

Evaluation of the Impact of Education and Outreach on Mobile Interior Cleaning Businesses in the Kelso-Longview-Cowlitz County, Washington Region

A project to satisfy provisions of the State of Washington Water Pollution Control Law Chapter 90.48 Revised Code of Washington and the Federal Water Pollution Control Act (The Clean Water Act), Title 33 United States Code, Section 1251 et seq.

Participants

City of Kelso
City of Longview
Cowlitz County

Overview

The current Western Washington Phase II Municipal Stormwater Permit (Permit) requires regulated local governments to develop and implement an education and outreach program designed to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.

As a minimum performance measure of this program, permittees are required to evaluate the effectiveness of their efforts for a specific audience (Section S5.C.1.c):

Each Permittee shall measure the understanding and adoption of the targeted behaviors for at least one target audience in at least one subject area. No later than February 2, 2016, Permittees shall use the resulting measurements to direct education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors. Permittees may meet this requirement individually or as a member of a regional group.

The City of Kelso, the City of Longview and Cowlitz County (Participants) determined that it was beneficial and more effective to satisfy this requirement as a regional group with a collaborative research project. The two cities and the MS4-coverage area of the County form a contiguous area and single market, comprising the majority of the population within greater Cowlitz County. The project was implemented from October 2015 into February 2016 and satisfies this Permit requirement.

Target Audience/Subject Area

The Participants evaluated several potential target audiences and subject areas. They chose mobile interior cleaning businesses as the target audience and the subject area as being the business' best management practices (BMPs) for their equipment, cleaning practices and wastewater handling and disposal.

These businesses are based in Cowlitz County and serve both residential and commercial/industrial/institutional customers. They offer one or more of the following services:

- Carpet Cleaning
- Upholstery Cleaning
- Interior Wall and Floor Washing
- Window Washing

Wastewater from these activities commonly contains detergents, chemicals, dirt and other debris, and must be discharged onsite into a sink, toilet, or other drain connected to a sanitary sewer system (not a septic system), or hauled off-site and disposed of properly. Improper disposal of wastewater, as well as leaks and spills outdoors, can result in illicit discharges to the MS4 and impairment of receiving waters.

Methodology

The project involved a three phase effort:

- 1) A confidential initial survey (by phone or in-person) of each business to gauge both their general awareness of the stormwater issues as well as best management practices for their industry;
- 2) The development and dissemination of educational materials to those businesses that responded to the initial survey; and
- 3) A confidential follow-up survey to measure and evaluate changes in awareness and the adoption of the targeted behaviors.

The initial survey questionnaire (see Appendix 1) included 14 questions. Six of the questions (Q1, Q2, Q3, Q4, Q6 and Q7) were intended to assess the awareness of the business owner/operator and their general knowledge of the stormwater system and the potential for water quality impairments due to polluted runoff. The remaining eight questions (Q5, Q8, Q9, Q10, Q11, Q12, Q13 and Q14) were focused on the behavior and practices in place at each business operation.

The Participants researched and evaluated a number of education and outreach resources for mobile interior cleaning businesses. They decided to provide the survey respondents with an educational packet (see Appendix 2) that included a cover letter, the Washington Department of Ecology's educational flyer on *Good Business Practices & Wastewater Disposal* (Ecology publication #11-01-004), and a new collateral piece on *Best Practices for Carpet and Interior Cleaning Activities* developed for the project.

The follow-up survey questionnaire (see Appendix 1) included 13 questions, 11 of which were repeated from the initial survey (Q2-Q10 and Q12-13) with two new behavior-based questions (Q15 and Q16).

Implementation

A total of 24 mobile interior cleaning businesses were identified within the Kelso-Longview area. The businesses were divided among the three Participants to conduct the initial surveys. After extensive efforts, initial surveys were completed for 11 of the 24 businesses. The Participants then provided a cover letter and education materials to those businesses that completed the initial survey. The follow-up survey was then undertaken after these businesses had an opportunity to review the materials provided. A total of seven businesses completed the follow-up survey.

Results and Analysis

Detailed information and tabulation of the responses to the initial and follow-up surveys are found in Appendix 3 – Initial and Follow-up Survey Results

Question 1: What is your overall impression of the water quality in our local waterways? [open ended]

This open-ended question (provided only on the initial survey) solicited a wide-range of responses varying from “fine” to “fair” to “bad/dirty.” There is obviously a disparity in perceptions of local water quality which also varied in some cases on the particular water body.

