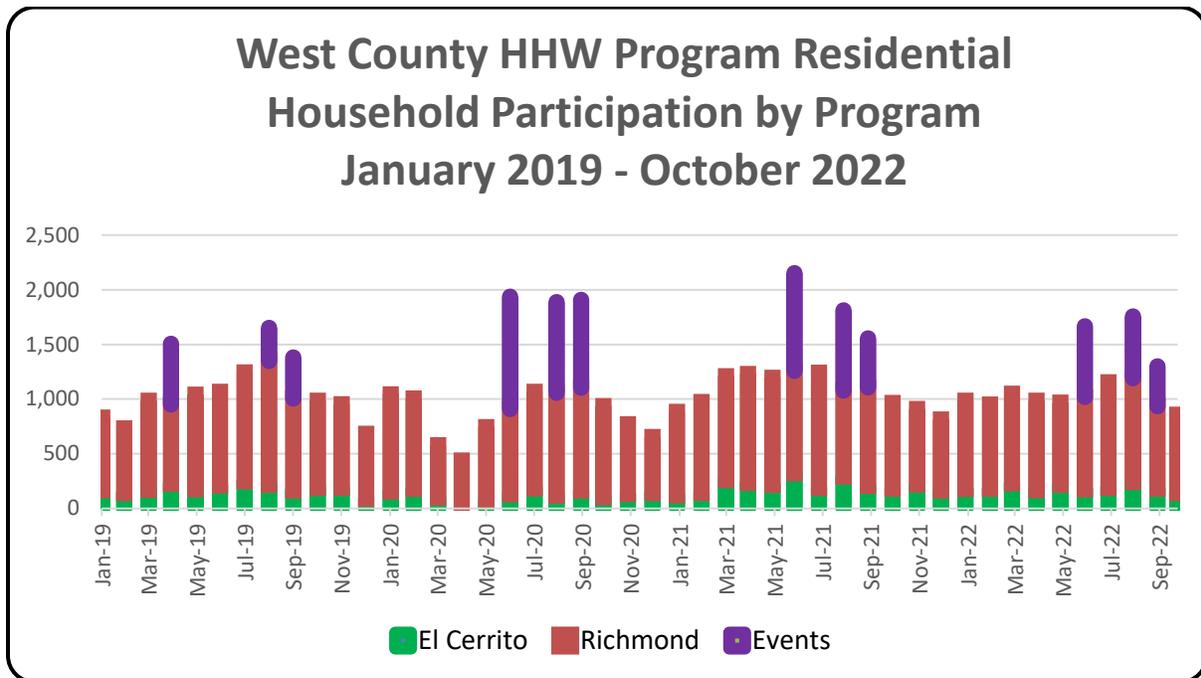
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
2012	719	723	798	661	808	779	791	908	758	673	680	577	8,875
2013	706	670	739	634	828	734	656	925	632	712	625	492	8,353
2014	730	517	620	642	764	747	819	846	689	773	507	367	8,021
2015	826	653	757	834	804	682	891	883	729	937	705	517	9,218
2016	639	694	633	1,009	791	905	982	900	873	661	597	729	9,413
2017	572	605	871	763	784	1,040	1,444	1615	1,375	929	836	911	11,733
2018	935	915	884	822	1,399	909	982	1,614	1,128	921	723	668	11,468
2019	831	733	987	1,507	1,043	1,068	1,245	1,654	1,383	987	954	683	13,080
2020	1,046	1,007	580	439	745	1,939	1,068	1,888	1,908	938	771	654	12,983
2021	884	975	1,210	1,232	1,195	2,152	1,244	1,813	1,557	966	910	814	14,952
2022	988	952	1,050	987	969	1,668	1,156	1,759	1,301	860			11,690

Household Participation Totals Permanent Facilities Only

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
2012	719	723	798	661	808	779	791	908	758	673	680	577	8,875
2013	706	670	739	634	828	734	656	925	632	712	625	492	8,353
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2016	639	694	633	1,009	791	905	982	900	873	661	597	729	9,413
2017	572	605	871	763	784	1,040	992	1,035	1,105	929	836	911	10,443
2018	935	915	884	822	943	909	982	1,048	878	921	723	668	10,628
2019	831	733	987	948	1,043	1,068	1,245	1,348	1,004	987	954	683	11,831
2020	1,046	1,007	580	439	745	907	1,068	1,056	1,102	938	771	654	10,313
2021	884	975	1,210	1,232	1,195	1,256	1,244	1,076	1,105	966	910	814	12,867
2022	988	952	1,050	987	969	1,018	1,156	1,189	933	860			10,102

