CHAPTER FIVE

HOUSEHOLD HAZARDOUS WASTE ELEMENT

CHAPTER 5

HOUSEHOLD HAZARDOUS WASTE ELEMENT

5.1 INTRODUCTION

Hazardous Waste is defined as material that meets criteria set forth in the Federal Resource Conservation and Recovery Act (RCRA). In simple terms it is a material that can cause harm to human health or the environment through its reactivity, flammability, corrosivity, or toxicity. Since many materials have these characteristics, the law has defined limits for each hazard class (reactivity, flammability, corrosivity, and toxicity). Any material falling within those limits is considered characteristically hazardous and must be handled as hazardous waste. California law requires that any waste material that meets RCRA hazardous characteristics or California's stricter limits must be handled as hazardous waste regardless of who generated the waste. Waste generated by residents is called Household Hazardous Waste (HHW).

By law, a hazardous waste is created when a generator determines that a product is no longer useful, thereby determining that the product is a waste. Most HHW was formerly common household products. Householders generate hazardous wastes while performing regular household activities such as cleaning, painting, making repairs, gardening, working on hobbies, and maintaining autos. The following are examples of some common types of HHW:

- Household cleaners
- Pesticides
- Car batteries
- Wood preservatives
- Auto and furniture polish
- Pesticides
- Automotive products
- Adhesives and sealants
- Paints and coatings
- Photographic chemicals
- Pool chemicals
- Motor oil
- Anti-freeze

The hazards associated with HHW are the same as those associated with industrially generated hazardous waste. Hazardous waste can burn or irritate skin and eyes and make people both acutely and chronically ill. Hazardous waste can poison people, pets and wildlife. Hazardous wastes can cause or fuel fires. Hazardous waste can contaminate soil, water and air. Specifically there is concern about hazardous waste: 1) leaching out of landfills into ground water; 2) being poured down the drain (i.e., when the waste water treatment plant is unable to treat such waste); and 3) being poured down storm drains, which lead straight to creeks and rivers.

5.2 GOAL AND OBJECTIVES OF THE HHWE

5.2.1 Goal

As stated in Chapter 2, the following goal addresses household hazardous waste management:

The County and the Cities and/or the SCWMA will provide cost-effective and environmentally sound waste management services, including special waste and household hazardous waste handling and disposal, over the long term to all community residents and promote access to the services.

5.2.2 Objectives

The following objectives address this goal:

- The SCWMA will distribute HHW educational material to all county households and businesses at least annually.
- The SCWMA will monitor and evaluate, at the end of the short and medium terms, educational programs outlined in the SRRE and the HHWE to improve their effectiveness.
- The SCWMA, County and the Cities will achieve participation in the County's Household Hazardous Waste (HHW) collection program of 3 percent annually of the county's households.
- The SCWMA will achieve measurable reduction of landfill disposal of prohibited wastes documented by waste characterizations studies at the end of the short term and medium term planning periods.

5.3 EXISTING CONDITIONS

5.3.1 History of HHW Management in Sonoma County

5.3.1.1 Household Hazardous Waste Collections

HHW collections started in Sonoma County in 1985 in the City of Santa Rosa. Gradually each of the jurisdictions starting offering annual collections provided by their solid waste hauler. In 1993 the SCWMA assumed responsibility for HHW management and started offering Household Toxics Roundups (HTRs) countywide making all collections available to any county resident. Collection services for qualified businesses, referred to as CESQGs (Conditional Exempt Small Quantity Generators), started in 1994. A reuse program started in 1995 to redistribute reusable products to the public – a program that the public appreciates and provides a significant cost savings to the SCWMA. A door-to-door collection was added in 1998 in conjunction with the HTRs. Construction began on an HHW Facility in 2001, with an anticipated opening of Spring 2002.

5.3.1.2 Recycle Only Collections

There has been a significant increase in recycle only collection centers, referred to as BOPs (Battery, Oil, Paint). Oil recycling started at some county disposal sites in 1990. Beginning in 1990 the recycling center at the Central Disposal Site offered a latex paint exchange. This program was duplicated at three of the County's transfer stations. When the State offered grant funds for oil recycling, businesses were recruited to collect oil and more public drop-offs were created for a total of 70 oil collection locations countywide in 2001. Starting in 1996, the SCWMA asked the oil collection centers to accept antifreeze and oil filters; in 2001, 16 centers collect antifreeze and 33 collect oil filters. Curbside oil and filter collection was added in the Cities of Rohnert Park, Santa Rosa, Sonoma and the unincorporated county in 2000.

5.3.1.3 Load Checking

A load checking program was started at county disposal facilities in 1990. The program consists of spot checking commercial and residential self-haul loads for hazardous waste. The load check program emphasizes education of residents about proper HHW disposal opportunities. Identified hazardous wastes are removed from the waste stream. When a generator is not evident, waste is stored in hazardous waste lockers awaiting proper packing and disposal.

5.3.1.4 Education

A variety of educational campaigns have been implemented to encourage use of Household Toxics Roundups, oil and filter recycling, Integrated Pest Management, use of safer alternatives and not to dispose of HHW in garbage cans. Nearly all residents and businesses generate HHW. Much of the education and public information efforts have been focused towards the public as a whole. In some cases, campaigns have been directed to specific populations including boaters, Spanish speakers, sports fans, children, high school students, landfill users, and government employees. Examples of a few of the efforts undertaken include: oil recycling (multiple campaigns and target audiences), Household Toxics Roundup promotion, A Health Environment Begins at Home (children); "No Toxics" garbage can stickers; Our Water Our World IPM Store campaign; and IPM Workshops (government employees).

