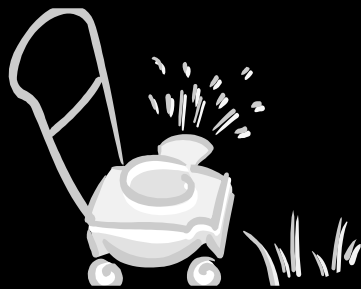


Business Pollution Prevention Program

Small Engines



*Thurston County
Hazardous Waste Program*

July 2002



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Thurston County Board of Health

Cathy Wolfe, Chair

Diane Oberquell, Vice Chairman

Kevin O'Sullivan, Commissioner

Patti Swanson, Clerk of the Board

Pat Libbey, Director, Thurston County Public Health and Social Services Department

Diana Yu, MD, MSPH, Health Officer

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The Business Pollution Prevention Program serves small businesses in Thurston County and the cities of Bucoda, Lacey, Olympia, Rainier, Tenino, Tumwater, and Yelm.

Thurston County Public Health and Social Services Department

Environmental Health Division

2000 Lakeridge Drive SW

Olympia, WA 98502-6045

Phone 360-754-4111

Fax 360-754-2954

Website: <http://www.co.thurston.wa.us/health/welcome.html>

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Introduction

Thurston County Environmental Health, a division of the Public Health and Social Services Department, conducted a business technical assistance campaign for small engine repair shops in Thurston County. The campaign was funded by solid waste tipping fees and a grant from the Washington State Department of Ecology.

The 1992 Thurston County Small Quantity Generator Survey identified the automotive industry as having one of the highest rates of improper hazardous waste management among businesses in the county. At the same time, Thurston County and the City of Olympia were jointly conducting a pollution prevention campaign called Operation: Water Works. This campaign ran from 1991 through 1993 and focused on businesses conducting automotive repair activities. Between 1996 and 1998, Thurston County Health Department conducted a pollution prevention and compliance campaign at 302 automotive businesses located throughout the county. The inspections were conducted by Hazardous Waste Specialists from the Business Pollution Prevention (BPP) Program to ensure compliance with Article VI, Thurston County Sanitary Code and satisfy requirements of the Moderate Risk Waste Plan for Thurston County (January 1991).

The Small Engine Repair Campaign is another step in the pollution prevention efforts that began with Operation: Water Works in 1991–1993 and continued with the Automotive Pollution Prevention Campaign of 1996–1998. This campaign focused on all small engine repair businesses regardless of geographic location within the county.

In May 2001, Thurston County identified businesses thought to be servicing and repairing small engines. Once the list of businesses was completed, the county contacted each business with an offer of free technical assistance. The technical assistance effort took place in August, September, and October 2001. The focus of the campaign was to educate business owners about compliance with Article VI, Thurston County Sanitary Code (also known as the Nonpoint Source Pollution Ordinance, **Appendix A**), to reduce hazardous waste generation, and to improve waste management practices. The Ordinance was designed to prevent pollution of water resources by requiring proper management of hazardous materials.

The Nonpoint Source Pollution Ordinance is based on the framework of the Washington State Dangerous Waste Regulations. This regulation is found in Chapter 173-303, Washington Administrative Code. Section –090 of the state regulation characterizes dangerous wastes (hazardous materials) as those solid wastes that exhibit any of the following characteristics.

- a. Ignitability: a fire hazard. Generally, a material with a flash point less than 60°C (140°F).
- b. Corrosivity: a solid or liquid with a pH of less than 2.0 or greater than 12.5.
- c. Reactivity: a material that reacts violently with water, generates toxic gases when mixed with water, is capable of detonation or explosive reaction if heated under confinement, or is capable of detonation or explosive reaction at standard temperature and pressure.
- d. Toxicity: a material that causes local or systemic detrimental effects in an organism, including asphyxiation, irritation, allergic sensitization, systemic poisoning, mutagenesis, teratogenesis, and/or carcinogenesis.

The businesses included in this campaign are classified as Small Quantity Generators (SQG) of hazardous wastes. Small Quantity Generators (as defined in WAC 173-303-070) may not generate more than 220 pounds of hazardous waste per month or batch, and may not accumulate or store more than 2,200 pounds at any time. Thurston County regulates only those businesses with SQG status, while the Washington

State Department of Ecology regulates businesses with medium quantity generator (MQG) and large quantity generator (LQG) status.

Goals

The Business Technical Assistance and Education Campaign is an element of the Thurston County Business Pollution Prevention Program. Success of the technical assistance and compliance elements of the Business Pollution Prevention Program are measured by goals established in the 1998 Hazardous Waste Plan for Thurston County. The goals are:

1. Protect ground water, surface water, soils, sediments, and private property from hazardous materials and hazardous waste contamination.
2. Increase the rate of waste reduction, which conserves resources and reduces demand for disposal and recycling services.
3. Increase the percentage of hazardous waste collected (that cannot be prevented through waste reduction in the first place).
4. Reduce the amount of hazardous materials that is improperly stored, improperly disposed, and accidentally spilled into the environment.
5. Reduce damage to collection and transfer vehicles, and disposal equipment, and reduce disruption of treatment facilities by ensuring hazardous waste is kept out of these facilities or systems.
6. Reduce potential for causing publicly owned facilities such as the landfill or sewage treatment plants to exceed pollutant discharge limits.

Methodology

For the purposes of this campaign, “small engine repair shops” are defined as: businesses servicing and/or repairing internal combustion engines that are not normally associated with automobiles and trucks. This includes, but is not limited to: lawn and garden equipment, wood cutting equipment (chain saws and log splitters), motorcycles and “all terrain vehicles” (ATV), marine engines including outboard motors and jet skis, portable pumps and generators, and any other equipment powered by a small engine.

Determining which businesses might be considered small engine facilities required looking beyond conventional businesses. Lawnmowers, chain saws, outboard motors, and motorcycles made up approximately seventy percent of the final list of businesses in the category of small engine repair. Other businesses such as tool repair, hydraulic equipment repair, model aircraft and car engines (hobby shops), farm implement businesses, and refrigeration repair shops were also considered for the campaign. A lot of tools and equipment are powered by small engines and generally are not listed in one convenient place. For this campaign, the telephone book yellow pages were searched front to back through all categories to make sure all possible small engine repair businesses were identified.

Forty-five (45) businesses were initially identified that fit the category of “small engine repair shops” and had the potential to use or store hazardous materials or produce a hazardous waste stream. Of these, fifteen (15) were eliminated because they were found to not manage significant amounts (if any) of hazardous materials or were no longer in business. Businesses removed from the list included radio-controlled model car and airplane shops, a refrigerated semi-cargo van company, a medical equipment rental company, a flooring and carpet-cleaning machine rental company, an appliance and tool repair business, and a small engine repair parts company. A list of the businesses included in the campaign is in **Appendix B**. See **Table 1** for business types that fit into the small engine category.

Table 1 – Small Engine Business Types

Small Engine Business Type	Number of Business Inspected
Rental – Tools & Equipment	5
Lawn & Garden / Wood Cutting	4
Motor Cycles – Sales & Service	6
Diesel Engine Repair	1
Marine Engines – Outboards, I/O, Jet Skis	10
Tool Repair	1
Hydraulic Equipment Repair	1

Beginning in June 2001, a letter was sent to the thirty (30) businesses selected for the campaign. The letter (**Appendix C**) announced the upcoming campaign and explained the details of the technical assistance visits and compliance audits. A brief history of the Business Pollution Prevention Program was also included.

A few businesses were scheduled for technical visits during July but the majority were scheduled for August and September. Follow-up visits were conducted through December 2001. A program assistant was hired in July and one of the duties was to call the various small engine businesses and schedule technical visits. The program assistant also maintained the supply of fact sheets, parcel inventory forms and other materials needed for the campaign.

For participating businesses, a commercial parcel inventory form was used to collect information about a business' source of drinking water, storm water controls, solid waste and wastewater disposal, floor drains, fuel tanks, historical land use, hazardous waste generation, and spill/emergency response preparedness (**Appendix D, E**). When appropriate, educational literature about specific waste streams or management practices was left with the business.

An on-site assessment of hazardous waste management was performed as a component of the technical assistance visit. The assessment looked at hazardous materials used by each business and, if possible, suggestions were made to voluntarily adopt Best Management Practices (**BMP's**; see **Appendix F**). **BMP's** are non-regulated practices designed to reduce generation of hazardous waste, use less toxic products, recycle, and make improvements in housekeeping and hazardous waste management.

After the technical assistance visit took place, the business representative was notified as to whether their business was in compliance with the Thurston County Sanitary Code. A Notice of Compliance (**Appendix J**) was issued to businesses that were in compliance with the Code (either at the time of the technical assistance visit or after corrective action had been documented during a follow-up visit). Businesses that were not in compliance were given fact sheets about their specific management issues and a follow-up date was set for a regulatory inspection (**Appendix K**).

A customer survey (**Appendix H**) with a self-addressed stamped envelope was also left with each business participating in the campaign. The survey asked businesses to describe any changes they had made in their hazardous waste management practices as a result of the campaign. It also asked businesses how they find out about hazardous waste management, how useful they found the campaign, and their

impressions on the quality of service provided by the Thurston County's Business Pollution Prevention Program. A summary of this information is found in **Appendix L**.

Certificates of Environmental Achievement, signed by the members of the Board of Health, were awarded to all businesses in compliance with the provisions of Article VI, Thurston County Sanitary Code (Nonpoint Source Pollution Ordinance) (**Appendix I**).