- Richmond opens every Saturday 3/14/15
- El Cerrito Satellite HHW Opens 6/20/17
- Richmond HHW Facility opens Wednesdays 8/2/17
- Temporary HHW Events
- COVID-19 declared

The graph below depicts the participation for the period January 1, 2019 through October 31, 2022.



Participation at the HHW programs has fluctuated throughout the years with the change compared to previous fiscal years indicated in the table below. COVID-19 did impact participation in 2020 but rebounded in 2021-2022.

Period	Change with Events	Change without Events
2012-2013	-7%	-7%
2013-2014	6%	6%
2014-2015	9%	9%
2015-2016	0%	0%
2016-2017	38%	20%
2017-2018	-6%	-3%
2018-2019	4%	1%
2019-2020	17%	13%
2021-2022	-6%	-2%

Jurisdiction Participation

Each jurisdiction’s participation at both permanent facilities, from 2012 through 2021 Year to Date (YTD as of 10/31/21) are indicated in the table below and indicates an increasing trend of usage.

Annual West County Permanent HHW Facility Participation (Richmond and El Cerrito)											
Jurisdiction	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 YTD
El Cerrito	1,077	898	845	962	961	1,503	2,066	1,805	1,650	2,340	1,880
El Sobrante	908	831	830	1,004	1,008	1,042	926	1,126	632	651	440
Hercules	624	670	629	713	822	945	843	974	848	893	666
Pinole	848	831	828	1032	981	992	937	1,094	1,008	1,201	902
Richmond	3,553	3,372	3,168	3,545	3,595	3,825	3,805	4,309	4,072	5,321	4,209
San Pablo	1,304	1,269	1,215	1,377	1,396	1,504	1,388	1,789	1,557	1,806	1,489
Crockett	138	145	127	128	148	146	141	170	98	142	101
Kensington	157	138	185	193	189	202	233	249	179	231	176
Port Costa	14	6	10	5	6	5	7	14	10	7	8
Rodeo	252	191	177	248	243	280	247	262	251	274	227
Tormey	0	0	0	0	0	0	0	0	1	1	4
Other Residential	0	2	7	11	12	22	35	39	7	0	0
TOTAL	8,875	8,353	8,021	9,218	9,361	10,466	10,628	11,831	10,313	12,867	10,102

Jurisdiction participation at the Richmond and El Cerrito HHW Facilities for the period of January 2021 through October 2022 is indicated in the table below.

2021

Facility	El Cerrito	Richmond	Total
El Cerrito	1,507	833	2,340
El Sobrante	98	553	651
Hercules	39	854	893
Pinole	52	1,149	1,201
Richmond	767	4,554	5,321
San Pablo	62	1,744	1,806
Crockett	2	140	142
Kensington	5	226	231
Port Costa	0	7	7
Rodeo	4	270	274
Tormey	0	1	1
Other Residential	0	0	0
TOTAL	2,536	10,331	12,867

2022 - January through October

Facility	El Cerrito	Richmond	Total
El Cerrito	1,179	701	1,880
El Sobrante	53	387	440
Hercules	15	651	666
Pinole	30	872	902
Richmond	555	3,654	4,209
San Pablo	66	1,423	1,489
Crockett	0	101	101
Kensington	1	175	176
Port Costa	0	8	8
Rodeo	2	225	227
Tormey	0	4	4
Other Residential	0	0	0
TOTAL	1,901	8,201	10,102

As expected and similar to previous years, the El Cerrito Facility is frequented by El Cerrito and surrounding other jurisdictions. Significantly more residents from El Cerrito use the El Cerrito HHW facility on Tuesday than the Richmond HHW facility on four operating days. Contractual arrangements have not previously allowed Kensington residents to use the El Cerrito HHW facility other than incidental usage. In October 2022, arrangements were completed with the County and East Bay Sanitary Company

and Kensington residents will be allowed to use the El Cerrito HHW facility as well as the Richmond HHW facility.