5.3.2 HHW Generation Rates

There is little known about how much HHW is generated annually. Sales of hazardous products do not equal the hazardous waste, since products put to their intended use are not considered wastes. Since HHW is created when the generator determines that a product is no longer useful, it is difficult to distinguish between products and wastes in storage. In practice, residents tend to store products past their useful life, which can create hazards in the home through the growth in quantities and the destabilization of some hazardous products with age. Additionally, it is unknown how much HHW is improperly disposed of in storm drains, down sewers or to the soil. What is quantified are estimates of how much is disposed of in the landfill and how much is collected in HHW collection programs.

In 1990 and 1995/96 solid waste characterization studies were conducted at Sonoma County disposal sites. Table 5-1 illustrates the HHW measured in Sonoma County's waste stream. While this chapter focuses on HHW, waste from businesses is also disposed of illegally as illustrated in Table 5-1. Businesses that generate small quantities of hazardous waste (known as CESQGs) may and are served by the HHW program in accordance with State and Federal law. Therefore, the programs listed are also designed to target some unknown portion of the hazardous waste being disposed of by businesses. It is an unknown portion as the law limits the businesses that HHW programs may serve, and it is unknown where business hazardous waste found in the waste stream is generated. Businesses that generate large quantities of hazardous waste are addressed through stringent hazardous waste regulations at the State and Federal level.

Table 5-2 illustrates how much HHW and CESQG waste was collected in Sonoma County by program type from 1996 to 2001. Table 5-3 illustrates the quantities of waste collected by waste type.

5.4 EVALUATION OF ALTERNATIVES

While Section 5.3.1 provides the program description for each of the evaluated alternatives, the evaluation is conducted in Table 5-4 Alternative Program Evaluation using criteria set forth in Title 14, Section 18751.3. This chapter evaluates all programs required to be evaluated by Title 14 and additional programs that the SCWMA considers appropriate.

5.4.1 Alternative Program Descriptions

5.4.1.1 Periodic Collection

A temporary collection center is set up in a paved, accessible location (e.g., a parking lot) for a short period (usually one or two days). Residents are encouraged to bring their household hazardous materials to the site on collection days. The center is staffed by trained personnel who collect, sort, and pack the HHW into 55-gallon drums. Wastes are transported by a licensed hauler to licensed hazardous waste facilities for recycling, treatment, or disposal. The hours, dates and locations must be advertised for each collection in advance. Periodic Collections can be very successful, but there are limitations. The residents may not be able to make the date selected or find it inconvenient. Residents are asked to store material until an event is held. Residents who are moving are often caught in the situation of not being

October 15, 2003 Page 5-3 able to move the material or properly dispose of it within their limited time frame. Rain or other situations can arise that impact participation, which can increase cost. Sites acceptable for locating Periodic Collections can be limited and/or limiting.

Table 5-1: Waste Characterization Studies at Sonoma County Disposal Sites (1992 and 1995/96)					
Waste Type	1990 (tons annually)		1995/96 (tons annually)		
	Residential	Non-Residential	Residential	Non-Residential	
Paint			219	54	
Automotive Fluids	breakout unavailable		243	75	
Household Batteries			158	57	
Vehicle Batteries			217	118	
Remainder Composite HHW			368	288	
Subtotal	119	976	1,205	592	
TOTAL 1,095				1,797	

Table 5-2: Hazardous Waste Collected by Sonoma County HHW Programs (reported in pounds by fiscal year)							
Program	00-01	99-00	98-99	97-98	96-97		
Household Toxics Roundups	736,793	721,141	637,542	504,243	665,200		
BOPs	596,104	579,418	504,290	programs not tracked			
Load Checking	36,667	48,517	34,558				
Door-to-Door	52,105	79,844 16,188 no program					
Curbside Oil & Filter Recycling	125,733	no program					
Vendor Collection	485,700	574,262 773,140 program not tracked					
TOTAL 2,035,102 2,003,182 1,965,718 504,243 665,200							

Table 5-3: Waste Collected by HHW Programs by Waste Type (reported in pounds)				
Waste Category	2000-2001	1999-2000		
Flammable solid/liquid	133,964	133,711		
Bulked flammable liquids	59,296	98,805		
Oil-base paint	206,577	164,249		
Poison (excl. Aerosols)	55,937	55,114		
Reactive and explosive	28	92		
Inorganic acid	8,318	7,347		
Organic acid	263	683		
Inorganic base	12,274	11,001		
Organic base	733	0		
neutral oxidizers	0	308		
Organic peroxides	100	131		
Oxidizing acid	348	91		
Oxidizing base	3,247	5,221		
PCB-containing paint	0	0		
Other PCB waste	3,674	2,981		
Corrosive aerosols	1,663	1,556		
Flammable aerosols	11,636	10,865		
Poison aerosols	3,322	3,101		
Antifreeze	14,497	16,700		
Car Batteries	143,130	166,975		
Fluorescent bulbs	7,068	3,806		
Latex paint	176,582	192,115		
Motor oil/oil products	1,141,018	1,062,782		
Oil filters	27,227	25,693		
Mercury	82	300		
Medical waste (syringes)	497	459		
Household batteries	4,439	4,957		
Other	15,147	28,921		
Asbestos	4,035	5,215		
TOTAL POUNDS	2,035,101	2,003,178		
Total tons	1,018	1,002		