Results

Of the forty-five businesses identified as potential small engine businesses, thirty (30) used or stored hazardous material or generated a hazardous waste stream. The remaining fifteen (15) businesses were eliminated because they did not use, store, or produce hazardous materials. Two of the thirty (6.7%) businesses refused a technical assistance visit and a compliance audit inspection. One was a motorcycle shop and the other an ATV shop. A list of the businesses that received technical assistance is included in **Appendix B**.

Compliance Summary

Of the twenty-eight (28) businesses that participated in the technical assistance campaign, eighteen (64%) were already in compliance with the Sanitary Code at the time of the initial visit, and ten (36%) were not initially in compliance. The ten businesses were out of compliance due to inadequate secondary containment for hazardous materials. All businesses were in compliance with the Sanitary Code by December 2001. **Table 2** summarizes the number of businesses selected and visited and their compliance status.

Table 2 – Summary of Initial Compliance with the Sanitary Code

Total Businesses Selected	45
Businesses Eliminated	15 (33.4%)
Received Technical Assistance Visit	28 (62.2%)
Refused Technical Assistance Visit	2 (6.7%)
Initially in Compliance	18 (64%)
Initially Out of Compliance	10 (36%)
Final Compliance	28 (100%)

Summary of Hazardous Materials in Small Engine Businesses

Table 3 lists the types and quantities of hazardous materials found on-hand in the small engine repair businesses at the initial visit and whether they are stored in proper secondary containment. These quantities represent a snap-shot in time. They will fluctuate over time as product is used and wastes are disposed of.

Table 3 – Quantities of Hazardous Materials On-Hand (Stored or Used by Small Engine Repair Businesses at Initial Visit)

Hazardous Material	Adequate Secondary Containment Quantity (gallons)	Inadequate Secondary Containment Quantity (gallons)
Used Oil	3,135	1,395
Oil	2,005	1,780
Shop Rags	1,535 pieces	0
Kerosene	2,650	0
Gasoline	590	30
Waste Gasoline	390	120
Diesel	1,280	250
Solvent, Parts Washer	570	20
Grease / Gear Lube	280	0
Hydraulic Fluid	165	250
Oil Filters	250 filters	20 filters
Antifreeze – Used	240	190
Antifreeze	95	50
Batteries – Lead Acid	119 batteries	0
Solvent - Naphalene	70	15
Carburetor Cleaner	15	25
Acetone	5	0
Brake Fluid	0	35
Hydrochloric Acid	5	70
Total Volumes	11,495 + 1904 pieces	4,230 + 20 pieces

Businesses Visited in Previous Campaigns

Eighteen of the thirty selected businesses (60%) inspected during the Small Engine Repair campaign had been inspected as a part of the previous automotive campaign of 1996-1998. Of these previously inspected businesses, nine were in compliance (50%) with the Sanitary Code, and nine of eighteen (50%) were not.

Of the twelve businesses that had not been previously inspected, two refused participation. Of the remaining ten businesses, seven (70%) were in compliance with the Sanitary Code. Only three of ten (30%) were not in compliance with the Sanitary Code. **Table 4** shows the compliance rate for businesses inspected during the Small Engine Repair campaign.

Table 4 – Summary of Compliance Rates for Small Engine Repair Businesses at the Initial Visit

	Total
Businesses previously inspected	18
Previously inspected – In Compliance	9
Previously inspected – Out of Compliance	9
Businesses NOT previously inspected	12
Not previously inspected – Refused inspection	2
Not previously inspected – In Compliance	7
Not previously inspected – Out of Compliance	3

Best Management Practices

Field inspectors found small engine repair companies were already practicing a number of Best Management Practices (BMP's). However, during site visits, thirty-six (36) BMP's were offered. Three months later thirty-five (35) BMP's had been implemented.

BMP's are divided into four categories: waste disposal, recycling, waste reduction and miscellaneous improvements. Several BMP recommendations were made regarding recycling of hazardous wastes. They included: used oil, oil filters, parts washer solvents, other solvents and antifreeze. One waste disposal BMP was recommended to one business during this campaign: dispose of the accumulated waste fuel on the site. Miscellaneous improvements were recommended several times and include: proper labeling, Material Safety Data Sheets (MSDS) stored on-site, get a spill kit, seal floor drains, implement a spill plan, retain disposal receipts, and train staff about hazardous waste.

An excessive amount of hazardous waste is a potential threat to the health of the community and to the environment. Excessive hazardous waste stored on-site can also change the status of a business from a

Table 5 – Best Management Practices

Recommendations	Already Doing	Suggested	Implemented
Recycle: (list recyclable items)			
Used oil	22	1	1
Solvent – parts washer	12	2	2
Rags, shop towels	11	3	3
Batteries	9		
Oil filters	7		
Antifreeze	9	1	1
Solvent – Naphalene	2	2	2
Scrap metals	1		
Brake fluid	1		
Waste Disposal: (list accumulated wastes)			
Waste fuel (gasoline)	10	1	1
Oil absorbent pads	1		
Waste Reduction:			
Control spills/leaks/drips	8		
Less toxic product substitution: Non-chlorinated contact cleaner	2		
Less toxic product substitution: Non-chlorinated brake/carburetor cleaner	3	2	2
Less toxic product substitution: “Citralene” citric cleaner/solvent	1		
Miscellaneous Improvements:			
Proper labeling	6	7	6
On-site MSDS	8	6	6
On-site spill kit	10	1	1
Seal floor drains	1	1	1
Implement spill plan	3	3	3
Retain disposal receipts	5	3	3
Secure tanks and shelving	5		
Separate incompatible chemicals	5		
Train staff about hazardous materials		2	2
Maintain catch basin – O/W separator	2	1	1
Totals	144	36	35

Small Quantity Generator to a Medium Quantity or Large Quantity Generator. This change in status would impose greater state and/or federal regulatory requirements on the business. Encouraging businesses to reduce, reuse, recycle, and properly dispose of hazardous wastes is good for the environment and good for business.

See **Table 5** on page 7 for specific information regarding Best Management Practices.

Marine Engine Testing

A unique waste disposal problem for marine engine repair shops involves oil and fuel contaminated water. Marine engines typically use the body of water the vessel is in for cooling. In addition, the exhaust from marine engines is typically discharged underwater. Marine repair shops need testing tanks or some other water source for testing engines. Several methods to cool marine engines were observed during the campaign. These methods included:

- Indoor or outdoor testing tanks;
- The nearest body of surface water;
- The use of “flush-cuffs;”
- The use of a flooded “loading dock” pit.

Indoor Testing Tanks:

Five businesses use one or more indoor tanks to test marine engines.

Indoor tanks are used for testing small outboard marine engines that are easily removed from the boat. The tank is covered with a small opening in the cover to allow the lower unit of the marine engine access to the water. Splash and spray are contained within the tank. Usually, the tanks are “topped-off” when needed and the floating hydrocarbon scum is skimmed off with oil absorbent pads. Indoor tanks present few problems in terms of waste disposal.

The only problem found during the campaign was one business that had an overflow hose from its indoor tank to an outdoor pit. The contaminated water was pumped to a city storm drain as needed. This business ceased this practice as a result of the campaign.

The best system found involved the use of a testing tank where the water was pumped through a filtration unit and discharged back into the tank. This tank was in a service bay, all splash and spray was contained and the service bay itself provided secondary containment for the system. Only one business used this system.

Outdoor Testing Tanks:

Five businesses use an outdoor tank to test marine engines.

Three businesses used outdoor testing tanks, which were galvanized “stock tanks” (tanks used for watering livestock). These tanks are filled or “topped-off” each time it is used. Two businesses allowed a hose to run water into the tank while it is being used. The splash and spray from the engine is not contained and a large amount of water is lost during testing. This lost water contains the petroleum by-

products (gasoline and oil) and other contaminants. One business allowed this run-off to flow off the asphalt pad and onto the ground. Another business allowed the run-off to accumulate in a pit and then pumped it to a city storm drain in the alley. A third business allowed all this contaminated run-off to flow directly to a city storm drain. Two businesses allowed the fill hose to remain in the test tank of contaminated water with no back-flow prevention devices in the water system.

Two businesses used outdoor testing tanks that were designed for this use. These tanks are large, covered and have some splash and spray control to prevent excessive run-off. In both businesses, the run-off from the testing tank is routed through an oil/water separator prior to disposal into the city storm water system. These tanks did not require refilling during use or after each use so no plumbing cross-connections were observed.

Of the three businesses using outdoor tanks, one is no longer in business and the Health Department is developing guidelines for the remaining two. Both will need to provide for treatment of the run-off through an oil/water separator or install a “closed-loop” system, which treats and reuses the water from the test tank.

Surface Water:

Two marine repair businesses used surface waters for marine engine testing. One business is a home-based Jet Ski only repair business located near a local lake. The owner tests the Jet Skis in the lake as needed. The second business is located next to a marina and generally tests the marine engines on the marina’s launch ramp or launches the boat and tests the engine under actual operating conditions.

Goals

1. Protect groundwater, surface water, soils, sediments, and private property from hazardous materials and hazardous waste contamination.

As a result of the campaign:

- Ten (10) businesses got into compliance with the Thurston County Nonpoint Source Ordinance by providing secondary containment for hazardous materials.
- The County verified that eighteen (18) businesses were already managing and disposing of hazardous materials in a legal manner prior to the campaign.
- The County learned that approximately 16,000 gallons of hazardous material are stored in businesses that sell and service small engines.
- The County learned that approximately 12,000 gallons of hazardous material were already being properly stored in businesses that sell and service small engines.
- Approximately 4,000 gallons of hazardous materials were moved into safer storage.
- Three businesses stopped discharging contaminated water into storm drains or the environment.
- One business sealed a floor drain, reducing the potential of an on-site spill to enter the environment and increasing its ability to be collected for disposal.