Weekly Participation

The Permanent HHW facilities continued regular operations during COVID-19 except for when the El Cerrito facility closed from March 17, 2020 through May 12, 2020 when the El Cerrito Recycling & Environmental Resource Center was also closed. Participation by day of the week is reflected in the table below. Note that Tuesday HHW Operations occur at El Cerrito and Wednesday through Saturday operations occur at Richmond.

Month	Tue	Wed	Thu	Fri	Sat	Total
2021	2,536	2,715	2,530	2,478	2,608	12,867
Jan	119	136	192	163	274	884
Feb	143	225	199	173	235	975
Mar	258	316	218	216	202	1,210
Apr	232	235	294	253	218	1,232
May	216	233	222	241	283	1,195
Jun	319	287	193	218	239	1,256
Jul	189	248	258	302	247	1,244
Aug	291	188	214	201	182	1,076
Sep	208	237	244	196	220	1,105
Oct	181	190	168	213	214	966
Nov	218	194	128	183	187	910
Dec	162	226	200	119	107	814
2022	1,901	2,051	2,047	2,047	2,056	10,102
Jan	177	223	211	186	191	988
Feb	180	167	192	201	212	952
Mar	230	238	241	172	169	1,050
Apr	167	184	184	236	216	987
May	216	187	186	196	184	969
Jun	176	247	218	169	208	1,018
Jul	190	220	215	272	259	1,156
Aug	243	273	222	221	230	1,189
Sep	182	147	207	211	186	933
Oct	140	165	171	183	201	860

Pounds and Waste Types Collected

The pounds of HHW collected starting in FY 2012 are indicated in the table below.

Period	Richmond	El Cerrito	Events	Door-to-Door	Other	Total
2012-2013	826,380			6,967		833,347
2013-2014	710,151			8,675	6,016	724,842
2014-2015	746,062			42,132		788,194
2015-2016	721,528			82,833	13	804,374
2016-2017	722,007		22,454	23,497	345	768,303
2017-2018	579,841	185,592	185,592	31,213		982,238
2018-2019	504,482	166,582	102,812	14,907	0	788,783
2019-2020	496,726	135,230	126,964	13,265	1,370	773,555
2020-2021	635,753	167,996	169,392	3,346	115	976,602
2021-2022	551,383	168,769	142,691	7,292	445	870,580
Change	-13%	0.5%	-16%	118%	287%	-11%

The amount of HHW collected increased between 2016 and 2017, mostly due to the amount of HHW collected at the one-day events and opening of the El Cerrito Facility. Door-to-Door collection was temporarily suspended in 2020-2021 due to Covid precautions, which explains the low volume of HHW collected during that time. The percent changes between 2020-2021 and 2021-2022 are also indicated in the table. The reasons are not clear for the decreased usage for the Richmond HHW Facility and the One-Day Events. COVID

The types and amounts of HHW collected during FY 2021/2022 are indicated in the chart below:

Waste Classification	Richmond	El Cerrito	Events	Door-to-Door	Retail	Total
Flammables/Poisons	139,038	43,267	42,144	283	0	224,732
Latex Paint	131,867	32,338	41,848	750	0	206,803
Oil-Based Paint	58,992	28,770	9,785	385	0	97,932
E-waste	129,699	0	34,142	780	0	164,621
Batteries	16,393	40,710	5,581	880	445	64,009
Lamps	5,795	7,614	1,415	110	0	14,934
Automotive	23,340	0	1,960	205	0	25,505
Corrosives/Oxidizers	10,479	7,607	4,170	1	0	22,257
Sharps	5,895	3,864	0	3,386	0	13,145
Pharmaceuticals	1,149	4,536	0	4,150	0	9,835
Reuse	12,523	0	0	0	0	12,523
Other	12,446	63	1,646	130	0	14,285
Grand Total	547,615	168,769	142,691	11,060	445	870,580

The sharps and pharmaceuticals collected under the Door-to-Door program are almost entirely collected from the kiosks located around the service area. The miscellaneous wastes include contaminated absorbent, fire extinguishers, mercury-containing equipment, smoke alarms, and PCB wastes.