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Table 5-4: Alternative Program Evaluation					
Criteria (1= high; 5= low)	Periodic Collections	HHW Facility	Mobile Collections	Vendor Collection	
Potential Hazard	2	4	2	4	
Accommodate Change	2	5	2	3	
Implementation Lead Time	Three months	Three years	Six months	Four months	
New or Expanded Facility(s)	None	Yes	Uses HHW Facility	None	
Consistent with Local Conditions	Yes	Yes	Yes	Yes	
Institutional Barriers	None	CEQA review and mitigations; neighbor opposition	None	None	
Cost	\$30,000 - \$110,000/event	±\$850,000 annually	\$2,000 - \$5,000/collection	\$500/site annually	
End Use of Waste	75% recycled 25% incinerated	75% recycled 25% incinerated	75% recycled 25% incinerated	Recycled	
Effectiveness	Good	Excellent	Good	Fair - Excellent	
Criteria (1= high; 5= low)	Curbside Collection	Door-to-Door Collection	BOPs	E-waste Recycling	
Potential Hazard	2	4	5	5	
Accommodate Change	2	2	2	1	
Implementation Lead Time	Six months	Six months	Two months	Two months	
New or Expanded Facility(s)	None	Recommend use with HHW Facility	Minimal, optional	None	
Consistent with Local Conditions	Yes	Yes	Yes	Yes	
Institutional Barriers	Perceived danger of spills and vandalism	None	None	None	
Cost	\$0.05 - \$0.15/hh/mo	±\$60.00/pickup (collection only)	Varies on volume \$3,000 - \$20,000	Varies on volume. \$750/ton	
End Use of Waste	Recycled	Same as HHW Facility	Recycled	Recycled	
Effectiveness	Fair	Good	Excellent	Good	
Criteria (1= high; 5= low)	CESQG	Load Checking	Reuse Exchange	Disaster Response	
Potential Hazard	4	1	3	3	
Accommodate Change	2	1	1	1	
Implementation Lead Time	One month with existing program.	Two Months	One week	Days	
New or Expanded Facility(s)	Uses facility(s) used for other programs	Hazardous waste lockers	None	None	

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Consistent with Local Conditions	Yes	Yes	Yes	Yes
Institutional Barriers	None	None	Waiver of liability	None
Cost	Costs passed through to businesses	\$175,000 annually	Net cost savings vary \$6,000 - \$22,000	Varies
End Use of Waste	Same as HHW Facility	Same as HHW Facility	Used as product	Same as HHW Facility
Effectiveness	Fair	Poor	Not applicable	Varies

5.4.1.2 HHW Facility

HHW Facilities provide an ongoing means for residents to properly manage HHW. These facilities vary from small, often prefabricated structures. HHW Facilities entail larger capital costs than other HHW collection options. Because of their storage and waste-handling capacity, however, these facilities can help control long-term program costs through greater flexibility and economies of scale in waste handling and disposal.

5.4.1.3 Mobile Collection

A Mobile Collection is a smaller version of a Periodic Collection and is operated in conjunction with a HHW Facility. The HHW Facility that supports Mobile Collections may or may not provide service directly to the public. The idea behind a mobile program is to provide convenient, local service while still reaping the flexibility and economies of scale that a HHW Facility provides. Wastes collected by Mobile Collections can be consolidated, bulked, and/or reused at the HHW Facility. Typically Mobile Collections are smaller and more frequent than Periodic Collections.

5.4.1.4 Vendor Collection

Since some businesses already manage hazardous wastes, they can be cost-efficient and convenient collection centers for HHW. Methods to increase vendor participation in HHW collection include identifying additional materials and vendor types (e.g., paint stores for collection of paint wastes) and providing education and/or incentives to vendors. Waste collection opportunities are specific to the product or material that each type of vendor sells (e.g., battery vendors could collect used batteries) and may be limited by cost and potential liability. SCWMA advertises participating vendors, who would benefit from increased customer traffic at their locations. In 2001, 61 vendors collect oil, 33 collect oil filters and 16 collect antifreeze. There is a State law that requires automotive battery vendors to accept trade-in batteries or collect a core charge with the new battery if a trade-in is not received. Rechargeable Battery Recycling Corp (RBRC) provides for collection of rechargeable batteries at many chain stores such as Radio Shack, Sears, Cellular One, Ace Hardware and others. In 2001, Best Buy stated they would develop a program to accept waste electronics. Several large computer manufactures have developed fee programs for recycling of their computers (e.g., Dell, HP, IBM). Extended Producer Responsibility (EPR) efforts are working to increase management of wastes by retailers and manufacturers.

5.4.1.5 Curbside Collection

Curbside Collection programs are limited to collecting oil, filter and household battery recycling due to the potential hazards involved in placing hazardous waste on the curb. Curbside oil and filter recycling

can be very successful programs when run in conjunction with curbside recycling programs. Oil and filters are left at the curb with other recyclables, thereby using the existing collection infrastructure.

5.4.1.6 Door-to-Door Pickup Program

Door-to-Door Pickup programs involve pickups at residents' homes by appointment. The advantages are convenience, controlled and knowledgeable transport, early identification of materials that pose an imminent danger, and service to non-mobile residents. However, these programs can be costly.