- The County provided information about hazardous materials management to twenty-eight (28) businesses that sell and service small engines.
2. Increase the rate of waste reduction, which conserves resources and reduces demand for disposal and recycling services.
 - A follow-up on BMP suggestions found that 35 of 36 suggestions were implemented.
 - During the campaign, suggestions for less-toxic product substitution were made to two businesses. Less-toxic product substitution was observed at six businesses.
 - One business began antifreeze recycling on-site instead of shipping it out with the used oil.
 - One business converted to a parts-washer where the solvent is recycled instead of using solvent soaked towels to clean parts. The towels had been disposed as solid waste when dirty. The remaining towels are now sent to a laundry service.
 3. Increase the percentage of hazardous waste collected (that cannot be prevented through waste reduction in the first place).
 - The campaign provided updated information about recycling and disposal options.
 4. Reduce the amount of hazardous materials that is improperly stored, improperly disposed, and accidentally spilled into the environment.
 - As a result of the campaign, approximately 4,000 gallons of hazardous material were put into secondary containment.
 - As a result of the campaign, two businesses redesigned a containment area to catch spills of transferred petroleum products.
 - Obtaining a spill kit was suggested to one business during the campaign. This business did get a spill kit prior to the end of the campaign.
 5. Reduce damage to collection and transfer vehicles and disposal equipment, and reduce disruption of treatment facilities, by ensuring hazardous waste is kept out of these facilities or systems.
 - The campaign verified proper labeling and disposal of all hazardous waste streams by each participating small engine repair business.
 - One business was provided Material Safety Data Sheets for the hazardous materials on-hand. MSDS's provide personnel the information about the chemicals that they use so the chemicals can be stored, handled, and disposed of properly.
 6. Reduce potential for causing publicly owned facilities such as landfills or sewage treatment plants to exceed pollutant discharge limits.

As a result of the campaign:

- Seven businesses were encouraged to properly label hazardous materials to facilitate proper handling and to ensure that these wastes are kept out of non-hazardous waste streams.
- One business stopped disposing of shop towels in the trash and is now collecting them in a properly labeled container for proper disposal.
- One business stopped using disposable shop towels (which were put in the trash) and is now using cloth towels with a laundry service.
- Two marine repair businesses stopped discharging contaminated water to storm drains.

Customer Survey Results

No evaluation surveys were returned from any of the inspected businesses that were handed forms during the campaign. As a result, the evaluation form was mailed to all the participating businesses in early December. Twelve of twenty-eight (42.8%) businesses that received technical assistance responded to this mailing and sent in a completed customer survey form.

A summary of the customer survey forms is provided in Table 6.

Table 6 – Customer Survey Summary of Responses

Survey Question	Yes	Somewhat	No
1. Did the visit(s) provide you with helpful information on the proper management and reduction of hazardous products and waste?	10	2	
2. As a result of the visit, did you learn why the Health Department conducts these campaigns?	10	1	1
3. Did the visit provide you with helpful information on how to protect Public Health and the environment?	10	2	
4. Did the visit assist you in making changes in you hazardous materials management practices?	7		5
5. Were the specialists knowledgeable?	11	1	
12. Would you be interested in attending periodic meetings with other business owners to learn about Public Health and the environment as it relates to your business?	2	7	3
Survey Question	Yes/ Very	No/ Somewhat	No problems/ None received
6. Were the specialists willing to help you solve specific problems?	10	1	1
7. How informative were the <u>fact sheets/materials</u> you received during the visit? (11 responses)	4	7	

8. As an owner/employee of a small business, what concerns you most about proper hazardous waste management? Please rank them.	
Highest Concern	Understanding regulations Worker safety and potential liability Disposal costs Time required for proper management
Least Concern	Knowing where to get information Equity among business competitors
9. What was your primary incentive for participating in the technical assistance visit? Please rank them	
Greatest Concern	Avoid spills of hazardous materials Concern for protection of the environment Health and safety concerns
Least Concern	Avoid enforcement Knowing where to get information
10. If the County provided the following services, PLEASE RANK THEM in the order in which you would use them.	
Most Useful	Hazardous waste recycling/disposal site Information Hotline News bulletins or newsletters Workshops and training
Least Useful	Trade show information Public recognition (newspaper)
13. How would you prefer to receive information on hazardous waste services, pollution prevention, changes in regulations, etc.? Please rank them.	
Highest	Topic-specific fact sheets Quarterly newsletter Letters about events and information
Lowest	Newspaper articles Trade show advertisements
11. Where do you get information on hazardous materials management?	
<i>DOE Seminars, Labor & Industries, Product Manufacturer, the County, People who pick up the waste, Material Safety Data Sheets, Thurston County Landfill, product suppliers.</i>	
14. Other comments or suggestions for improvements.	
<i>(1) It's a good thing to protect environment from the bad operator.</i> <i>(2) Want a better way to dispose of old fuel (gasoline).</i> <i>(3) A-OK, Staff professional and helpful.</i> <i>(4) None at this time.</i>	

Ten of twelve (83 percent) businesses responded that the site visit provided helpful information on the proper management and reduction of hazardous products and waste. The remaining two businesses said the site visits provided somewhat helpful information. The same breakdown occurred in response to whether the visit provided helpful information on how to protect Public Health and the environment. Eleven of twelve businesses (92 percent) said they learned at least somewhat about why the Health Department conducts campaigns. One business said they did not learn why the Health Department conducts campaigns. Eleven of twelve businesses said the hazardous waste specialist was knowledgeable regarding the campaign, one business said the hazardous waste specialist was somewhat knowledgeable.

Five businesses (42 percent) said that at the time of the site visit that no changes in their hazardous materials management were made or necessary. The remaining seven businesses (58 percent) stated that the site visits assisted in making changes in their hazardous materials management practices. Ten of twelve businesses said the hazardous waste specialist was willing to help solve their specific problems. One said the hazardous waste specialist was not willing to help solve their specific problem, and one business said there were no problems to address. Four of eleven (36 percent) businesses said the fact sheets and other materials handed out during the visit were very informative. Seven of eleven (64 percent) businesses found the fact sheets and other materials handed out during the site visit somewhat informative.

Nine of twelve (75 percent) businesses that responded said they would be at least somewhat interested in attending periodic meetings with other business owners to learn about Public Health and the environment as it relates to their business. Three of twelve (25 percent) were not interested in such a meeting.

As a part of the survey, business representatives were asked to rank a list of concerns about proper hazardous waste management. The following is the ranking in order of greatest concern to least concern based on a summation of the individual responses: understanding regulations, worker safety and potential liability, disposal costs, time required for proper management, knowing where to get information, and equity among business competitors. The businesses taking part in the technical assistance visits were also asked what their primary incentive was for participating in the campaign. The ranking by the respondents in order of greatest concern to least concern was: avoiding spills of hazardous materials, protection of the environment, health and safety, avoiding enforcement, and lastly, knowing where to get information.

When asked where the businesses gained information on hazardous materials management, eleven of twelve businesses responded. Two businesses said they got their information from product manufacturers (specifically, “Manufacturer” and “Companies I’ve dealt with”). Two businesses said they got their information from the County. Another two businesses got their information from the “people who pick up the wastes.” Other responses include; DOE seminars, Labor & Industry Department, MSDS’s, Thurston County landfill, and vendors of the specific product used.

The businesses were asked to rank services, if provided by the County, in order in which they would use them. The following is the ranking in order of “Most useful” to “Least useful” based on a summation of the individual responses: hazardous waste recycling/disposal site, information hotline, news bulletins or newsletters, workshops and training, trade show information, and least useful, public recognition.

The participants in the campaign were also asked how they would prefer to receive information on hazardous waste services, pollution prevention, changes in regulation, etc. These preferences are listed in order from highest to lowest again based on a summation of individual responses. The order is: topic-specific fact sheets, quarterly newsletter, letters about events and information, newspaper articles, and lowest preference, trade show advertisements.

Three business respondents took the opportunity to provide additional comments on the survey form. One business respondent stated that “It’s a good thing to protect environment from the bad operator.” Another business respondent said “Better ways of disposing of old fuel (gasoline).” The third business respondent complimented health department staff by stating “A-OK. Staff professional and helpful.”

Conclusions

This single industry campaign focused on small engine repair. Most single industry – type campaigns focus on business types that represent a risk to public health and the environment. This risk is evidenced by improper storage, use, and disposal of hazardous materials. Often, when looking at a single industry campaign, the list must be prioritized to keep the campaign manageable. In past automotive campaigns, small engine repair shops were rarely included. Therefore, a technical assistance campaign was initiated for small engine repair shops. Once the list of businesses was finalized, 43 percent of the businesses selected had never received a technical assistance visit in the past.

With the exception of marine engine testing, the small engine repair industry is the same as the large engine repair industry. The same hazardous materials are used, stored, and disposed. The same processes and procedures are used. The same pollution prevention issues are found in small engine facilities that are found in large engine facilities.

The majority of the inspected businesses (64%) were in full compliance with the Sanitary Code, and handled and stored their hazardous materials in a manner that did not pose a threat to human health or the environment. They did this by having small quantities of materials stored indoors and in areas with no floor drains or by having proper outdoor storage for these materials. The Business Pollution Prevention Team generally offered very few suggestions to make management of hazardous materials better for these businesses.