Question 2: Pollution in rivers, streams, wetlands and lakes is more due to industrial facilities than to individuals. [AGREE / DISAGREE]

In the initial survey, 73% agreed with this statement. In the follow-up survey 71% continued to believe that pollution was more due to industrial discharges than to individuals and non-point source pollution. Given the industrial nature of the Kelso/Longview area this is somewhat to be expected, however it points to the need for more general education on the topic of stormwater and nonpoint source pollution, as well as the collective role of individual actions on water quality.

Question 3: Where does water entering the storm drains on the street go? [open ended]

This question was answered correctly in a number of ways with responses that included “river,” “creeks,” “drainage ditches,” and “storm drainage system.” Only one business on the initial survey incorrectly stated that water in storm drains goes to a treatment plant. On the follow-up survey, there was one response of “facility-treated,” though it is unclear whether this was meant to specify wastewater treatment or treatment by a stormwater BMP facility.

Question 4: Is water that enters storm drains on the street treated before being discharged to the environment? [YES / NO]

91% of the initial survey respondents correctly answered that stormwater is untreated before being discharged. This number dropped to 57% in the follow-up survey showing some confusion over this topic. As with question #2, this indicated that future educational efforts should include the general message that stormwater is typically untreated before reaching the environment.

Question 5: Do you use water-based, biodegradable and low-phosphate products? [YES / NO]

In both the initial and follow-up survey, all respondents indicated that their businesses use biodegradable and low-phosphate cleaning products.

Question 6: Non-toxic, biodegradable soaps do not pollute stormwater runoff. [AGREE / DISAGREE]

In the initial survey, 55% of businesses said they agreed with this statement. In the follow-up survey only 29% made the statement showing a measurable change in awareness as a result of the educational materials provided to the businesses for this project.

Question 7: Cleaning rinsewater, having little soap or dirt, can be safely poured down a stormwater drain. [AGREE / DISAGREE]

36% of the businesses agreed with this statement when asked in the initial survey. None of the respondents did so in the follow-up survey, again showing a significant change in awareness as a result of the educational materials provided.

Question 8: Where do you dispose your cleaning wastewater? [open ended]

The response to this question was typically some variation of sanitary sewer via a toilet, sanitary drain, or cleanout. One respondent on the initial survey indicated they dispose “outside or down a sanitary drain.” There appeared to be some confusion in the responses as the most proper mechanism for sanitary sewer disposal (on-site vs. business location) and options for customers on septic systems. This is a topic for the Participants, in conjunction with the Three Rivers Regional Wastewater Authority (TRRWA), to further develop appropriate disposal guidance and provide this information to the mobile cleaner businesses in the area.

Question 9: Do you handle or store detergents and chemicals in a covered or contained area where any spills will not occur outdoors? [YES / NO]

In the initial survey, 73% of businesses stated that they handled and stored cleaning detergents and chemicals in a covered or contained area. In the follow-up survey, this value rose to 100% of the respondents. This may show a measurable change in behavior as a result of the educational materials provided to the businesses for this project.

Question 10: Do you follow the manufacturer's instructions and not use more detergents or chemicals than recommended? [YES / NO]

91% of respondents initially said they follow the manufacturer’s instructions on cleaning detergents and chemicals. All of those businesses on the follow-up survey indicated that they do, which again may show a measurable change in behavior as a result of the educational materials provided.

Question 11: How often is your equipment serviced to prevent leaks? [DAILY / WEEKLY / MONTHLY / ANNUALLY]

This question, which was only asked on the initial survey, shows that there is a wide variety in how often equipment is serviced by the businesses that participated.

Question 12: Do all the company's cleaning vehicles have a spill kit? [YES / NO]

In the initial survey, 64% of businesses stated that they had a spill kit in all of the company's vehicles. In the follow-up survey, this value rose to 71%. This may show a measurable change in behavior as a result of the educational materials provided to the businesses for this project.

Question 13: For which best management practices are employees trained?

The figure below shows the responses for both the initial and follow-up surveys for each of the options provided on this question.