The El Cerrito HHW Facility continues to collect significantly more batteries and lamps than the Richmond facility. The El Cerrito Recycling Center collects batteries, lamps, sharps, and pharmaceuticals during all six operating days. These wastes are transferred and managed by the El Cerrito HHW facility

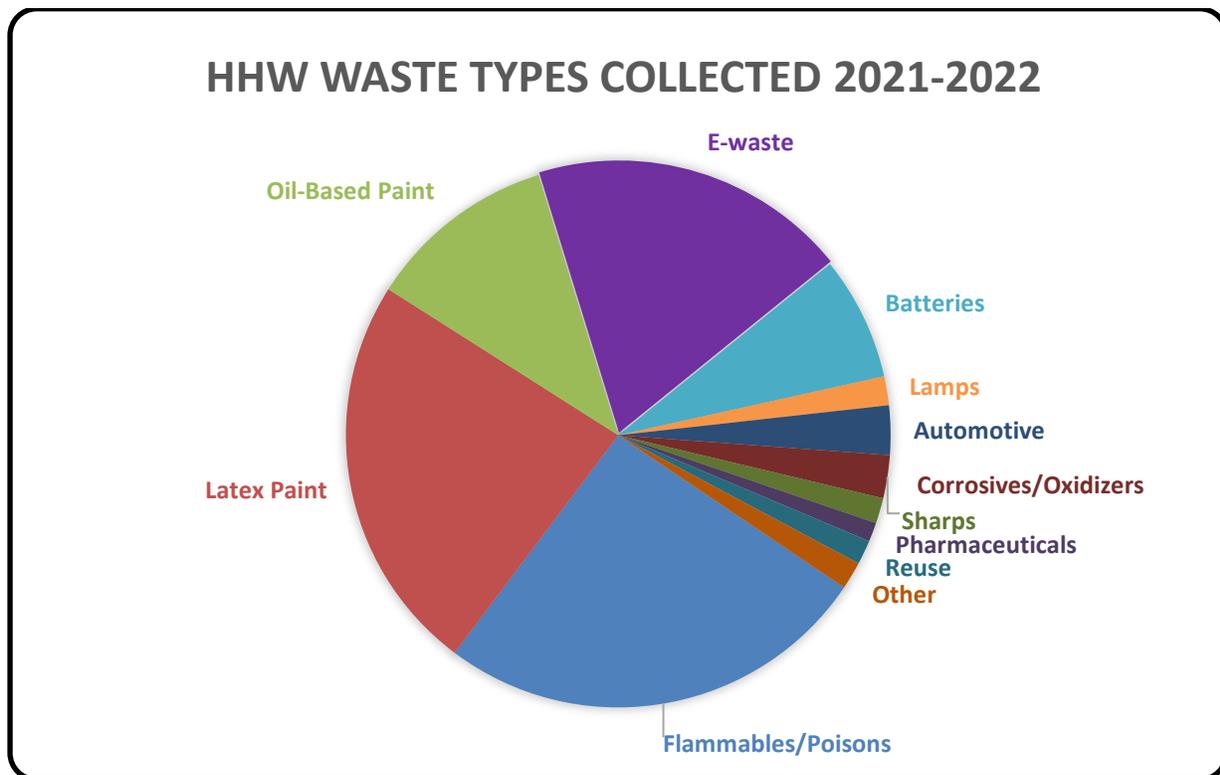
which explains why the amount of these wastes is higher than the Richmond HHW facility which is open four days per week. Access to the sharps and pharmaceutical kiosks are controlled by El Cerrito staff. Batteries and lamps drop-off are not monitored by El Cerrito staff and likely include wastes from no-service area residents and possibly businesses.

The El Cerrito Recycling Center also collects e-waste, used oil, and filters that are not managed by the HHW facility. RecycleMore used CalRecycle used oil funds for the used oil and filters management. El Cerrito maintains management of their e-waste.

A calculation of the pounds of these transferred wastes managed per operating day are listed in the table below.