5.4.1.7 Batteries, Oil, and Paint Programs

Batteries, Oil, and Paint Programs (BOPs) are recycling centers for HHW. By law, BOPs can only collect recyclable HHW: oil, oil filters, batteries, antifreeze, paint and fluorescent lamps. BOPs are typically operated with non-direct supervision, meaning the public places waste in well marked containers without assistance. It is best to have some supervision of the site to discourage potential abuses. BOPs are frequently located at disposal sites and municipal corporation yards.

5.4.1.8 E-waste Recycling

Electronic Waste (E-waste) can contain hazardous components, which require that the product be disposed of as hazardous waste. Cathode Ray Tubes (CRTs), the glass tubes found in TVs and computer monitors, contain four to eight pounds of lead. CRTs have been designated as Universal Waste by the State of California and must be recycled in accordance with the Universal Waste Rule. If they are not recycled as Universal Waste, then CRTs must be treated as hazardous waste. Many experts expect that other electronic wastes will also be designated as Universal Wastes, requiring hazardous waste management. The Universal Waste Rule allows for collection of Universal Wastes at facilities that do not have hazardous waste permits so long as certain handling requirements are met. Due to the size, weight, quantity and cost of managing E-waste, HHW programs could become overwhelmed. Therefore, it is recommended that E-waste be collected at disposal sites where bulky items can be more easily managed and fees can be charged to cover the recycling costs.

5.4.1.9 Conditionally Exempt Small Quantity Generator

The law allows HHW programs to serve commercial generators that meet the regulatory definition of a Conditionally Exempt Small Quantity Generator (CESQG). A CESQG cannot generate more than 27 gallons of hazardous waste per month, excluding oil, antifreeze and latex paint if recycled. CESQGs in California must still handle their hazardous wastes like large quantity generators; however, it is sometimes difficult to find haulers that will haul small quantities and the cost per unit is more expensive. Providing hazardous waste disposal opportunities can be a very valuable service to local businesses. As shown in Table 5-1, it is necessary to serve businesses to eliminate hazardous waste from local landfills. CESQG's can be served using any of the collection programs evaluated in this chapter. The disposal cost may be passed on to the CESQG. Typically CESQGs are served on an appointment only basis and inventories of wastes are required. Transportation and disposal issues may be more involved than with the average resident. The California State Department of Toxic Substances Control offers a transportation variance for CESQG's that allow transport of up to 27 gallons if specific transportation information has been shared with the CESQG by the jurisdiction.

5.4.1.10 Load Checking

Load Checking is necessary to identify hazardous materials in the solid waste stream and to reduce the amount of HHW being disposed of as solid waste. Load Checking seeks to ensure proper management of the hazardous wastes delivered to solid waste facilities, to identify generators who place hazardous wastes in the solid waste stream, and to require them to assume responsibility for proper waste management through education and enforcement. Monitoring consists of questioning and educating self-

October 15, 2003 Page 5-8 haulers, stopping the dumping of hazardous waste when witnessed, retrieving hazardous waste identified in the solid waste, and spot checking and sorting random loads. Load Checking programs are mandated by law.

5.4.1.11 Reuse Exchange

A good portion of the waste brought to a HHW collection program is still usable product (i.e., leftovers or unwanted product). Hazardous waste disposal is expensive, and even proper disposal has an environmental impact. Therefore, the best use of a hazardous product is to use it for its intended use. Reuse Exchange programs allow the public to take usable products at no cost, providing an avoided cost to the collection program. Experience has shown that the public likes Reuse Exchange programs.

5.4.1.12 Disaster Response

Sonoma County has experienced three Federally declared natural disasters in the past decade. For each of those disasters, special programs to capture HHW were implemented. Should Sonoma County experience any natural disasters in the future, the HHW collection system, along with resources from emergency response agencies, will be utilized to mitigate the impact of HHW on health, the environment, and the landfill.

5.5 SELECTION, IMPLEMENTATION AND MONITORING OF PROGRAMS

All of the programs evaluated in Section 5.3 have been or are being implemented in Sonoma County. The SCWMA has chosen to provide the most convenient and comprehensive service to its residents and CESQGs (Table 5-5). The Periodic Collections were operated until the HHW Facility was built. The HHW Facility was selected as the most cost effective approach to the management HHW with the ability to offer weekly service. Additionally, the HHW Facility allows for the operation of other programs that provide convenient service in each of the SCWMA member communities. The Mobile Collection program was selected to provide convenient collection in each of the jurisdictions. Sonoma County covers 1,500 square miles, and therefore, no single facility could provide convenient service. The HHW Facility offers a place to most efficiently manage the waste from the Mobile Collections. Door-to-Door Collection is offered as a convenience for those residents and CESQGs that are willing to pay for the convenience. Additionally it addresses the issue of residents with limited transportation options. Curbside Collection, BOPs and Vendor Collection are used to collect recyclable HHW in the most cost effective manner possible so that other more costly HHW collection programs are not overwhelmed. CESQG's are served at cost to provide CESQG's a reasonable disposal option and in acknowledgment that CESQG's must be served in order to meet the SCWMA's goal of eliminating improper disposal of hazardous waste. The Load Checking program is implemented in accordance with law, and the Reuse Exchange program is implemented to save money and limit disposal liability. The collection capabilities of each program is found in Table 5-2.

The end use or disposal of hazardous waste is highly regulated. The SCWMA adheres to the US EPA's waste management hierarchy: Reduce, Reuse, Recycle, Treat, Incinerate, Landfill. As new technologies open up recycling markets for waste, the SCWMA adjusts its disposal methods. For implementation of the selected programs, only one HHW facility will be built.