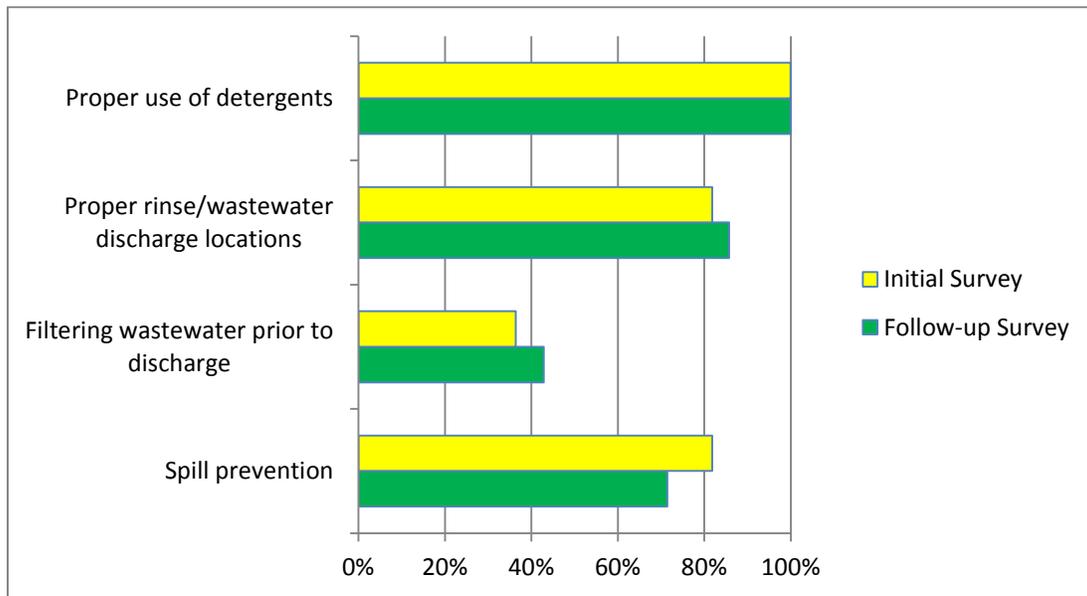


Figure 1. Best Management Practices for Which Employees are Trained

Question 14: How often are employees trained?

This question (asked on the initial survey only) indicated a wide variety in the training frequency provided to employees at the various businesses that took part in the survey project.

Question 15: Do you filter all rinse and wastewater for solids such as carpet fibers, prior to disposal?
[YES / NO]

This question (asked on the follow-up survey only) shows that the majority of businesses filter wastewater for solids prior to disposal. This is an area where additional focus on the importance of filtering rinse and wastewaters may provide additional behavior change.

Question 16: Do you check with your clients to see if the work location has a septic system or is connected to the local sanitary sewer system? [YES / NO]

This question (asked on the follow-up survey only) shows only 43% of business check to see whether or not their clients have a septic system or are connected to the local sanitary sewer system. However, several businesses indicated that they do not check with their clients as their standard practice is off-site disposal. This is an area where additional guidance on proper disposal options could be provided to these businesses.

Summary and Conclusions

Seven out of twenty-four businesses completed both initial and follow-up surveys which equates to a participation rate of approximately 30%. The Participants feel this is a significant number of respondents for a survey and project of this nature. The survey results provide meaningful information that will inform future stormwater educational efforts by the Participants in the greater Longview/Kelso area.

There was measureable change in the awareness and behavior among the respondents on several issues. However, the majority of respondents still believe that pollution is more due to industrial facilities than individuals, and there is still confusion regarding whether or not stormwater is treated.

Additional educational efforts surrounding several topics and areas could potentially provide more progress in driving mobile cleaner businesses to employ best management practices. Future educational materials for mobile cleaners should be enhanced to provide the following:

- General information about the nature of stormwater pollution
- Repetition on best management practices for mobile cleaners
- Specific information on the importance of filtering wastewater

As the results of Questions 8 and 16 indicate, the Participants will also need to further develop policy and guidance on appropriate disposal options and provide this to mobile cleaning businesses.

APPENDIX 1 – Initial and Follow-Up Questionnaires

**MOBILE INDOOR CLEANING BUSINESS STORMWATER
INITIAL QUESTIONNAIRE**

“Hello, my name is _____ and I’m here (or calling) on behalf of the Cities of Kelso and Longview, and Cowlitz County. We are asking businesses to provide input on several environmental issues and would like to include your opinion. We will be following up our survey with some educational materials and may ask you to respond to a follow-up survey.