Waste Classification	Richmond (pounds/day)	El Cerrito HHW (pounds/day)
Batteries	4,098	6,785
Lamps	1,449	1,269
Sharps	1,474	644
Pharmaceuticals	287	756

The types of HHW collected during FY 2021-2022 are indicated in the graph below:



Temporary HHW Events

Starting in 2017, there have been three temporary hazardous waste events conducted annually. Jurisdiction participation for the 2020 and 2021 events are indicated in the table below:

Participation for Temporary Events						
Period	6/26/2021	8/28/2021	9/18/2021	6/25/2022	8/27/2022	9/24/2022
Location	Hercules	El Sobrante	Richmond	Hercules	El Sobrante	Richmond
El Cerrito	2	24	11	2	4	2
El Sobrante	5	217	13	5	210	9
Hercules	570	7	9	380	20	5
Pinole	171	111	3	157	118	3
Richmond	3	267	380	2	103	345
San Pablo		104	36	3	109	3
Crockett	44			38	2	
Kensington						
Port Costa	3					
Rodeo	96	3		63	1	1
Tormey	1					
Other Residential	1	4			3	
TOTAL	896	737	452	650	570	368

The pounds of HHW collected per participant are listed in the table below.

Event Date	6/26/2021	8/28/2021	9/18/2021	6/25/2022	8/27/2022	9/24/2022
Waste Collected/Pounds	Hercules	El Sobrante	Richmond	Hercules	El Sobrante	Richmond
HHW	21,720	22,637	13,724	20,555	14,856	10,427
E-waste	15,990	11,722	6,430	15,990	7,000	5,300
PaintCare	23,000					
PaintCare, Latex		15,693	11,828	14,327	9,000	10,000
PaintCare, Oil-based		3,810	2,004	3,971	3,200	7,600
Total (pounds)	60,710	53,862	33,986	54,843	34,056	33,327

Although participation at the 2022 events was less than the 2021 events, the amount of waste per participant significantly increased for the Hercules and Richmond events. The California limit to transport HHW to a HHW program is 15 gallons or 125 pounds per trip.

Event Date	6/26/2021	8/28/2021	9/18/2021	6/25/2022	8/27/2022	9/24/2022
Waste Collected	Hercules	El Sobrante	Richmond	Hercules	El Sobrante	Richmond
Participants	896	737	452	650	570	368
Pounds collected	60,710	53,862	33,986	54,843	34,056	33,327
Pounds per participant	68	73	75	84	60	91

Reuse Program Amounts and Cost Savings

Certain household hazardous waste received at the Richmond Facility are in good condition and are set aside for the public to take for use as intended rather than sent for disposal. This program is very popular with the public and material set aside is quickly removed. Not all collected HHW is eligible for reuse (e.g., batteries, e-waste, lamps, sharps, used oil).

About 2% of the incoming HHW was set aside for reuse during 2020 with an additional 14,992 pounds of latex and oil-based paint sent for reuse and was reimbursed under the PaintCare Stewardship program. The table below shows the pounds of reuse set aside by year. Some 2020 reuse data was extrapolated due to unavailable records. There was a decrease in 2020 from the previous year high likely due to COVID-19 impacts.

The contracted facility staff have been instructed to increase efforts to direct eligible materials to the reuse program. The reuse program is only offered at the Richmond Facility at this time. Using an estimate of \$0.80 per pound for disposal, the reuse program saves significant costs. PaintCare provides reimbursement for reused paint at the rate of \$1.60 per gallon.

Year	Reuse (pounds)	Latex paint (gallons)	Oil-Based Paint (gallons)	Annual Savings
2016	17,303			\$13,842
2017	30,024	3,406	334	\$30,004
2018	19,778	2,970	418	\$21,242
2019	31,097	2,136	236	\$28,673
2020	19,130	1,339	160	\$17,703
2021	17,509	2,106	1,528	\$19,822
2022 YTD	13,748	2,045	1,020	\$15,902

Architectural Paint Stewardship Program Savings

The West County HHW program has been participating in the Architectural Paint Stewardship program which funds the management of architectural paint. In addition, there are two PaintCare sponsored drop-off locations in the RecycleMore service area – Kelly-Moore in San Pablo and Westlake Hardware in Pinole. Home Depot in Hercules has been approached several times with requests to participate in accepting paint under the Paint Stewardship Program and has declined. The table below presents the amount of architectural latex and oil-based paint collected by the HHW program and the estimated cost if this amount of paint collected was not eligible under the stewardship program. PaintCare does not release data on quantities or costs for the retail collection sites.