Two businesses were required to modify their method of outdoor marine engine testing. These modifications eliminated the loss of coolant from splash and spray and retained the pollutants from the engines instead of releasing them to the environment. Two businesses changed their method of engine testing. The third is no longer in business.

The Customer Survey Form asked the businesses to rank methods of receiving information on hazardous waste services, pollution prevention, changes in regulations, etc. The answers represent how the businesses would like to get their information, but not which one would reach the most businesses for the least amount of money. The first and second most preferred methods were “Topic-specific fact sheets” and a “Quarterly newsletter,” respectively. The County could test the effectiveness of different information delivery methods by running a pilot information campaign with these businesses, another business group, or in a wellhead protection area prior to the campaign. If a pilot program were implemented, the County could send fact sheets to the selected business groups prior to commencing the campaign. The County could then follow up by asking businesses where they received the information about the campaign. The same process could also be used if the County newsletter was sent to businesses on a regular basis. It would be interesting to see which method of delivering information is most remembered by individual businesses.

Businesses were also asked to rank the types of services they would use if provided by the County. The top two services – a disposal site and a hotline – are currently offered by the County and have been for some time.

The highest ranked service the County could provide for businesses is a hazardous waste recycling/disposal site. This site is in existence and is located at the Thurston County Waste & Recovery Center. The site is known as HazoHouse and has been available for SQG business waste disposal since 1996. It currently provides hazardous waste recycling/disposal service for approximately one hundred sixty-two (162) SQG businesses and government agencies. In 2001, HazoHouse recycled and/or disposed of 18,756 pounds of SQG hazardous waste from 81 businesses.

The second highest ranked service the County could provide for businesses is an information hotline. This service has been available to the public and to county businesses since 1993. The hotline currently receives approximately two hundred (200) calls per year. The calls typically range from information on HazoHouse to information on disposal of specific wastes such as paints and fluorescent light tubes.

The third most requested service the County could provide is a news bulletin or newsletter. Thurston County is committed to doing just that. The first edition of the newsletter, known as the "Hazardous Waste Update," was sent to all businesses on the departments' SQG business master mailing list in January 2002. The publication will be sent to the County's SQG businesses three or four times per year. It will be used to remind everyone of the services offered by the County including the hazardous waste hotline and the hazardous waste recycling/disposal site at HazoHouse.

Past campaigns have not followed up on BMP recommendations made to businesses that were in compliance with the Sanitary Code. This is because BMP recommendations are voluntarily implemented and are not a regulatory mandate. This has left a gap in the county's ability to track the number of BMPs that are implemented by "in compliance" businesses. This campaign did follow up on BMP recommendations prior to the final report.

These follow ups were conducted on-site at each business four to six months after the initial technical assistance visit. The results are encouraging. Thirty-six BMP recommendations were made to ten businesses. Nine businesses (90%) implemented all the suggested BMPs. One business (10%) implemented one of two BMPs. (The one outstanding BMP recommendation is to label used oil and waste fuel storage tanks in a containment area; the business intends to implement this BMP at some time in the future.) In all, thirty-five of thirty-six (97%) BMPs were implemented as a result of this technical assistance campaign. This shows a high degree of interest to do more than just "comply" with regulations and corresponds very well with customer survey responses from question #9 (see page 12).

These BMP implementations along with compliance with the Sanitary Code now serve as a baseline for future comparison.

Appendix A

Compliance with the Nonpoint Source Pollution Ordinance

Compliance with the Nonpoint Source Pollution Ordinance

“The Health Department’s approach to compliance assumes that the majority of hazardous waste generators want to do the right thing and simply need to recognize . . . how to make it happen.”

This fact sheet describes the Thurston County Health Department’s approach to implementing the hazardous waste sections of the Nonpoint Source Pollution Ordinance (Article VI of the Sanitary Code) and explains the procedures that govern its enforcement. The ordinance, which took effect in May 1993, is part of the Business Pollution Prevention Program’s efforts called for in the county’s Hazardous Waste Plan and supported by Thurston County and its incorporated cities.

PROACTIVE AND REACTIVE FIELD INSPECTIONS

The Health Department’s approach takes into account the widespread lack of awareness of the law and the current existence of numerous industry-wide practices that violate the law. The goal is to combine proactive and reactive techniques so that violations are addressed fairly and equitably.

Proactive inspections - those in which the Health Department takes the initiative to approach businesses rather than waiting for inquiries or complaints - will be directed, within a limited time frame, at all businesses of a given type and will be preceded by an opportunity for education about the ordinance. Beginning with the business categories that in past surveys have had the highest rate of mismanagement of hazardous waste, field staff will eventually visit all businesses in the county. The process is designed to resolve all violations while avoiding inequitable or arbitrary enforcement of the ordinance among different competitors in the same field.

When the Health Department receives a complaint from the public about a violation of the ordinance, the ordinance is used reactively. In these cases, enforcement action may be taken against a business that has not received education about the ordinance, or whose competitors have not yet been asked to comply with the ordinance. Nonetheless, the goal is still to correct the violation rather than issue tickets, so field staff will work as constructively as possible with the violator to make necessary changes

WHAT THE ORDINANCE SAYS

The following is an excerpt from Article VI, Section 4 of the Sanitary Code:

- 4.1 (a) Moderate risk waste and petroleum products including, but not limited to, oil and grease, shall be disposed of by recycling or use of a hazardous waste management facility operating under interim status or with a permit issued by EPA or an authorized state . . . No person shall, intentionally or negligently, dump or deposit, or permit the dumping or depositing of any such waste in any other manner, including onto or under the surface of the ground or into surface or ground water.
- 4.1 (b) Moderate risk waste, petroleum products, and hazardous materials shall be kept in containers and shall be stored in such a manner and location that if the container is ruptured, the contents will not discharge, flow, be washed or fall into surface water or ground water.
- 4.1 (c) Any person violating this section or owning or in possession of the premises, facility, vehicle or vessel from or on which waste is discharged or placed in violation of this section, shall notify the Department of the location and nature of the violation and shall immediately take or cause to be taken all necessary steps to prevent injury and protect waters from pollution.

IF HEALTH DEPARTMENT STAFF OBSERVE A VIOLATION OF ARTICLE VI . . .

Field staff have three options for response to violations. The ordinance specifies that compliance officers must respond to any violation they believe has occurred or is occurring. The three options are:

- an informal notification to the violator explaining the violation and recommended options for correcting the problem;
- a Notice of Violation, which begins formal administrative enforcement; and
- a Notice of Civil Infraction, which is similar to a traffic citation in that it carries a fine and is resolved in court.

Which option is used will depend on the type and severity of the violation and prior opportunities the violator has had to learn about and comply with the law. It is important to understand that, regardless of the initial response chosen and time frame allowed, the ordinance requires the Health Department to follow-up with increasingly stronger measures until the violation is eventually corrected.

IF YOU RECEIVE AN INFORMAL NOTICE CONCERNING COMPLIANCE WITH ARTICLE VI . . .

An informal notification offers an opportunity to comply voluntarily. The Health Department's approach to compliance assumes that the majority of hazardous waste generators want to "do the right thing" and simply need to recognize the right thing and how to make it happen. The informal notification would typically consist of a letter following a voluntary technical assistance visit during which a violation was observed. It is intended to help the business understand the reason for the violation and the options available for correcting the problem.

Although this notification does not specify an exact time frame for compliance, it does indicate that a formal inspection is not far off, and at that point, violations will be responded to with a formal Notice of Violation.

IF YOU RECEIVE A FORMAL COMPLIANCE INSPECTION . . .

A formal compliance inspection involves a visit to your business by a county hazardous waste specialist. The specialist will examine your facilities and practices with respect to two issues:

- management of hazardous wastes and petroleum products (all must be recycled or sent to a permitted disposal facility); and

- storage of hazardous wastes, petroleum products and hazardous products (all must be kept from reaching ground or surface water).

At the end of a compliance inspection, you will receive either a Notice of Compliance or a Notice of Violation, described briefly here.

A Notice of Compliance documents your good-standing at the time of the inspection. If you are managing your hazardous wastes properly - either recycling them at your facility or sending them to another facility for disposal or recycling - you will receive a Notice of Compliance for you to file as a record of your status. If you are recycling the waste on site, the inspector will need to see the recycling methods and/or equipment used and may want to verify the proper operation of the equipment. If you are sending the waste off site, the inspector will need to see documentation of at least one recent pick-up that includes the name and phone number of the collection service. Note that a Notice of Compliance documents your status only with respect to the Nonpoint Source Pollution Ordinance and only on the day of the inspection. It does not preclude a later change in status if your practices change, or if new information indicates the inspection results were inaccurate. It also does not comment on compliance with any other laws you may be subject to, such as fire, building, zoning, licensing, and worker safety regulations.

A Notice of Violation is the first step in the “formal” administrative enforcement process.

Field staff would typically issue a Notice of Violation (NOV) in cases where the alleged violator has already had at least one opportunity to learn about, and comply with, the ordinance. It may also be issued immediately in cases of flagrant or particularly negligent violations. The NOV can be presented to the violator in person or sent by registered or certified mail. It will state the section of the ordinance that was or is being violated, a brief description of facts supporting this finding, a list of actions that must be taken to resolve the matter, and a date by which these actions must be taken. The process for responding to an NOV and your rights under this process are described on the back of the NOV. Some important elements of this process are listed below.