We would like to speak to the individual in your business that is responsible for and/or most knowledgeable about how your business deals with environmental and stormwater-related issues.”
(or alternatively the Owner / Manager)

- *Would that be you?*
- *May I speak to this individual?*

REPEAT INTRODUCTION WHEN SPEAKING TO THE CORRECT INDIVIDUAL

“Your replies to this survey are strictly confidential and will not be associated with either your name or business”

QUESTIONS:

Q1. What is your overall impression of the water quality in our local waterways? [open ended]

Q2. Pollution in rivers, streams, wetlands and lakes is more due to industrial facilities than to individuals. AGREE / DISAGREE

Q3. Where does water entering the storm drains on the street go? [open ended]

Q4. **Is water that enters storm drains on the street treated before being discharged to the environment?** YES / NO

Q5. **Do you use water-based, biodegradable and low-phosphate products?** YES / NO

Q6. **Non-toxic, biodegradable soaps do not pollute stormwater runoff.** AGREE / DISAGREE

Q7. **Cleaning rinsewater, having little soap or dirt, can be safely poured down a stormwater drain.**
AGREE / DISAGREE

Q8. **Where do you dispose your cleaning wastewater?** [open ended]

Q9. **Do you handle or store detergents and chemicals in a covered or contained area where any spills will not occur outdoors?** YES / NO

Q10. **Do you follow the manufacturer's instructions and not use more detergents or chemicals than recommended?** YES / NO

Q11. **How often is your equipment serviced to prevent leaks?**

- A) Daily
- B) Weekly
- C) Monthly
- D) Annually

Q12. **Do all the company's cleaning vehicles have a spill kit?** YES / NO

Q13. **For which best management practices are employees trained?** [Circle/choose all that apply]

- A) Proper use of detergents/chemicals
- B) Proper rinse/wastewater discharge locations
- C) Filtering of wastewater prior to discharge
- D) Spill prevention

Q14. **How often are employees trained?**

- A) Once at start of employment
- B) Monthly
- C) Annually
- D) Other _____

**MOBILE INDOOR CLEANING BUSINESS STORMWATER
FOLLOW-UP QUESTIONNAIRE**

“Hello, my name is _____ and I’m here (or calling) on behalf of the Cities of Kelso and Longview, and Cowlitz County. We are following up our initial survey with some repeat and new questions.

“Your replies to this survey are strictly confidential and will not be associated with either your name or business”

QUESTIONS:

Q2. Pollution in rivers, streams, wetlands and lakes is more due to industrial facilities than to individuals. AGREE / DISAGREE

Q3. Where does water entering the storm drains on the street go? [open ended]

Q4. Is water that enters storm drains on the street treated before being discharged to the environment? YES / NO

Q5. Do you use water-based, biodegradable and low-phosphate products? YES / NO

Q6. Non-toxic, biodegradable soaps do not pollute stormwater runoff. AGREE / DISAGREE

Q7. Cleaning rinsewater, having little soap or dirt, can be safely poured down a stormwater drain. AGREE / DISAGREE

Q8. Where do you dispose your cleaning wastewater? [open ended]

Q9. Do you handle or store detergents and chemicals in a covered or contained area where any spills will not occur outdoors? YES / NO

Q10. Do you follow the manufacturer's instructions and not use more detergents or chemicals than recommended? YES / NO

Q12. Do all the company's cleaning vehicles have a spill kit? YES / NO

Q13. For which best management practices are employees trained? [Circle/choose all that apply]

- A) Proper use of detergents/chemicals
- B) Proper rinse/wastewater discharge locations
- C) Filtering of wastewater prior to discharge
- D) Spill prevention

Q15. Do you filter all rinse and wastewater for solids such as carpet fibers, prior to disposal? YES / NO

Q16. Do you check with your clients to see if the work location has a septic system or is connected to the local sanitary sewer system? YES / NO

APPENDIX 2 – Education Materials



[Business]

[Business Address]

[Longview/Kelso], WA XXXXX

January 25, 2016

Dear _____,

Cowlitz County and the Cities of Kelso and Longview would like to thank you for your recent participation in a survey of your knowledge and business practices in regards to the management of wastewater from your interior cleaning operations.