Pounds Collected	2016/17	2017/18	2018/19	2019/20	2020/21	2021/2022
Richmond, Latex Paint	120,299	119,928	65,713	65,765	136,280	129,475
El Cerrito, Latex Paint	NA	27,611	37,931	24,282	20,563	32,338
Temporary Events, Latex	7,677	46,909	42,052	19,297	63,537	41,848
Total Latex Paint	127,976	194,448	145,696	109,344	220,380	203,661
Richmond, Oil-based Paint	76,112	41,894	53,220	110,000	77,357	57,345
El Cerrito, Oil-based Paint		11,010	17,603	11,670	28,152	21,877
Temporary Events, Oil-Based	2,353	7,551	6,606	9,280	11,592	9,785
Total Oil-Based Paint	78,465	60,455	77,429	130,950	117,101	89,007

PaintCare Savings						
Latex Paint	\$63,988	\$97,224	\$72,848	\$54,672	\$110,190	\$101,831
Oil-based Paint	\$44,464	\$34,258	\$43,876	\$74,205	\$66,357	\$50,438
Total Savings	\$108,452	\$131,482	\$116,724	\$128,877	\$176,547	\$152,268

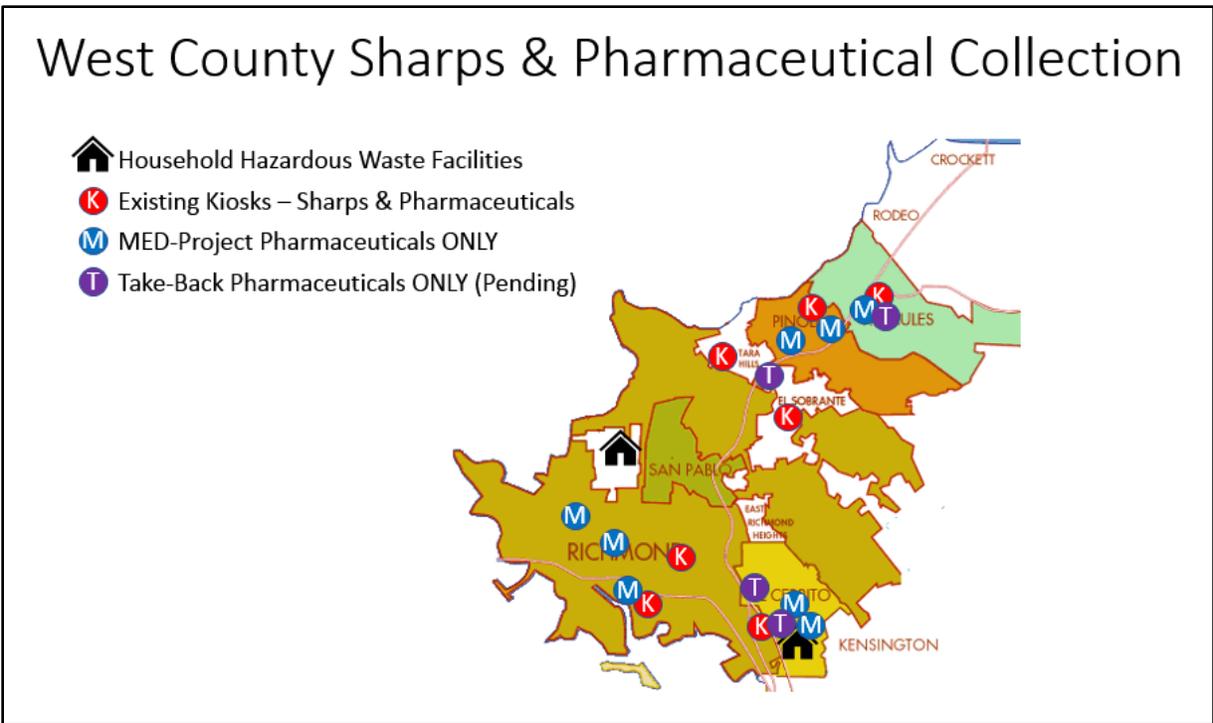
Home-Generated Sharps and Pharmaceuticals Collection