- **You have the right to appeal.** You may do so by submitting a written request for an administrative hearing to the Health Officer at the Thurston County Health Department, 2000 Lakeridge Dr. SW, Olympia WA 98502-6045, within ten days of the date of issuance of the Notice of Violation.
- **Corrective actions are postponed until after the hearing.** If you file a request for a hearing, you may temporarily postpone taking corrective actions pending the hearing outcome.
- **Administrative hearings allow an opportunity to present evidence that you did not violate the ordinance.** Evidence may include testimony of witnesses, affidavits and documents, and other exhibits such as photographs.
- **You may appeal the results of an administrative hearing.** If you are unsatisfied with the results of an administrative hearing, you may appeal these findings and actions to the Thurston County Board of Health.

IF YOU RECEIVE A NOTICE OF CIVIL INFRACTION . . .

Violations of Article VI of the Sanitary Code are civil infractions enforceable by the court and subject to fines of up to \$250. Once a Notice of Violation has been issued, the process of issuing and enforcing a civil infraction will not begin until and unless the administrative process described above runs its course without resolution. If you do not, in the specified time frame, take the actions required by a Notice of Violation, or those required by a subsequent administrative or Board of Health hearing, you will be issued a Notice of Civil Infraction (a “ticket”), which is handled similarly to a traffic citation. You may:

- pay the penalty

- request a hearing to contest or explain the circumstances of the alleged violation; or
- ignore the ticket, which would automatically result in your being found guilty and responsible for the full amount of the fine.

The Notice of Civil Infraction, when issued, explains in more detail your options and rights under the civil process.

If you would like a copy of the Thurston Count Nonpoint Source Pollution Ordinance or any part of the Sanitary Code or if you have questions on this enforcement process, please call the Business Waste Prevention Line at (360) 786-5457 or TDD (360) 754-2933, Monday through Friday from 8:00 a.m. to 5:00 p.m.

Other Hazardous Waste Management and Disposal Fact Sheets

- *Silver Recovery*
- *Hazardous Waste Management in Printing and Photography*
- *Used Shop Towels*
- *Antifreeze*
- *Floor Drains*
- *Financing Pollution Prevention*
- *Solvents and Parts Cleaners*
- *Does your Business Generate Haz Waste?*
- *Residential Heating Oil Tanks*
- *Labeling Hazardous Waste Storage Containers*
- *Oil/Water Separators*
- *Secondary Containment*
- *Business-Generated Used Oil*
- *Used Oil Filters*
- *Storing Hazardous Waste*
- *Disposal of Petroleum-Contaminated Absorbent Materials*
- *Analytical Laboratories*
- *Hazardous Waste Disposal* (for small businesses)

October 1998

Appendix B

Businesses Included in the Campaign

Small Engine List for Technical Assistance 2001

Name	Site Address	City	Zip Code
A-1 Rentals	903 4 th Ave E	Olympia	98506
Action Power Equipment	2402 4 th Ave E	Olympia	98506
All Marine	10300 Martin Way E	Lacey	98516
Barnett Implement Co.	412 Lilly Rd SE	Olympia	98501
Coastal Tool Repair	715 78 th Ave SW	Tumwater	98511
Cycle Mart	8003 Martin Way E	Lacey	98516
Hertz/AA Rentals	4614 Lacey Blvd SE	Lacey	98503
Industrial Hydraulics	2715 RW Johnson Blvd SW	Tumwater	98512
Inlet Diesel Inc	1110 Lilly Rd NE	Olympia	98506
J & I Saw & Power Equipment	3729 Pacific Ave SE	Olympia	98501
Lew Rents	Mudbay & McPhee	Olympia	98501
Lew Rents	2216 4 th Ave E	Olympia	98501
Monster Watercraft	1718 7 th Ave SE	Olympia	98501
Motor Boat Mart	2420 Carriage Loop SW	Olympia	98502
National Machines & Marine Service	503 Lilly Rd SE	Olympia	98501
NW Harley-Davidson	1835 Cooper Pt Rd SW	Olympia	98502
Olympic Boat Center	6790 Martin Way E	Lacey	98516
Paulson's	4402 6 th Ave SE	Lacey	98503
Prestige Marine Repair	9144 Gallea St – Zittels Marina	Lacey	98516
Puget Marina	8141 Walnut Rd NE	Lacey	98516
Razors Edge ATV	8819½ Martin Way E	Lacey	98516
Reiner's South Sound Honda	2115 Carriage Loop SW	Olympia	98502
Sound Marine Repair	200 West Bay Dr NW	Olympia	98502
Tom's Outboard	221 East Bay Dr NE	Olympia	98506
Tumwater Rentals	6135 Capitol Blvd SE	Tumwater	98501
U Haul	2516 4 th Ave E	Olympia	98506
United Rentals	6070 Linderson Way SW	Tumwater	98501
US Marine Sales & Service	3525 Pacific Ave SE	Olympia	98597
Vince's Motorcycle Store	2651 Martin Way E	Olympia	98506
Yelm Lawnmower & Saw Shop	202 Railroad St NW	Yelm	98597

Appendix C

Letter of Invitation

Letter of Invitation

June 1, 2001

Subject: 2001 Small Engine Business Pollution Prevention Program for Thurston County.

Dear Business Owner:

The Thurston County Environmental Health Division, Pollution Prevention Program, is currently performing a technical assistance campaign for businesses servicing and maintaining small engines. The purpose of this visit is to check the storage, handling and disposal of hazardous materials with an emphasis on preventing contamination of the environment. In addition, we are reviewing Best Management Practices as they pertain to waste disposal, recycling, waste reduction and miscellaneous improvements.

During a technical assistance visit (approximately 30 minutes), program staff will provide information to help your business gain or maintain compliance with Thurston County's Nonpoint Source Pollution Ordinance. This ordinance requires the proper storage, use and disposal of hazardous materials. If issues are found that cannot be corrected during the visit, we will provide follow-up contact to help your site attain compliance. Businesses that are not interested in participating in a technical assistance visit will receive drop in compliance audits in July.

The Environmental Health Division has been conducting Business Pollution Prevention Program Campaigns since 1995. These past campaigns have included Vehicle Repair, Printing/silk-screening, Photography, Marinas, Commercial Painters, Pesticide Applicators as well as numerous businesses within designated Wellhead Protection Areas. The small engine campaign is a continuation of our efforts to protect the public's health and the environment by providing information and assistance to businesses that store, use and dispose of hazardous materials.

You may have already participated in a site visit during past Business Pollution Campaigns. Since those site visits were conducted, however, local and state hazardous waste rules for small businesses have changed. Also, new waste collection services are available that may save you time or money. If you have already participated, county staff will verify that your business is still in compliance with the requirements of the ordinance and will help identify ways you can take advantage of the new services.

We will be contacting you within the month to schedule the time for your technical assistance visit. If you have questions or if you would like to schedule the timing of our visit, please call Dave Tipton at 754-4111, ext. 6496. We look forward to working with you.

Sincerely,

David Tipton
Hazardous Waste Specialist
Environmental Health Division

Appendix D

Small Engine/Automotive Repair Commercial Parcel Inventory

[illegible]

Appendix E

Inventory Of Hazardous Materials And Wastes

INVENTORY OF HAZARDOUS MATERIALS AND WASTES

HAZARDOUS MATERIAL [L = LIQUID] [S = SOLID]	QUANTITY	P = PRODUCT W = WASTE	CONTAINER LABELED?	SECONDARY CONTAINMENT (CAPACITY OK?)	WASTE DISPOSITION (VENDORS – LAST PICKUP)

Comments:

SITE DRAWING

↑ North

Appendix F

Best Management Practice Recommendations



*Thurston County Environmental Health
Business Pollution Prevention Program*
Phone: (360) 754 4111 Fax: 754 2954

BEST MANAGEMENT PRACTICE RECOMMENDATIONS

BUSINESS NAME: _____ DATE: _____

Recommendations	Already Doing	Suggested	Implemented (Date)
Recycle: (list recyclable items)			
Waste Disposal: (list accumulated wastes)			
Waste Reduction:			
Control spills/leaks/drips:			
Less toxic product substitution:			
Other:			
Miscellaneous Improvements:			
Proper labeling:			
On-site MSDS:			
On-site spill kit:			
Seal floor drains:			
Implement spill plan:			
Retain disposal receipts:			
Secure tanks and shelving:			
Separate incompatible chemicals:			
Train staff about hazardous materials:			
Maintain catch basin – O/W separator:			
Other:			

***The County may contact your business within six months to see if these recommendations have been implemented.**

Signature: _____ Position: _____

Appendix G

Technical Assistance Notice of Noncompliance



*Thurston County Environmental Health
Business Pollution Prevention Program*
Phone: (360) 754 4111 Fax: 754 2954

Technical Assistance Notice of Noncompliance

Business Name _____ Phone _____

Business Owner _____

Address _____

HAZARDOUS MATERIAL / WASTE	QUANTITY

The hazardous materials listed above are currently being stored without secondary containment. The Thurston County Nonpoint Source Pollution Ordinance, Article VI of the Thurston County Sanitary Code, Section 4.1(b) states:

“Moderate risk waste, petroleum products, and hazardous materials shall be kept in containers and shall be stored in such a manner and location that if the container is ruptured, contents will not discharge, flow, be washed or fall into surface water or groundwater. This does not supersede any regulations as stated in the Uniform Fire Code.”

Since your business is participating in a technical assistance campaign, a mutually agreeable grace period is being provided to help you obtain compliance. To obtain compliance your business can choose to dispose of the existing hazardous material or place its container into secondary containment.