We are conducting these surveys as part of a requirement in our Municipal Stormwater Permits with the Washington Department of Ecology under the Clean Water Act. The goal of the permit requirement is to use the survey results to direct education and outreach resources most effectively, as well as to promote the adoption of best management practices to help protect water quality.

As we mentioned, these surveys are confidential and will not be used for any compliance or enforcement by the Cities or County.

We are including education materials on best management practices for your business. We encourage you to review these materials and train your staff and employees to follow these practices in their daily activities and operations.

Once you have had an opportunity to review these materials, we invite you to participate in a similar survey during the week of February 1 to measure the effectiveness of our outreach effort. Again, these surveys are voluntary and completely confidential.

Thank you for your time and willingness to participate in our educational effort on behalf of the community.

Best regards,

Cowlitz County, the City of Kelso and the City of Longview

Preventing stormwater pollution is good business

Good Business Practices for Carpet Cleaning & Wastewater Disposal



Why is wastewater from carpet cleaning operations a concern?

Wastewater from carpet cleaning may contain dirt, soap, oil, grease, solvents, and other toxic chemicals. These common pollutants can enter our waterways and harm the animals and plants that live there.

How and where you dispose of carpet cleaning wastewater matters. Imagine swimming in a stew of carpet cleaning wastewater – it's not a pretty picture. But this is exactly what can happen if your carpet cleaning waste enters a storm drain. Water that goes into storm drains or ditches is not treated and goes directly to our lakes, rivers, and creeks. Carpet cleaning businesses must implement appropriate best management practices (BMPs) to prevent these pollutants from entering storm drains or ditches.

Best management practices help protect the environment

How? It's Easy. Be smart! Plan ahead. You can take simple steps to complete carpet cleaning work without polluting the environment.

- ✳️ Make sure your equipment is well serviced and that all filters are operating properly. Maintain the tanks, hoses, and fittings to prevent wastewater leaks.
- ✳️ Where possible, invest in cleaning equipment and cleaning practices that minimize water use.
- ✳️ Train your operators and employees on appropriate carpet cleaning best management practices, as well as pollution prevention and wastewater discharge requirements.
- ✳️ Check with your clients when booking the job. Is this location on sewer or septic system?

*Did you know? Storm drains discharge directly to our lakes, creeks, and waterways **UNTREATED**. This is why it is dangerous and illegal to dispose of carpet cleaning wash water in the storm drain system. Wastewater contains toxic chemicals and can harm humans, sensitive habitats, and wildlife.*



Areas on a sewer system

Arrange with the client to allow you to discharge into the toilet or utility sink on the premises. If this is not possible, plan to transport the wastewater off-site and dispose of it properly at an authorized sewage discharge point.



Areas on Septic Systems

At a location with a septic system, plan to store wastewater and residues in a collection tank and transport them to an authorized sewage discharge point for proper disposal.

Identify the wastewater disposal option that will be used and ensure that you meet all the requirements to do so. Contact your local sewer authority for information about requirements.



Smart Carpet Cleaning Practices

✳️ **Assess the site:** Before starting the job, do a quick check of the location of stormwater drains and ensure that they are protected from any runoff or spills.

✳️ **Vacuum before cleaning:** This minimizes the amount of debris in the wastewater.

✳️ **Follow instructions:** Always use the recommended type and quantity of chemicals (including water-based, biodegradable, and low-phosphate products, where available) according to the manufacturer's instructions. Remember, just because a product is biodegradable doesn't mean it can be discharged to a storm drain. Store and handle detergents and chemicals in a contained area where any spills will not enter the storm drain.

✳️ **Filter all wastewater** before discharging into the sewer system, since fibers and other debris in the wastewater can clog pipes. The filtered materials may be disposed of in the garbage, unless the waste is contaminated. Waste contaminated with hazardous pollutants must comply with hazardous materials disposal requirements. If you have any questions about finding out if wastes are hazardous and how they should be disposed of, contact a hazardous waste specialist at your nearest Ecology office. See the contact list at: <http://www.ecy.wa.gov/reportenviropblem.html#lookup>.

✳️ **Dispose of wastewater properly.**

Did you know?

You should never dispose of carpet cleaning wastewater into a septic system.

The chemicals may cause the system to fail and contaminate groundwater and drinking water.



Is your business part of the problem or part of the solution?

Knowing your role can help protect Washington waters, save you money in fines, and also prevent negative publicity about your business. All businesses have a role in keeping our lakes, rivers, marine and ground waters clean. Our health and economy depend on it. Your business can be a pollution solution!