RecycleMore has been sponsoring collection of Home-Generated Sharps and Pharmaceuticals through both the Richmond permanent Household Hazardous Waste Facility and the El Cerrito Recycling as well as seven kiosks placed throughout the service area (two kiosks only collect sharps). The kiosks are collected by Republic Services on scheduled Door-to-Door collection days. During FY 2021-2022, the pounds of sharps and pharmaceuticals collected are indicated in the table below”

Location	Sharps	Pharmaceuticals	Pounds
El Cerrito Recycling Center	3,864	4,536	8,400
Richmond HHW Facility	5,895	1,149	7,044
Kiosk Collection	1,693	2,075	3,768
Grand Total	11,452	7,760	19,212

California adopted the Pharmaceutical and Sharps Waste Stewardship Program established industry-run statewide pharmaceutical and home-generated sharps waste stewardship program(s) to require safe and convenient disposal options for pharmaceutical drugs and home-generated sharps waste at no cost to the consumer. Pharmaceutical collection will be by kiosks located at medical and law enforcement locations as well as some mail-away envelopes. Sharps collection will be via mail-away sharps containers provided to residents at no cost to be filled and returned by mail.

CalRecycle has approved three organizations for sharps and two of the organizations for pharmaceuticals. MED-Project’s collections for both sharps and pharmaceuticals are currently available with eight locations throughout the West County. The Take-Back Foundation will add four more pharmaceutical kiosks and sharps collection in early 2023. UltiMed’s program will only offer sharps collection and should be available in early 2023. The kiosk locations and HHW facilities are shown in the figure below.



As indicated, some areas will have multiple locations for pharmaceutical collections. Once these stewardship programs are more established with consistent service, RecycleMore and Republic can evaluate whether to continue sponsoring all of the sharps and pharmaceutical collections.

HHW Program Metrics Comparisons

Comparing the two facilities and the temporary events will assist with program evaluation and future program changes. This comparison uses FY 2021-2022 participation and pounds collected and the cost is the approved calendar year 2023 budget.

FY21/22	Richmond HHWCF	El Cerrito HHWCF	Events	Total
2022 Budget				\$1,385,536
Pounds	547,615	168,769	142,691	859,075
Participants	10,331	2,536 ¹	1,839	14,706
Operating Days	200	52	3	255
Cost/Participant				\$94.22
Cost/Pound				\$1.61
Pounds/Person	53.0	66.5	77.6	197.1
Pounds/day	2,738.1	3,245.6	47,563.7	53,547.3

Total program costs are used since allocation by program is difficult to assign appropriately. The Richmond HHW Facility operations include usage from the Very Small Quantity Generator, abandoned wastes collected by the cities, and the Door-to-Door program. The El Cerrito HHW facility includes the

¹ El Cerrito participation is only for the Tuesday HHW collection and does not include usage for the Recycling Center collection.

Tuesday HHW collection as well as the batteries, lamps, sharps and pharmaceuticals six days per week as well as abandoned wastes. Participation for these wastes collected at the El Cerrito Recycling Facility is also not tracked so participation is under-represented. Facility and administrative costs are shared by all programs and not allocated per program.

Participation by at least 14,706 residents is 16.5% usage rate using a service area population of 88,961 households. This is among the higher participation for California HHW programs.

Items for Future Review

This analysis indicates some potential trends on HHW program participation that is worthy of future review including:

- Monitor impact and convenience of the Pharmaceutical and Sharps Product Stewardship implementation and potentially adjust service levels
- Review the level of repeat customers
- Evaluate the storage capacity of the El Cerrito Satellite HHW Facility.
- Expand
- Review usage of the Door-to-Door program.
- Review small business and non-profit program.

Summary

RecycleMore and Republic Services offer a robust HHW program – two facilities with five days per week collection opportunities, Three one-day collection events for more distant service areas, a Door-to-Door collection for seniors and disabled.

The recent allowance for Kensington residents to also use the El Cerrito HHW facility will increase convenience for those residents.