Within the limitations and requirements of law, the SCWMA collects all HHW except radioactive materials, explosives, and biological wastes (excluding syringes). Should a resident bring a waste that a program does not manage, an assessment is made to determine if there is an imminent danger posed by the waste. If a danger is determined, then the appropriate agency is notified. If an imminent danger is not identified, the resident is provided with proper disposal information.

Table 5-5: Selected Programs						
Program Implementation Dates Responsible Agen						
Periodic Collections	Started 1993 / Discontinued 2002	SCWMA				
HHW Facility	2002	SCWMA				
Mobile Collection	2002	SCWMA				
Vendor Collection	1993	SCWMA				
Curbside Collection	2000	City/County				
Door-to-Door Collection	1999	SCWMA				
BOPs	1990	County				
E-waste Recycling	2002	County				
CESQG	1994	SCWMA				
Load Checking	1992	County				
Reuse Exchange	1994	SCWMA				
Disaster Response	As Needed	County/SCWMA				

Each program is monitored annually. Waste volumes are reported annually to the State in the State's 303 Forms. Waste characterization analyses are conducted as necessary so that diversion progress can be tracked. Annually, the most recent waste characterization data and cost data are used to determine the success of programs and to modify programs accordingly. The minimal criteria used for evaluating a program's success are that it: 1) does not cost more than \$1.00 per pound; 2) is collecting reasonable amounts of waste; 3) is mandated by law; and 4) is successfully supported by direct user fees.

The funding discussion for these programs is presented in Section 5.5.6 of this chapter.

5.6 EDUCATION AND PUBLIC INFORMATION

The SCWMA has conducted multiple educational and publicity campaigns on HHW and participated on State committees to improve HHW education. The SCWMA has been very successful at promoting programs and encouraging participation. However, in light of the efforts of the SCWMA and other jurisdictions, the SCWMA has concluded that significant reduction of HHW creation is outside of SCWMA's capability. The reality is that there are too many barriers to effectively educate the public about reducing the use of hazardous products, including:

- 1. Often there are not any non-toxic alternatives to toxic products.
- 2. Products are not required to list ingredients, limiting knowledge of a product's hazards.
- 3. Assessing "safer" toxics is a matter of debate as widely accepted standards do not exist.
- 4. There is not enough expertise to accurately guide the public to make better choices.

- 5. As a public entity, the SCWMA is limited in mentioning specific brands, which in the world of safer products can make a big difference. For example, one toilet bowl cleaner may be much safer than another, but they are both labeled as toilet bowl cleaners with no distinction.
- 6. There are vast numbers of product types and uses in the world of HHW.
- 7. The consequences of choosing one product over another is often too subtle to impact consumers. While products may not cause death or imminent cancer, the difference may still be significant. For example, one produce may cause immune system damage while a safer alternative may be just an irritant.
- 8. Sometimes better options are not the least toxic option. For example, a good insect control are baits. Baits are a better choice than sprays because of the containment of the toxics to a gel accessed only by the insect, yet the chemical composition of the bait can be equal or greater in toxicity to a spray.
- 9. Often when selecting less toxic options consumers are weighing one impacted ecosystem against another (i.e., air vs. water; mammals vs. aquatic life).
- 10. Current research on creating changes in behavior concludes that behaviors are simple and straight forward, and the public's barriers must be removed by the educational efforts.

King County, Washington recently conducted a lawn care campaign with a budget of \$600,000 over three years. They established a baseline of sales data for targeted products, which was tracked throughout the campaign. The campaign was implemented in accordance with current research on creating behavior change. During the three-year campaign, sales of weed and feed and other targeted lawn care products increased faster than the population. There is no evidence that King County succeeded in changing any targeted behavior.

5.6.1 HHW Education Goals and Objectives

5.6.1.1 Goal

Increase proper disposal of HHW and decrease the cost of HHW management, improper disposal of HHW, and the generation of HHW.

5.6.1.2 Objectives

- 1. Promote HHW collection programs.
- 2. Work towards Extended Producer Responsibility (EPR) policies for any product that becomes an HHW upon disposal to reduce or eliminate the SCWMA's responsibility for HHW and to encourage redesign and reformulation.
- 3. Work towards the use of the Precautionary Principal (see Section 5.5.3.3) for the approval and continued use of chemicals.
- 4. Work towards State and national restrictions or bans on chemicals that create unnecessary harm to humans, wildlife or the environment.
- 5. Promote the five hazardous product management habits:
 - 1. Buy only what you need.
 - 2. Buy the least toxic option available.

- 3. Use up what you have.
- 4. Share what you cannot use.
- 5. Properly dispose of what you cannot use or share.
- 6. Increase Integrated Pest Management (IPM) practices by SCWMA member jurisdictions.
- 7. Increase the use of safer janitorial supplies by SCWMA member jurisdictions through contractual agreements with janitorial contractors.
- 8. Participate and create regional and multi-agency campaigns on HHW or related topics (e.g. storm water).

5.6.2 Current and Historical HHW Educational and Public Information Efforts

5.6.2.1 Annual Recycling Guide

The SCWMA has produced a Sonoma County Recycling Guide annually since 1993, providing a wealth of information on recycling and household hazardous waste, including Household Toxics Roundup (HTR) dates, locations for recycling oil and filters, antifreeze, paint, and other hazardous wastes.