Four secondary containment options will satisfy Thurston County regulatory requirements.

1) Store indoors on a liquid-tight floor if the storage area is able to contain 100 percent of the largest container and prevent it from flowing out of the building. 2) Store in covered secondary containment that can hold 110 percent of the volume of the largest container or 10 percent of the total volume stored, whichever is greatest, plus the displacement of any items inside the containment. 3) Store in uncovered secondary containment that can hold 120 percent of the volume of the largest container or 10 percent of the total volume stored, whichever is greatest, plus the displacement of any items inside the containment. 4) Store in UL-certified double-walled storage tanks.

Secondary containment to be provided by (date): _____

Received by : _____ **Date:** _____

Compliance Officer: _____ **Date:** _____

Appendix H

Customer Survey Form

Customer Survey Form

Small Engine Technical Assistance

1. Did the visit(s) provide you with helpful information on the proper management and reduction of hazardous products and waste?

Yes Somewhat No

2. As a result of the visit, did you learn why the Health Department conducts these campaigns?

Yes Somewhat No

3. Did the visit provide you with helpful information on how to protect Public Health and the environment?

Yes Somewhat No

4. Did the visit assist you in making changes in your hazardous materials management practices?

Yes No No changes needed

5. Were the specialists knowledgeable?

Yes Somewhat No

6. Were the specialists willing to help you solve your specific problems?

Yes No No problems to address

7. How informative were the fact sheets/materials you received during the visit?

Very Somewhat None received

8. As an owner/employee of a small business, what concerns you most about proper hazardous waste management?

PLEASE RANK THEM

(1-Greatest Concern, 6-Least Concern)

___ Disposal costs
 ___ Time required for proper management
 ___ Worker safety and potential liability
 ___ Knowing where to get information
 ___ Understanding regulations
 ___ Equity among business competitors
 ___ Other _____

9. What was your primary incentive for participating in the technical assistance visit?

PLEASE RANK THEM

(1-Greatest Concern, 5-Least Concern)

___ Concern for protection of environment
 ___ Avoid enforcement
 ___ Avoid spills of hazardous materials
 ___ Knowing where to get information
 ___ Health and safety concerns
 ___ Other _____

10. If the County provided the following services, PLEASE RANK THEM in the order in which you would use them (1-Most Useful, 6-Least Useful)

___ Information Hotline
 ___ Hazardous waste recycling/disposal site
 ___ Public recognition (newspaper)
 ___ Workshops and training
 ___ News bulletins or newsletters
 ___ Trade show information
 ___ Other _____

11. Where do you get your information on hazardous materials management?

12. Would you be interested in attending periodic meetings with other business owners to learn about Public Health and the environment as it relates to your business?

Yes Somewhat No

13. How would you prefer to receive information on hazardous waste services, pollution prevention, changes in regulations, etc.? PLEASE RANK THEM (1-Highest, 5-Lowest)

___ Quarterly newsletter
 ___ Topic-specific fact sheets
 ___ Letters about events and information
 ___ Newspaper articles
 ___ Trade show advertisements
 ___ Other _____

14. Please share any other comments you may have about the Small Engine Technical Assistance Campaign, or offer suggestions for improvement.

Thank You Very Much

For completing this Evaluation Form.

The information you have provided helps us evaluate our efforts and guides us in improving our services.

Revised 6/01

Appendix I

Certificate of Environmental Achievement

CERTIFICATE OF ENVIRONMENTAL ACHIEVEMENT

Thurston County jurisdictions thank and recognize

for its contribution to the community by protecting the environment
in accordance with the
Thurston County Nonpoint Source Pollution Ordinance

Board of Health

Date: _____



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Appendix J

Notice of Compliance



Thurston County Public Health and Social Services Department
Environmental Health Division

Nonpoint Source Pollution Ordinance Inspection Checklist

Business Name _____ Phone _____
Business Owner _____ Birthdate _____
Address _____ City _____ Zip _____
Compliance Officer _____ Issue Date _____ Time _____
MODERATE RISK WASTE: _____ **Avg. Qty/Mo** _____

NOTICE OF COMPLIANCE

- ☐ NO MODERATE RISK WASTE GENERATED.
Explain: _____
- ☐ RECYCLED Type of system: _____
ON-SITE Qty/Mo: _____ Date of installation: _____
- ☐ SENT Vendor: _____ Phone: _____
OFF-SITE Qty/Mo: _____ Date of last shipment: _____
☐ Documentation verified.
- ☐ SECONDARY CONTAINMENT ADEQUATE. _____

NOTICE OF VIOLATION

- ☐ I find you in violation of Thurston County Sanitary Code, Article VI, Section 4.1(a), 4.1.(b) OR 4.1(c) as specified below:

Description of violation: _____

Corrective action to be taken by _____(date) will be as follows: _____

See reverse for important information on your right to appeal this notice of violation.

Compliance officer: _____ Date: _____

Received by: _____ Date: _____

Thurston County Public Health and Social Services Department
Environmental Health Division

White Copy: Health Department; Canary Copy: Business Representative

Appendix K

Examples of Technical Fact Sheets Handed Out During the Campaign

*“Several
tablespoons of
antifreeze can be
fatal to a small
animal or child if
ingested”*

Antifreeze

The Problem

Used antifreeze is a hazardous waste because its main ingredient, ethylene glycol, is very poisonous. Several tablespoons of antifreeze can be fatal to a small animal or child if ingested. Antifreeze has a sweet smell and taste that attracts animals. Antifreeze can also pick up lead from radiator solder, which is also toxic.

The Regulatory Requirements

The Thurston County Nonpoint Source Pollution Ordinance requires that hazardous waste be disposed of either by recycling or through a permitted hazardous waste management facility. This applies to waste antifreeze. SQGs are typically businesses that generate less than 220 pounds (about 27 gallons) of hazardous waste per month. Disposal of waste antifreeze in the garbage, down the drain, on the ground, or mixed in with used oil is prohibited.

Businesses generating more than 220 pounds of hazardous waste per month are called regulated generators, and must also comply with the Washington State Dangerous Waste Regulations, WAC 173-303. These regulations are administered by the Washington Department of Ecology. SQGs are exempt from these regulations only if they manage all of their hazardous wastes properly.

New state guidelines exempt businesses from having to “count” their monthly waste antifreeze volumes toward the 220 pound regulatory threshold if, 1) waste antifreeze is recycled either on-site or off-site, and 2) proper handling practices are followed. For a detailed discussion of the handling practices a business must follow to receive this antifreeze exemption, review the factsheet published by the Department of Ecology (F-SH-93-122) dated March 1993; call their publication office at 407-7472.

The Options

Small quantity generators can satisfy the requirements of the Thurston County Nonpoint Source Pollution Ordinance by managing their waste antifreeze in one of the following ways:

1. Some waste antifreeze can be recycled on-site and reused. The resulting sludge and filters from this process may still designate as a hazardous waste.



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WASHINGTON STATE DEPARTMENT OF ECOLOGY

FOR MORE INFORMATION, CALL 360-786-5457. TDD LINE FOR THE HEARING IMPAIRED, 754-2933.



“One gallon of used oil can foul the taste of up to one million gallons of water.”

Business-Generated Used Oil

The Problem

Close to half million gallons of used motor oil are generated by commercial and residential sources in Thurston County each year during the routine maintenance of motor vehicles and equipment. Over half of this oil is generated by businesses maintaining vehicles and equipment as a service, or by businesses maintaining their own vehicles and equipment. This oil can be recycled back into new motor oil or processed into fuel.

Unfortunately, some used oil is illegally disposed of in ways harmful to human health and the environment. Oil is being poured down drains or dumped at landfills. Some used oil is also used as a dust suppressant on roadways or for agricultural weed abatement. All of these disposal practices can result in pollution of drinking water, lakes, rivers, and streams. Also, some used oil gets mixed with solvents or other hazardous wastes and becomes contaminated. This increases the danger of using it as a fuel, or interferes with the recycling process. One gallon of used oil can foul the taste of up to one million gallons of water. The City of Olympia supplies up to 14 million gallons of water per day to homes and businesses during the summer months.

The Regulatory Requirements

The Thurston County Nonpoint Source Pollution Ordinance, which went into effect May 9, 1993, requires that used oil be disposed of by recycling or use of a permitted hazardous waste management facility. All hazardous waste generators in Thurston County are subject to the requirements of this ordinance. The ordinance prohibits disposal of used oil on the ground, into surface water, in the garbage, into the sewer, or into a septic tank. It also prohibits applying used oil as a dust suppressant or mixing it with a hazardous waste (unless the mixture is then managed as hazardous).

Businesses that generate more than 220 pounds of hazardous waste per month, and accumulate more than 2,200 pounds on site at any time, are called regulated generators. Regulated generators must comply with the Washington State Dangerous Waste Regulations, WAC 173-303, administered by the Washington State Department of Ecology. *The amount of used oil that is generated is not included in the 220-pound threshold determination if it is properly managed.*

Business-generated used oil, like any other business-generated hazardous waste, cannot go to any of the eleven county-run used oil collection facilities.



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WASHINGTON STATE DEPARTMENT OF ECOLOGY

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“It's best to limit the amount of contaminated material you generate by preventing the contamination from occurring in the first place.”

Disposal of Petroleum-Contaminated Absorbent Materials

The Problem

Many businesses use absorbent materials and disposable rags to clean up spills of oil and other contaminants, to wipe off parts, and to soak up oil from oil/water separators, sumps or storm drains. These materials usually end up in the garbage that goes to the Thurston County Hawks Prairie Landfill.

Once in the landfill, oil and other contaminants soaked up in these materials can be released when picked up by rain water that passes through the landfill. The resulting liquid, called leachate, collects at the bottom of the lined landfill. The leachate is pumped out, partially treated, then sent to the LOTT wastewater treatment plant, at the tip of Budd Inlet, for further treatment.

The presence of these contaminants in the landfill can increase the cost and difficulty of treating the leachate before it is discharged to LOTT. Some contaminants can also evaporate into the air during treatment, thus increasing air pollution. Also, if the landfill liner develops a leak, the leachate can pollute the underlying ground water, which is a major source of drinking water in Thurston County.

The Regulatory Requirements

The *Solid Waste Handling Ordinance, Article 5*, of the Thurston County Sanitary Code governs the disposal of solid waste in Thurston County. This ordinance prohibits disposal of hazardous waste or dangerous waste into the landfill. Until recently, it also prohibited the disposal of any high risk waste into the Thurston County landfill or elsewhere in the county including gravel pits, vacant lots or open fields. Typically, high risk wastes exhibit levels of contamination between 10 percent and 100 percent of dangerous waste levels. High risk waste also includes petroleum-contaminated materials that exceed the standard for total petroleum hydrocarbons under the Washington State Model Toxics Control Act (typically 200 parts per million).



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“Business owners are legally and financially responsible for the proper handling of their hazardous wastes.”

Does *Your* Business Generate Hazardous Waste?

Good Hazardous Waste Management is Good Business

Hazardous wastes are common in small businesses as well as large. Even small quantities of improperly managed hazardous wastes can have a major impact on worker health and safety, the environment, property value and business liability.

Proper management of hazardous waste is wise from a business point of view. Business owners are legally and financially responsible for the proper handling of their hazardous wastes. Violators are subject to enforcement actions that may include fines. Proper hazardous waste management is necessary to maintain your ability to get insurance or bank loans. It also protects you, your workers and others from serious illness and injury.

An important part of doing business in Thurston County is handling your wastes in the safest manner possible to protect your investment and our shared water resources. Disposal of hazardous waste and petroleum products in the garbage, down the drain or on the ground is prohibited by Thurston County ordinance.

Some typical businesses that generate (produce) hazardous wastes are auto shops, painters, printers, medical clinics and dry cleaners. Some examples of less obvious generators are home crafters, landscapers, rental management and beauty shops.

Is Your Business Subject to Hazardous Waste Regulations?

To determine if your business is subject to hazardous waste handling requirements, you need to answer two questions: does your business generate hazardous waste, and if so, how much?

1) Does your business generate hazardous waste?

A hazardous waste is a solid, liquid or contained gas that could pose dangers to human health, property or the environment. A waste is considered hazardous if it:

- is ignitable (flammable), corrosive (acids and bases), reactive (explosives, unstable chemicals), toxic (poisonous) or persistent (relatively non-biodegradable, often containing chlorine compounds); or
- is listed on the state's "dangerous waste" list, published by the Department of Ecology .

Check the "Material Safety Data Sheets" (MSDS) for your products to learn if they contain any of these hazardous characteristics or meet these criteria. Note that



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“Convenient disposal to floor drains today can lead to expensive clean-up costs later when you try to sell or refinance your property.”

Floor Drains

The Problem

Many types of businesses use floor drains as an easy way to dispose of floor cleaning or other wastes. What many business owners don't realize is that putting wastes down floor drains may violate the Thurston County Nonpoint Source Pollution Ordinance, and several other federal and state laws.

Many floor drains send untreated wastes directly to storm drains, septic systems, dry wells, pits or ditches. When wastes enter these types of drains, they pass through soil and may enter ground water, or may enter streams or lakes directly -- *they do not necessarily go to a sewage treatment plant.* And even a treatment plant cannot effectively handle many types of wastes.

When commercial property is sold or refinanced, finance companies often require an environmental site assessment that evaluates whether property is contaminated. Convenient disposal to floor drains today can lead to expensive clean-up costs later when you try to sell or refinance your property. Irresponsible disposal can also lead to contaminated drinking water that may affect your community and your family.

What You Can Do

Find out where your floor drains go. Consider each drain separately. Call your city or county public works department or local sewer utility and ask for help in identifying where your drains lead. If your business was built before 1970, or is located in a rural area, your floor drains most likely do not lead to a sanitary sewer.

If your floor drain is already connected to a sanitary sewer, you still need to meet local sewer discharge limits. All discharges to a sewer system are authorized by the LOTT Wastewater Treatment Facility. LOTT may be reached at 753-8386.

If your floor drain is not connected to a sanitary sewer, contact the Thurston County Business Pollution Prevention Program for help in determining if you have a pollution problem from this floor drain. Two options to consider for non-connected floor drains:

1. Connect the floor drain to a sanitary sewer and meet sewer discharge limits, or
2. Seal the floor drain and change your current disposal practices.



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“Labeling hazardous waste containers is simple to do, reduces liability, and can save you money.”

Labeling Hazardous Waste Storage Containers

The Problem

Nobody likes to come upon an unmarked drum -- not your employees, the fire department, emergency response personnel, your insurance company, or even customers. Some common labeling errors include: unlabeled or mislabeled containers, unreadable or damaged labels, missing information, many different labels on one container and labels that are hard to locate on the container. Hazardous waste vendors who pick up your waste may require specific information on labels. If you transport waste yourself, the Department of Transportation has very specific labeling requirements for transporting even small amounts of hazardous waste.

What You Can Do

Labeling hazardous waste containers is simple to do, reduces liability and can save you money. Labels on hazardous waste storage containers can:

1. Prevent spills, accidents, sloppiness and wasteful use of a chemical product.
2. Alert employees to special disposal requirements.
3. Prevent unintentional (and unwanted) mixing of different wastes.
4. Eliminate costly laboratory testing of unknown materials.

Pre-printed labels can be purchased from safety equipment supply stores. They can be computer-generated or even handwritten. In general, it's a good idea to label containers with:

1. The words "hazardous waste."
2. A description of the waste in practical terms (such as "used antifreeze," "dirty gun cleaner," "paint waste").



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Oil/Water Separator Fact Sheet

*“ Because
degreasers,
detergents and
solvents can
render an oil/
water separator
ineffective by
emulsifying
oils, it's best to
prevent them
from entering a
separator in the
first place. Hot
water or steam
is the best
cleaning
alternative...”*

Standard oil/water separators are large-capacity, underground cement vaults installed between a drain and the connecting sewer or storm water pipe. These vaults are designed with baffles to trap sediments and retain floating oils. The large capacity of the vaults slows down the waste water, allowing oil to float to the surface and solid material (sludge) to settle out. There are two main types of oil/water separators: the gravity-drained oil/water separator (Figure 1 on insert page) and the coalescing plate separator (Figure 2 on insert page). Each type of separator is designed to allow the trapped oil and sludge to be removed and properly disposed of, while allowing water containing relatively low concentrations of oil to pass through.

THE PROBLEM

When washed into an oil/water separator, **antifreeze, degreasers and detergents** will emulsify (break up) oil trapped by a separator into small droplets which allows the oil to mix with the water passing out of the system. **Fuels, alcohols or solvents** not only can emulsify oil, but their vapors may build up and pose a threat to pump station or treatment plant workers. **Concentrated amounts of oily products** can overload the baffles or plates and pass through to the sewer or to water bodies if they are connected to a storm drain. Floating oils that are not skimmed from the surface of the separator will eventually become emulsified and appear to have a lighter color. Any use of emulsifiers, such as those listed above, especially in excessive amounts, could result in a violation of the Lacey, Olympia, Tumwater, Thurston County (LOTT) Wastewater Treatment Plant fat, oil and grease limit of 50 parts per million.

Because degreasers, detergents and solvents can render an oil/water separator ineffective by emulsifying oils, it is best to prevent them from entering a separator in the first place. **Hot water or steam is the best cleaning alternative**, followed by mild caustic-based cleaners such as sodium metasilicate. If you must use detergent, use less of it. **Use drip pans** to keep antifreeze, fuels, large amounts of oily products and other contaminants out of the separator.



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“Liquid hazardous materials such as petroleum products, antifreeze, and solvents can present a threat to soil, ground water and surface water if accidentally spilled or leaked.”

Secondary Containment

The Problem

Liquid hazardous materials such as petroleum products, antifreeze, and solvents can present a threat to soil, ground water and surface water if accidentally spilled or leaked. These substances must be stored so that if a spill or leak does occur the material remains contained and does not contaminate the environment. A solution to the problem is to use secondary containment when storing hazardous liquids.

The Regulatory Requirements

The Thurston County Nonpoint Source Pollution Ordinance (in Article VI of the Sanitary Code), in effect since May 9, 1993, requires that hazardous waste, including petroleum products, be stored so that if a container leaks or ruptures the contents will not contaminate ground or surface water. The best way to ensure this is to provide secondary containment for all containers of liquid hazardous products and wastes.

The Thurston County Critical Areas Ordinance Chapter 17.15.520 C(2) also requires businesses that are located in aquifer recharge areas to provide secondary containment for hazardous materials that are stored on-site.

What is Secondary Containment?