Contact information:

Justine Asohmbom,
Puget Sound
Education Coordinator
425-649-7108
juas461@ecy.wa.gov

Special accommodations:

To ask about the availability of this document in a format for the visually impaired, call the Communications and Education Program at 360-407-7472. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Remember:
Only rain down the drain.

STORMWATER Pollution Prevention

Best Practices for Carpet and Interior Cleaning Activities

Wastewater from interior cleaning activities (including carpet, upholstery, floor and window cleaning) commonly contains detergents, chemicals, dirt and other debris. This wastewater should never be disposed anywhere that could lead to the stormwater drainage system and into our waterways, where these pollutants are very harmful to water quality and aquatic life.

Follow the tips below to do your part
and be a solution to water pollution!



☑ Minimize Pollutants

Always use the least toxic detergents and cleaning agents. Minimize the amount of water used to reduce the amount of wastewater.

☑ Dispose of Wastewater Properly

Wastewater from cleaning equipment must be discharged into a sink, toilet, or other drain connected to the sanitary sewer system, or hauled off-site and disposed of properly. Wastewater should never be discharged into the street, gutter, parking lot, storm drain or drainage ditch.

☑ Filter Wastewater Before Disposing

Carpet cleaning wastewater should be filtered before discharging it to the sanitary sewer since fibers and other debris in the wastewater can clog pipes. The filtered material can be disposed of in the garbage, provided that the waste is not contaminated with hazardous pollutants.

☑ Maintain Equipment

Maintain cleaning equipment (tanks, hoses and fittings) to prevent wastewater leaks. Check equipment daily for leaks and loose fittings and make repairs immediately.

APPENDIX 3 – Initial and Follow-Up Survey Results

INITIAL SURVEY RESPONSES

Question	Company 1	Company 2	Company 3	Company 4	Company 5	Company 6	Company 7	Company 8	Company 9	Company 10	Company 11
1	Things are fine	Not as good as it used to be. Mt. St. Helens Ash	Kalama River is good; the larger the river, the worse the quality. Columbia River is bad.	Fair. Lacking intellect in beneficial consumption.	Not Bad	Fair, no odor, no dead cats.	Fair	Fine, clean	ok	Poor	Dirty, Can Never see in the Cowlitz, Ditches Nasty, Columbia better but still dirty.
2	Agree	Agree	Agree	Agree	Disagree	Agree	Agree	Disagree	Disagree	Agree	Agree
3	Down to the river	Into the river (not through treatment)	Rivers	Rivers	Rivers	River	Drainage ditches and river.	Storm drainage system	Diking Ditches	Creeks/Rivers	Treatment Plant
4	No	No	No (untreated)	No	Don't know, should be though	No; don't know, assume some level.	No	No	No	No	Yes
5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	Agree	Disagree, it pollutes	Agree	Disagree	Didn't agree or disagree, stated it helps.	Agree	Disagree	Agree	Agree	Disagree	Agree
7	Agree	Disagree	Disagree	Disagree	Agree; probalbly.	Disagree	Disagree	Agree	Disagree	Disagree	Agree
8	Outside or down sanitary drain	Dumps into toilet; doesn't have much wastewater	Toilets	Dump sites. Mainly sanitary sewer using a hose down the toilet.	Used to use RV dump site on Oregon Way and was told not to by City personel; would like to know for sure on this. Currently uses his sanitary sewer cleanout which is a 4" line, however doesn't know for sure if this is okay or not; has confusion.	Sanitary Sewer	Sanitary Sewer	Sanitary		Sanitary Cleanout	Usually in Sanitary Drain in shop when not in toilet. Can't drain to toilet when its on septic and over half his customers are on septic.
9	No	Yes	No	Yes	Yes	Yes	Yes; indoor	Yes	No; Not all	Yes	Yes
10	Not necessarily	Yes	Yes	Yes	Yes	Yes, training	Yes	Yes	Yes	Yes	Yes
11	Repair as needed	Weekly to monthly; repairs as needed	Vans are serviced every 5000 miles	Daily	Annually	Weekly (weighted)	Tough question, only water can leak; chemicals are injected.	Monthly	Monthly	Annually	Weekly
12	No	Yes	Answered "No" to be safe: (hasn't checked in awhile)	Yes	Might	Have kits for specifics (gasoline); cleaning products are cleaned with water.	Yes	Yes	No	Yes	Yes
13	A) Y; B) N; C) N; D) N	A) Y; B) Y; C) Y; D) Y	A) Y; B) Y; C) N; D) Y	A, B, C, D	A, B	A, B, C, D	A, B, D (C- properly dispose)	A, B, C(some), D	A,B,D	A, D	A, B, D
14	D) Train with change in procedures	Yearly (low turnover so not much training)	A & B	B, Anytime when having new knowledge.	Myself; no employees.	A, D (biannually)	D (weekly at safety meetings)	A	C	A	B

FOLLOW-UP SURVEY RESPONSES

Question	Company 1	Company 2	Company 3	Company 4	Company 5	Company 6	Company 7
2	Agree ("industrial")	Agree	Disagree	Agree	Agree	Disagree	Agree
3	Into the river	Into the rivers, lakes, wetlands	Rivers	Facility treated	River	Rivers	Creeks and Ground
4	No	No	Yes	Yes	Yes	No	No
5	Yes, no phosphate	Yes	Yes	Yes	Yes	Yes	Yes
6	Disagree, false	Agree	Agree	Disagree	Disagree	Disagree	Disagree
7	Disagree, no	Disagree	Disagree	Disagree	Disagree	Disagree	Disagree
8	Toilet, where there is a sewer system	In the sewer system, toilets	Sanitary sewer line (cleanout) at mobile cleaners home.	Sanitary sewer (All comes back to facility, into a tank, hose is filtered for debris, and disposed via cleanout.	Dump site off of 15th Ave. (RV dump) which is sanitary sewer.	Sanitary sewer cleanout @ Shop	Sanitary Sewer
9	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	Yes	No, will check	No	Yes	Yes	Yes	Yes
13	A, B, C, D	A, B	A,C,D	A,B,D	A,B,D	A,B,C,D	A,B
15	Yes	No	Yes	Yes	Yes	No	No
16	Yes	No. She thinks all in Longview and Kelso are on sewer.	No, dump at own house.	No (dispose offsite at facility sanitary sewer cleanout)	No, offsite disposal.	Yes	Yes

SURVEY RESULTS AND ANALYSIS

Follow-up Survey Results

Number of respondents =

7

Question	Yes -or- Agree	No -or- Disagree	No Response	Percent Yes or Agree	Initial Percentage	Interpretation
2	5	2		71%	73%	Majority still believe that pollution is more due to industrial facilities than individuals <i>--need to provide more general information about nature of stormwater pollution</i>
4	3	4		43%	9%	Some now believe that water that enters storm drains is treated before being discharged <i>--need to provide more general information about nature of stormwater pollution</i>
5	7	0		100%	100%	All use biodegradable, low-phosphate cleaning products <i>--no change</i>
6	2	5		29%	55%	Majority now believe that non-toxic, biodegradable soaps do pollute stormwater runoff <i>-- educational materials resulted in a measureable change in awareness</i>
7	0	7		0%	36%	All now disagree that rinsewater can be safely poured down a stormwater drain <i>-- educational materials resulted in a measureable change in awareness</i>
9	7	0		100%	73%	All now store detergents and chemicals in a covered area <i>-- educational materials resulted a measureable change in behavior</i>
10	7	0		100%	91%	All now follow manufacturer's instructions on use of detergents <i>-- educational materials resulted a measureable change in behavior</i>
12	5	2		71%	64%	Larger majority have spill kits <i>-- educational materials resulted a measureable change in behavior</i>
15	4	3		57%	n/a	Majority filter wastewater for solids prior to disposal <i>-- provide additional materials on the importance of filtering wastewater</i>
16	3	4		43%	n/a	Majority do not check with clients to determine septic or sewer connection <i>-- provide additional guidance on how to determine if septic/sewer</i>

Multiple Choice Questions:

Question	Response or Yes (#13)	No (#13)	Follow-up Survey	Initial Survey	Question Choices
13-d	5	2	71%	82%	<i>Spill prevention</i>
13-c	3	4	43%	36%	<i>Filtering wastewater prior to discharge</i>
13-b	6	1	86%	82%	<i>Proper rinse/wastewater discharge locations</i>
13-a	7	0	100%	100%	<i>Proper use of detergents</i>