5.6.2.2 Eco-Desk

An information specialist answers the Eco-Desk hotline 3 hours a day, Monday through Friday. A 24hour voice-mail system provides a variety of information such as oil and filter recycling centers (English and Spanish), HHW facility location and operating hours, and paint recycling. Callers may leave messages in any of the information boxes and receive return calls.

5.6.2.3 Website

The SCWMA has an extensive website, www.recyclenow.org. The SCWMA website has HHW Collection information, the IPM campaign fact sheets and all the oil and filter, antifreeze and automotive battery recycling centers.

5.6.2.4 HHW Collection Programs Publicity

The SCWMA widely publicizes the HHW collection programs on an ongoing basis using a variety of methods including banners, utility bill flyers, press releases, collection schedule flyers, load checking personnel, event signs, garbage can flyers, newsletters, email notices, and word of mouth.

5.6.2.5 Oil and Filter Recycling Publicity

The SCWMA receives annual grant funds to promote oil and filter recycling. Since 1994, the SCWMA has implemented numerous campaigns, including advertising in Auto Traders, bilge pad give-aways, banners, boater cards, bumper stickers, Car Club Show sponsorship, car racing programs, collection center signs, direct mail, dockwalkers, driver's education videos, Earth Day events; fairs/event booths, give-aways (pens, t-shirts, magnets, tickets, etc.), live radio remotes, mailers to boaters, minor league baseball (trash can ads, outfield banners, program ads, radio spots), multi-family posters/flyers, newspaper articles, newspaper ads, oil container give-aways, oil change window decals, posters, radio spots, radio talk shows, radio dramas, scratcher games, shelf talkers, Spanish outreach (radio, newspapers, newsletters, container give-aways, give-aways, hotline), storm drain stenciling, teacher packets, television commercials, and utility bill flyers.

5.6.2.6 IPM Training Workshops

The SCWMA is conducting two workshops on Integrated Pest Management (IPM) techniques for City and County employees in the Winter of 2002. The workshops will focus on landscape pests and roadside maintenance. Depending on the outcome, future IPM workshops may be conducted.

5.6.2.7 IPM Store Campaign

The SCWMA, Sonoma County Water Agency and City of Santa Rosa teamed for the local implementation of a Bay Area regional IPM store campaign. The campaign was conducted in local hardware stores and nurseries. The campaign consisted of training store employees and distributing fact sheets, special displays, and shelf labels.

5.6.2.8 "No Toxics" Garbage Can Labels

To deter improper disposal of hazardous waste in garbage, "No Toxics" labels were applied to all residential garbage cans countywide. Stickers are applied to new cans as they are distributed.

5.6.2.9 Resource Lists

Resource lists are created and maintained for hazardous waste haulers, oil recyclers, fluorescent lamp recyclers and other resources as necessary. Resource lists are primarily used by the Eco-Desk when responding to specific requests for information.

5.6.2.10 Safer Alternatives Literature

The SCWMA has distributed a variety of brochures addressing safer alternatives to household hazardous wastes. Some of the brochure titles include: "Buy Smart, Buy Safe;" "Grow Smart, Grow Safe;" and "Recipes for Environmentally Friendly Cleaning."

5.6.2.11 Fair Booths/Give-aways

The SCWMA participates annually in fairs using a special booth display. Publicity give-aways, such as magnets, pens, posters, and t-shirts, are distributed from the booths.

5.6.2.12 General Media Coverage

The SCWMA receives a significant amount of press coverage for HHW issues. Each of the Roundups has been well advertised by the local media. Photos are not uncommon in print media, and there have been a handful of TV news spots and radio show spots. During the fall of 2001, HHW was the cover story on one issue of the Home and Garden section of the Press Democrat. HHW programs have also received coverage as some local hazardous waste dumping issues have arisen.

5.6.2.13 Annual Reports

Annual reports are published for the HHW program listing the programs and their accomplishments and is distributed to the SCWMA members.

5.6.2.14 Surveys

The SCWMA has conducted two telephone surveys that focused on HHW issues. The surveys have measured the public's knowledge of HHW issues and programs as high (70% or better).

5.6.2.15 California Peer Review Committee

The SCWMA participated in a statewide committee aimed at producing researched information on safer alternatives for dissemination to the public. The committee produced two websites, a program managers manual, and a mock public brochure.

5.6.2.16 Storm Drain Stenciling

The SCWMA initiated the storm drain stenciling programs in Sonoma County. The SCWMA continues to support ongoing labeling of storm drains.

5.6.2.17 Bay Area Oil Contest (Scratchers)

The SCWMA participated in the Bay Area oil campaign in 1995/96, which included an extensive radio and television campaign and scratchers for prizes.

5.6.2.18 Re-refined Oil Workshop

In 1997/98 the SCWMA sponsored two workshops conducted by the Community Environmental Council entitled *Re-refined Oil Workshop*: one for local government fleet managers and one for private fleet managers. The Cities of Petaluma and Santa Rosa use re-refined oil in their vehicle fleets. The SCWMA has printed bumper stickers to identify vehicles using re-refined oil.

5.6.2.19 Teacher Packets

Drivers education and auto shop teachers were sent an oil recycling kit every year between 1994 and 1997, including oil recycling posters, brochures, oil change record window stickers and magnets. In 1995, each teacher also received a video, *Lean Green Drivin' Machine*.