- Secondary containment is a liquid-tight barrier that will adequately contain hazardous materials that are released from a storage container. A simple example of secondary containment is placement of a 5-gallon drum (primary containment) inside a 55-gallon drum (secondary containment). Another example is placement of 55-gallon drums or a large fuel tank (primary containment) inside a liquid-tight concrete bunker (secondary containment). The outer wall of a double-walled fuel storage tank is also an example of secondary containment.
- The size and design of a secondary containment unit or device is dependent on the type and amount of material that it holds.

The Options

Four secondary containment method options will satisfy Thurston County regulatory requirements. Liquid hazardous materials, including petroleum products, can be:

1. Stored indoors on a liquid-tight concrete floor without secondary containment if the storage area is able to contain 100 percent of the largest container in the event of a spill and prevent it from flowing or leaking out of the building. Also, spilled or leaked materials must be prevented from entering floor drains that are not part of a liquid-tight containment system designed to capture and hold hazardous materials.



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“Short-term exposure to many solvents can affect the brain and nervous system; long-term exposure can cause permanent physical damage.”

Solvents and Parts Cleaners

The Problem

Most waste organic solvents are hazardous because they are flammable or can cause harm if they are inhaled, ingested or absorbed through the skin. Short-term exposure to many solvents can affect the brain and nervous system; long-term exposure can cause permanent physical damage. Many solvents contribute to smog formation when they evaporate into the air. Certain solvents, especially chlorofluorocarbons (CFCs) and some chlorinated solvents, are destructive to the ozone layer. Solvents discharged into surface water can harm aquatic organisms, and solvents poured on the ground or in septic tanks can easily pollute ground water, ruining its use as drinking water. In Thurston County, solvents have contaminated a number of large municipal wells and small private wells.

Water-based parts cleaning solutions can also be hazardous because the detergent is often very caustic. These solutions usually pick up metals, oils and dirt during the cleaning process that can make them even more hazardous. These wastes can also cause harm if they are discharged into the sanitary sewer or a septic tank, put down a storm drain, dumped on the ground, or poured directly into a lake, stream or Puget Sound.

The Regulatory Requirements

The Thurston County Nonpoint Source Pollution Ordinance, which went into effect May 9, 1993, requires that hazardous waste be disposed of either by recycling or through a permitted hazardous waste management facility. This applies to waste solvents. Disposal of waste solvents in the garbage, down the drain, on the ground, or by mixing with used oil is prohibited. Only small quantity hazardous waste generators (SQGs) are subject to the requirements of this ordinance. SQGs are businesses that generate less than 220 pounds of hazardous waste per month.

Businesses generating more than 220 pounds of hazardous waste per month are called regulated generators and must comply with the Washington State Dangerous Waste Regulations, WAC 173-303. The Washington Department of Ecology administers these regulations. SQGs are exempt from these regulations only if they manage all of their hazardous wastes properly.



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“During one year, enough oil from used filters accumulates in the Thurston County landfill to fill more than one hundred 55-gallon drums.”

Used Oil Filters

The Problem

Close to a half-million used oil filters are generated by commercial and residential sources in Thurston County each year from the routine maintenance of motor vehicles and equipment. A used oil filter, even after it has been drained for 24 hours, can still contain more than one-quarter cup of oil. Many of these filters are disposed of in the Thurston County landfill, although they could be recycled. During one year, enough oil from these filters accumulates to fill more than one hundred 55-gallon drums.

Rain water can pick up this oil as it passes through the landfill. The resulting liquid, called leachate, collects at the bottom of the lined landfill. Leachate is pumped out, partially treated, and then sent to the LOTT wastewater treatment plant located on Budd Inlet for more treatment.

The presence of this oil in the landfill can increase the cost and difficulty of treating leachate before it is discharged to LOTT. Some of it vaporizes during treatment, thus increasing air pollution. Also, if the landfill liner develops a leak, leachate can pollute underlying ground water, which is a local source of drinking water. Disposing of uncrushed used oil filters containing oil in the landfill also wastes two valuable resources, oil and steel, that could otherwise be recycled.

The Regulatory Requirements

Used oil that is properly recycled or disposed of at a permitted hazardous waste management facility is not included in the 220-pound per month threshold for hazardous waste generators established by state and county regulations. Businesses that generate more than 220 pounds of hazardous waste per month are regulated by the Washington State Department of Ecology under WAC 173-303. Businesses that generate less than this amount are regulated by the Thurston County Health Department under the Nonpoint Source Pollution Ordinance (Article VI of the Sanitary Code), which went into effect on May 9, 1993.

Currently, the state allows for used oil filters to be drained for at least 24 hours and then disposed of in a municipal landfill. Because of limited space at the Hawks Prairie Landfill and the potential to contaminate leachate, the county allows up to only one 55-gallon drum of crushed or uncrushed used oil filters to be disposed of at the landfill per business per year. This allowance is made under the Solid Waste Handling Ordinance, Article V of the Sanitary Code.



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“Store waste in a container made of the same type of material (plastic, metal or glass) as the product came in.”

Storing Hazardous Waste

The Problem

As a business owner, you are responsible for the proper storage and disposal of all hazardous waste that you generate. Businesses that use hazardous materials or produce hazardous waste should also be aware of local fire codes that apply to storage. This fact sheet provides small quantity generators with basic information about hazardous waste containment.

Accumulation Areas

An *accumulation area* is space set aside for storing hazardous waste prior to proper disposal or on-site recycling. In your accumulation area, it is best to:

1. Restrict access to only those employees who regularly dispose of waste and are trained in health and safety issues and waste management regulations.
2. Place waste containers away from frequently traveled areas such as walkways, parking areas or customer reception areas.
3. Mark the area with a sign that reads "Hazardous Waste Accumulation Area."
4. Keep a spill kit nearby. Have appropriate absorbents and neutralizing materials on hand and a plan for how to use them.

A *satellite accumulation area* is where small amounts of hazardous waste are temporarily stored near the place where they are generated. Satellite accumulation areas should be kept as small as possible, and wastes should be transferred into the appropriate containers in the accumulation area regularly and frequently.

Storage Containers

Containers used to hold hazardous wastes should:

1. Be as small as possible and have a tight-fitting lid.
2. Be checked for rust, bulges, dents or leaks. Isolate defective containers in a storage area with secondary containment or simply place inside a larger non-leaking container - or transfer the waste to a labeled non-defective container.



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Appendix L

Summary of the Customer Survey Form

Customer Survey Form

Small Engine Technical Assistance

1. Did the visit(s) provide you with helpful information on the proper management and reduction of hazardous products and waste?

Yes = 10 Somewhat = 2 No = 0

2. As a result of the visit, did you learn why the Health Department conducts these campaigns?

Yes = 10 Somewhat = 1 No = 1

3. Did the visit provide you with helpful information on how to protect Public Health and the environment?

Yes = 10 Somewhat = 2 No = 0

4. Did the visit assist you in making changes in your hazardous materials management practices?

Yes = 7 No = 0 No changes needed = 5

5. Were the specialists knowledgeable?

Yes = 11 Somewhat = 1 No = 0

6. Were the specialists willing to help you solve your specific problems?

Yes = 10 No = 1 No problems to address = 1

7. How informative were the fact sheets/materials you received during the visit?

Very = 4 Somewhat = 7 None received = 0

8. As an owner/employee of a small business, what concerns you most about proper hazardous waste management?

PLEASE RANK THEM

(1-Greatest Concern, 6-Least Concern)

raw score (sum of individual rankings)

<u>#3</u>	Disposal costs	(32)
<u>#4</u>	Time required for proper management	(41)
<u>#2</u>	Worker safety and potential liability	(31)
<u>#5</u>	Knowing where to get information	(42)
<u>#1</u>	Understanding regulations	(29)
<u>#6</u>	Equity among business competitors	(52)
___	Other _____ (zero responses)	

9. What was your primary incentive for participating in the technical assistance visit?

PLEASE RANK THEM

(1-Greatest Concern, 5-Least Concern)

<u>#2</u>	Concern for protection of environment	(24)
<u>#4</u>	Avoid enforcement	(41)
<u>#1</u>	Avoid spills of hazardous materials	(22)
<u>#5</u>	Knowing where to get information	(44)
<u>#3</u>	Health and safety concerns	(30)
___	Other _____ (zero responses)	

10. If the County provided the following services, PLEASE RANK THEM in the order in which you would use them (1- Most Useful, 6-Least Useful)

<u>#2</u>	Information Hotline	(29)
<u>#1</u>	Hazardous waste recycling/disposal site	(18)
<u>#6</u>	Public recognition (newspaper)	(51)
<u>#4</u>	Workshops and training	(46)

#3	News bulletins or newsletters	(39)
#5	Trade show information	(50)
	Other _____ (zero responses)	

11. Where do you get your information on hazardous materials management?

_____ Please see the text on page 12

12. Would you be interested in attending periodic meetings with other business owners to learn about Public Health and the environment as it relates to your business?

Yes = 2 Somewhat = 7 No = 3

13. How would you prefer to receive information on hazardous waste services, pollution prevention, changes in regulations, etc.? PLEASE RANK THEM

(1-Highest, 5-Lowest)

#2	Quarterly newsletter	(24)
#1	Topic-specific fact sheets	(21)
#3	Letters about events and information	(37)
#4	Newspaper articles	(45)
#5	Trade show advertisements	(54)
	Other _____ (zero responses)	

14. Please share any other comments you may have about the Small Engine Technical Assistance Campaign, or offer suggestions for improvement.

_____ Please see the text on page

12. _____

Thank You Very Much

For completing this Evaluation Form.

The information you have provided helps us evaluate our efforts and guides us in improving our services.

Revised 6/01