5.6.2.20 GREEN

In 1997, the SCWMA worked with 13 other local agencies, Government Resources Environmental Education Network (GREEN), to develop a campaign called *A Healthy Environment Begins at Home*. GREEN first developed a brochure that covers oil and antifreeze recycling, Household Toxics Roundups, pesticide use, hazardous waste spill clean-up, latex paint clean-up, and lead paint management, in addition to other environmental issues. GREEN expanded the campaign to include an interactive booth at the Thursday Night Market, a local weekly fair. Each week the booth was staffed by a different agency with a different emphasis. GREEN continues as a networking committee that has led to other collaborative efforts, including the IPM campaign described below.

5.6.3 **Program Descriptions of New HHW Educational and Public Information Programs**

5.6.3.1 HHW Program Promotion

The SCWMA will continue to promote HHW programs using the methods historically found successful, including utility bill flyers, press releases, banners, newsletters, emails, newspaper ads, radio spots, flyers, the annual Recycling Guide and the SCWMA website.

5.6.3.2 Extended Producer Responsibility (EPR) Policies

The SCWMA will continue to work for implementation of EPR policies by manufacturers. The SCWMA will join coalitions working towards EPR and lobby administrative and legislative representatives as necessary. EPR policies incorporate the life-cycle costs of a product, including recycling or disposal, into the manufacturing and sale price of a product. EPR policies promote redesign

and reformulation to make recycling or disposal more cost effective. The SCWMA has already passed a resolution in support of EPR policies, joined the Product Stewardship Institute, and written a letter of support for the California Integrated Waste Management Board's 2002 Strategic Plan, which incorporates EPR policies.

5.6.3.3 Promote the Precautionary Principal

The Precautionary Principal states that decisions should be made based on a weight of scientific evidence. Currently, precedent requires proof of harm after a product has met initial requirements for introduction. Unfortunately, that standard has allowed products to remain in the market for decades after they have been determined to cause harm using a weight of evidence standard. While weight of evidence can be demonstrated with strong and consistent correlations between cause and effect, proof requires a great deal more science. Proof of harm can be difficult to establish with chemicals that are so pervasive in our community that no control group is available, such as with many pesticides. In order to measure and address the threat of such products, the SCWMA will promote the use of the Precautionary Principle. The SCWMA will introduce the public to the Precautionary Principal through available media such as press releases, the annual Recycling Guide, SCWMA website, and brochures. The SCWMA will lobby administrative and legislative representatives to adopt the Precautionary Principal at the State and Federal level. The SCWMA will join coalitions promoting the Precautionary Principal as such coalitions arise. The SCWMA will use the Precautionary Principal in making its own policy decisions.

5.6.3.4 Bans and Restrictions

Based on the Precautionary Principal, the SCWMA will work towards the ban and/or restriction of products that are demonstrated to pose harm to people, wildlife or the environment in Sonoma County. Due to the complexity of most hazardous product issues, it is far more effective to ban or restrict their distribution than to attempt to educate the public on appropriate use, disposal and alternatives. Therefore, products that pose particular or significant harm may be targeted for bans or restrictions. The SCWMA will introduce the public to the issues involving the product(s) of concern through available media such as press releases, the annual Recycling Guide, SCWMA website, and brochures. The SCWMA will lobby administrative and legislative representatives to adopt bans or restrictions at the State and Federal level. The SCWMA will join coalitions promoting the bans or restrictions as such coalitions arise. The SCWMA will consider all desired bans and restrictions in making its own policies decisions.

5.6.3.5 Promote the Five Hazardous Product Habits

The SCWMA will promote the following hazardous product management habits:

- 1. Buy only what you need.
- 2. Buy the least toxic option available.
- 3. Use up what you have.
- 4. Share what you can't use.
- 5. Properly dispose of what you can't use or share.

The SCWMA will use available media, including flyers, utility bill flyers, press releases, HHW Facility signage, newsletters, emails, newspaper ads, radio spots, flyers, the annual Recycling Guide, the SCWMA website, give-aways, and posters.

5.6.3.6 Integrated Pest Management

Integrated Pest Management (IPM) incorporates a variety of management techniques to control pests. IPM does not exclude the use of pesticides, but seeks to find other solutions leaving pesticides as a last resort. IPM techniques are training intensive, and can generally not be well applied by the general public. Therefore, this program will target the training of public employees that maintain public properties to minimize the exposure of the public and the environment to pesticides and reduce disposal needs. It will also establish local government as a model and resource for other elements of the community.

5.6.3.7 Safer Janitorial Supplies

Each of the SCWMA's member jurisdictions has contracted janitorial services. The SCWMA will create guidelines designed to lead to the use of safer products by janitorial contractors. Member jurisdictions can use the guidelines in their bidding process and contracts with janitorial service providers. Since the selection of products can be very complex and involved, the guidelines will consist primarily of lists of banned or restricted ingredients with the intent to eliminate carcinogens, mutagens and teratagens. The guidelines will also include recommendations on how to further reduce the impact of products.

5.6.4 Implementation of New HHW Educational and Public Information Programs

Table 5-6 addresses the six criteria of implementation as required by Title 14, Section 18751.7(4)(d).

5.6.5 Monitoring and Evaluation of New HHW Educational and Public Information Programs

Table 5-7 addresses the six criteria of monitoring and evaluation as required by Title 14 Section 18751.7(4)(e).

5.6.6 Funding

The HHW infrastructure has already been implemented using a variety of stable funding sources as presented in Table 5-8. An SCWMA staff person is assigned to manage the HHW program and further develop the program. Limited additional funding is necessary to implement the new education and public information programs selected in this Element. Funding requirements and sources are presented in Table 5-8. The SCWMA reserves the right to modify, limit or discontinue programs as necessitated by funding limitations.

Table 5-6: Program Implementation: HHW Education and Public Information Programs					
	HHW Program Promotion	EPR Policies	Precautionary Principal	Bans & Restrictions	
Audience	Potential Program Users	Manufactures, State and Federal Agencies and Legislators, General Public	Manufactures, State and Federal Agencies and Legislators, General Public	Manufactures, State and Federal Agencies and Legislators, General Public	
Responsible Agency	SCWMA	SCWMA	SCWMA	SCWMA	
Implementation Tasks	• Vary with program	 Write letters Attend meetings Speak on topic Network Sit on committees 	 Write letters Attend meetings Speak on topic Network Sit on committees Create short educational writeups 	 Write letters Attend meetings Speak on topic Network Sit on committees Create short educational writeups 	
Implementation Timeline	Ongoing	Ongoing	Short-term	As necessary	
Implementation Cost	Varies with Program	Staff time	Staff time	Staff time	
Safer Alternatives	Possibly	No	Possibly	Indirectly, yes	
_	Hazardous Waste Habits	IPM	Janitorial Supplies		
Audience	Residents	City and County employees who do landscaping or roadside maintenance	City and County purchasing agents and janitorial contractors		
Responsible Agency	SCWMA	SCWMA and member jurisdictions	SCWMA and member jurisdictions		
Implementation Tasks	 Develop brochures Develop signage Indoctrinate employees 	 Organize workshops Create networks Develop/purchase resources 	 Develop guidelines Meet with purchasing agents 		
Implementation Timeline	Short-term	Short-term	Short-term		
Implementation Cost	\$2,000 annually	\$10,000 annually	Staff time		
Safer Alternatives	Yes	No	No		

Table 5-7: Program Monitoring and Evaluation: HHW Education and Public Information Programs					
	HHW Program Promotion	EPR Policies	Precautionary Principal	Bans & Restrictions	
Measurement Methods	Participation in HHW programs being promoted	Success in establishing EPR policies	Success in changing legislative and legal mind set	Success in banning or restricting targeted products or effecting their redesign or reformulation	
Evaluation Criteria	• Participation in HHW programs	 EPR policies adopted Willing legislative sponsors Strong coalitions 	Receptive CIWMB Receptive legislators	 Ban/restrictions adopted Willing legislative sponsors Strong coalitions 	
Responsible Agency	SCWMA	SCWMA	SCWMA	SCWMA	
Funding Requirements	None	None	None	None	
Shortfall Contingencies	Modify approach being utilized	Modify "requests"	Long-term effort Keep up the pressure	Implement local bans and restrictions as necessary	
Schedule	Varies with program	Flexible with legislative priorities	Long-term effort Keep up the pressure	Flexible with legislative priorities	
	Hazardous Waste Habits	IPM	Janitorial Supplies		
Measurement Methods	Phone Surveys	Increased knowledge and use of IPM techniques and active network	Inclusion of guidelines in janitorial contracts		
Evaluation Criteria	 Familiarity of public with five habits Reported changes in behavior 	 Attendance at training Positive feedback from participants Decrease in pesticide use 	 Adoption of guidelines in contracts Adherence of contractual requirements Use of other recommendations 		
Responsible Agency	SCWMA	SCWMA and member jurisdictions	SCWMA and member jurisdictions		
Funding Requirements	\$30,000 every five years	None	None		
Shortfall Contingencies	Research new behavior change approaches	•Modify training approach •Seek Council mandates	Seek Council mandates		
Schedule	Annual HHW report Five year report	Annual HHW report	Annual HHW report		

Table 5-8: Funding					
Program	Funding Needs	Funding Sources	Contingency Funding		
COLLECTION PROGRA	MS		• · · · · · · · · · · · · · · · · · · ·		
Periodic Collections	Program discontinued in 2001				
HHW Facility	\$600,000 annually	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service		
Mobile Collection	\$200,000 annually	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service		
Vendor Collection	\$30,000 annually	Used Oil Block Grant	Larger Portion of Used Oil Block Grant		
Curbside Collection	\$0.05-\$0.10/HH/month	Garbage Rates	Increase Garbage Rates		
Door-to-Door Collection	\$100/pickup	User Fees and SCWMA Tipping Fee Surcharge	Increase User Fees and SCWMA Tipping Fee Surcharge and/or Reduce Service		
BOPs	\$15,000 annually	Landfill Tipping Fee	Increase to Landfill Tipping Fee and/or Reduce Service		
E-waste Recycling	\$750/ton, \$150,000 annually	Recycling Fee	Increase Recycling Fee		
CESQG	Varies	User Fees	Increase User Fees		
Load Checking	\$50,000 annually	Landfill Tipping Fee	Increase Landfill Tipping Fee		
Reuse Exchange	Generates Cost Savings	Not Applicable	Not Applicable		
EDUCATION PROGRAM	MS				
HHW Program Promotion	Varies, Unknown	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service		
EPR Policies	Staff time	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service		
Precautionary Principals	Staff time	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service		
Bans & Restrictions	Staff time	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service		
Hazardous Waste Habits	\$2,000 annually \$30,000 every 5 years	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service		
IPM	\$10,000 annually	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service		
Janitorial Supplies	Staff time	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge		