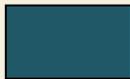
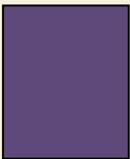


Stormwater Business Education Template: **Pilot Campaign Evaluation Report**



**Prepared for Kitsap County Public Works
Surface & Stormwater Management
Program and Project Partners**

**Funded by Washington Department of Ecology
Grant Number G1000479**

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June 2011

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1. Project Overview

Introduction

The Stormwater Business Education Template is one of 15 projects funded by the Washington Department of Ecology under the grant program, Municipal Stormwater Grants of Regional or Statewide Significance. The goal of this project was to develop and test the effectiveness of education activities targeted at commercial businesses to raise stormwater awareness and provide simple behavior changes to improve water quality. The final product was intended to be a template that can be customized for use by all jurisdictions within Washington State.

Kitsap County was the lead agency on this project. The project partners represented jurisdictions from eastern Washington (Asotin County), and western Washington Puget Sound (Kitsap County, King County, City of Everett) and non-Puget Sound (City of Vancouver). Their perspectives on how business activities impact stormwater helped guide the template design.

This Pilot Campaign Evaluation Report is one of the final steps taken to reach our goal. This report documents the results of a survey of businesses that received a wall poster as the template product compared to a control group that did not receive the poster.

Background

Conducting background research was one of the first steps taken to reach our end goal in this project. The purpose of this task was to find examples of printed outreach materials (brochures, posters, fact sheets, etc.) and consider their effectiveness in terms of overall style, messages, and delivery methods. The results are available in a report, *Stormwater Business Education Template: Background Research Report (April 2010)*. The effective characteristics identified during the background research were taken into account when designing the materials that were tested in the focus groups.

Focus groups were held in October and November 2010 in each of the three Washington state regions. Valuable feedback was received on a number of issues including attitudes, awareness, messages, messengers and specific products. The focus group findings are documented in *Stormwater Business Education Template: Focus Group Report (November 2010)*.

During those sessions we learned that from a list of 11 possible outreach products, wall posters and spill kits were the most popular products. Eight posters were tested and the focus group participants rated the 4Cs poster highest.

The pilot campaign survey results reflect the opinions and attitudes of the targeted business sector.

Target Audience

Businesses and agencies that had fueling areas, automotive repair, and gas stations were identified in a brainstorming session as being the largest threat to water quality, but also having the greatest likelihood to change behavior. The businesses were identified using NAICS codes and include those listed below.

- Vehicle dealerships – new and used (cars, trucks, RVs, motorcycles)
- Vehicle repair and body work (cars, trucks, RVs, motorcycles)
- Gas stations – limited to 10% of the total number of businesses
- Muffler and transmission shops
- Equipment and vehicle rental
- Towing
- Boats – sales and repair
- Public agency fleets (fire, school districts, public works, utilities)

Template Product

The original plan was to develop a mailer to businesses that would promote a message about a stormwater best management practice and a product to raise awareness and encourage adoption of stormwater best management practices. During the focus groups we learned that the mailer would not be an effective communication method. In alignment with their feedback, we developed the alternative products of the 4Cs poster and the spill kit.



The 4Cs poster and spill kit addressed the two most common barriers identified by focus group participants: (1) not knowing what to do about managing runoff, and (2) thinking that small amounts of pollution do not matter. The poster was customized to include the local public works agency logos.

The spill kit included the following components:

- Plastic zip bag
- Absorbent socks
- Absorbent pads
- 1 pair nitrile gloves
- Disposable bags with zip tie
- Emergency Response Guidebook
- Instructions and contact list

During the focus groups, businesses told us that the local public works departments were seen mostly as supportive of businesses and were viewed as the most credible messengers for stormwater best management practices. The public works staffs of the participating cities and counties hand delivered the 4Cs poster and spill kits to the businesses. The site visit provided an opportunity to educate automotive type businesses about stormwater best management. The 4Cs poster was delivered to 269 automotive businesses in eastern Washington (Wenatchee Valley) and western Washington, Puget Sound (Kitsap County, City of SeaTac) and non-Puget Sound (cities of Vancouver, Kelso, Longview), as shown in the table below. In addition, spill kits were delivered to 50 of the Kitsap County businesses that also received posters.

Number of Businesses in Pilot Campaign

Jurisdiction	Received Poster	Received Spill Kit
Wenatchee Valley	85	
City of Vancouver	49	
City of SeaTac	14	
Kelso	20	
Longview	28	
Kitsap County	73	50
Total	269	50

Evaluation Metrics

The following metrics were used to evaluate the effectiveness of the 4Cs poster and spill kit distribution based on feedback from the pilot businesses.

- ◆ Demonstrate a 20% increase in awareness by pilot businesses that stormwater is untreated as compared with businesses in a control group.
- ◆ At least one-half of the target audience contacted will respond to the poster and spill kit.
- ◆ 20% of the pilot businesses will discuss the poster and spill kit with others.
- ◆ 50% of NPDES Phase II permit holders will adopt the product in their business outreach program by 2012.

Survey Methodology and Participant Profile

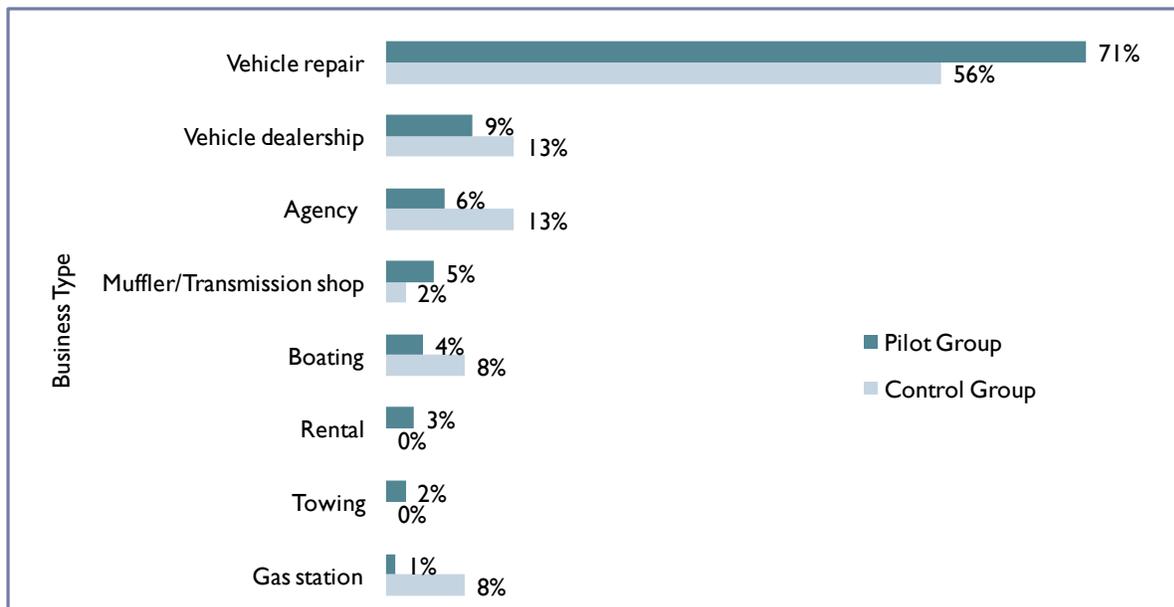
The pilot evaluation was conducted via an online survey for businesses that received the poster. Each business that had provided an email address was sent an email with a hyperlink to the survey. A week later a reminder email was sent. Although the survey response was 25%, the total number of completed surveys was low because only 200 business owners had provided email addresses, and incentives were not allowed as part of the grant agreement. We conducted in-person surveys in Wenatchee and Kitsap County to supplement the online survey response. These were conducted as a walk-in to the business without a prior appointment. The interviewer experienced very high cooperation with the in-person survey format.

The evaluation for the 50 control businesses was conducted through short in-person interviews in Kitsap County. These were also conducted as a walk-in site visit.

A total of 103 pilot surveys and 50 control surveys were completed. Caution needs to be taken in interpreting the results of a survey with a relatively small sample. The results should be viewed as a starting point for understanding automotive businesses in Washington State as they relate to stormwater issues. The margin of error for the pilot business survey is around ± 9 percentage points at the 95% confidence level. The margin of error for the control business survey is around ± 13 percentage points at the 95% confidence level.

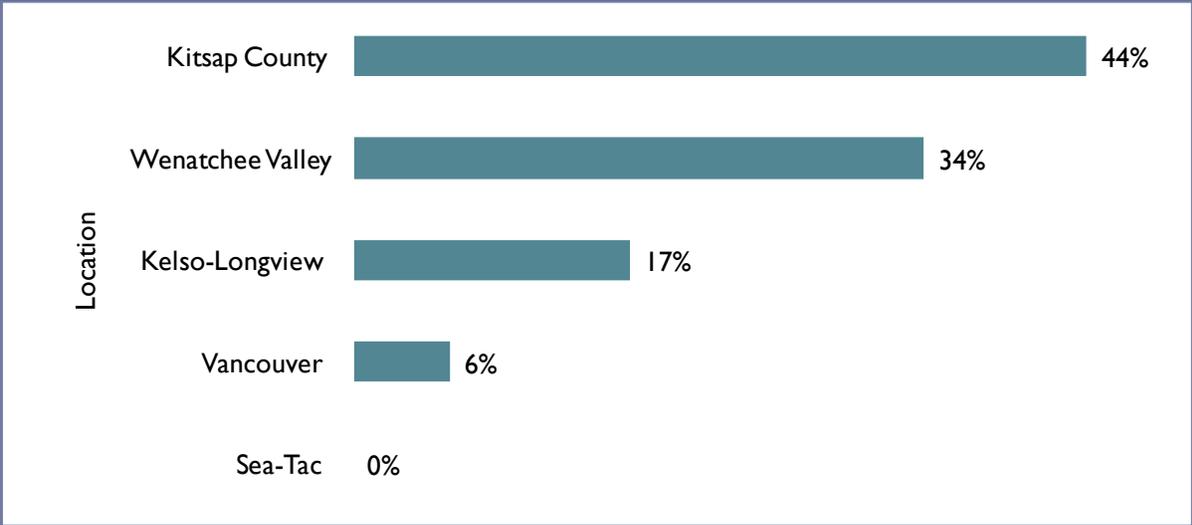
The bar chart below shows which businesses were surveyed. The high percentage of vehicle repair businesses surveyed reflects the large representation of those businesses in the automotive business sector.

Businesses Surveyed for Pilot Evaluation – Pilot n=103, Control n=50



The geographic distribution of the completed pilot surveys is shown below. Businesses from Kitsap County and Wenatchee Valley are overrepresented because the supplemental in-person interviews were conducted in those areas.

Geographic Distribution of Pilot Businesses Surveyed n=103,



2. Key Findings

Automotive businesses have a high level of stormwater awareness

-  9 in 10 of both pilot and control businesses know that stormwater is not treated.
-  Automotive businesses are familiar with desired stormwater management practices.

2 of 3 anticipated project outcomes were met and exceeded

-  Outcome #1 - The pilot campaign could not demonstrate that businesses receiving the 4Cs poster were more aware about the fate of stormwater than businesses that had received no educational outreach because of the existing high level of awareness.
-  Outcome #2 – The outcome that more than half of the target audience respond to the poster was met and exceeded, as 9 in 10 businesses have put up the poster.
-  Outcome #3 – The outcome that more than 20% of the pilot businesses have discussed the poster with others was met and exceeded, as 85% have discussed the poster with others.

Business owners are willing to make changes to practices

-  More than half of the pilot business owners are willing to make changes, even if small, based on information in the poster.
-  Business owners felt they were “doing everything in the poster”, but perhaps not using the optimal or best practices methods.
-  One in 5 businesses has made changes in the 2 months since receiving the poster.

Business owners have no strong preference for delivery of outreach

-  Yet, more than half of the pilot businesses thought that it was very or extremely useful to have the poster delivered by public works staff.
-  And, nearly half of pilot and control businesses are either very or extremely likely to contact the local public works department about stormwater issues.

3. Detailed Findings

Snapshot of Control Businesses

In-person interviews were conducted with 50 automotive business owners in Kitsap County to gauge the awareness and attitudes about stormwater from businesses that have not received the poster or been targeted in an outreach campaign. Collectively, their awareness and attitudes provide a picture of automotive businesses without education that could then be compared to the pilot business group.

As we found in the focus groups, automotive business owners have a high awareness of stormwater issues in general. They are concerned about how their activities may impact stormwater runoff and feel they are in general doing the right thing.

The control survey of automotive business owners shows that:

- ◆ 3 in 4 have storm drains on property
- ◆ 9 in 10 are aware that stormwater flows to water bodies
- ◆ Vast majority think it is important to cover (95%) and contain (85%)
- ◆ 2 in 3 have had contact with public works in last year
- ◆ More than 8 in 10 would put up the 4Cs poster
- ◆ 7 in 10 think the poster would be useful
- ◆ 9 in 10 have some sort of spill kit
- ◆ 8 in 10 control businesses have not had a spill, even a minor one, in the last 6 months
- ◆ Nearly all owners think their employees would clean up spills
- ◆ More than 8 in 10 think a spill kit (described as the one distributed to pilot businesses) would be useful

Project Outcomes

As part of the grant agreement with the Department of Ecology, the pilot campaign was to demonstrate the effects of the wall poster measured against three anticipated outcomes. Two of the three anticipated outcomes were met and exceeded.

Anticipated Outcome #1

Metric: Demonstrate a 20% increase in awareness by pilot businesses that stormwater is untreated compared to the control group.

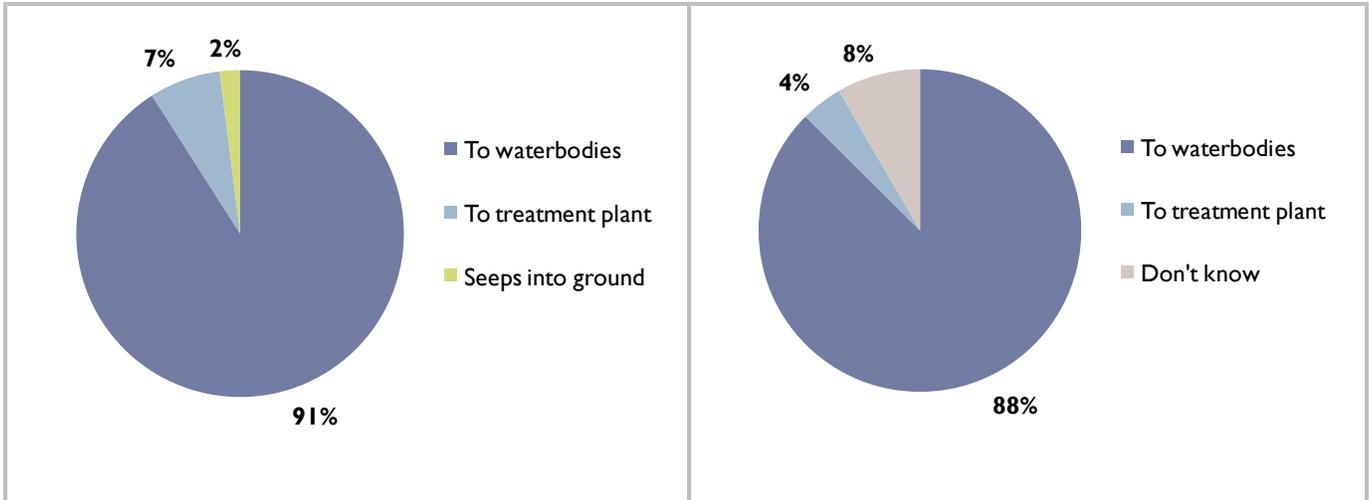
Unmet: This metric was unmet because of the high awareness by all automotive businesses that stormwater is untreated and flows to water bodies.

The vast majority of automotive businesses are aware that stormwater is not treated and flows to natural water bodies. This is in alignment with our findings in the focus groups. Fewer than 1 in 10 thinks that stormwater is treated.

Where do you think water in the storm drain system goes?

Pilot Businesses n=101

Control Businesses n=50



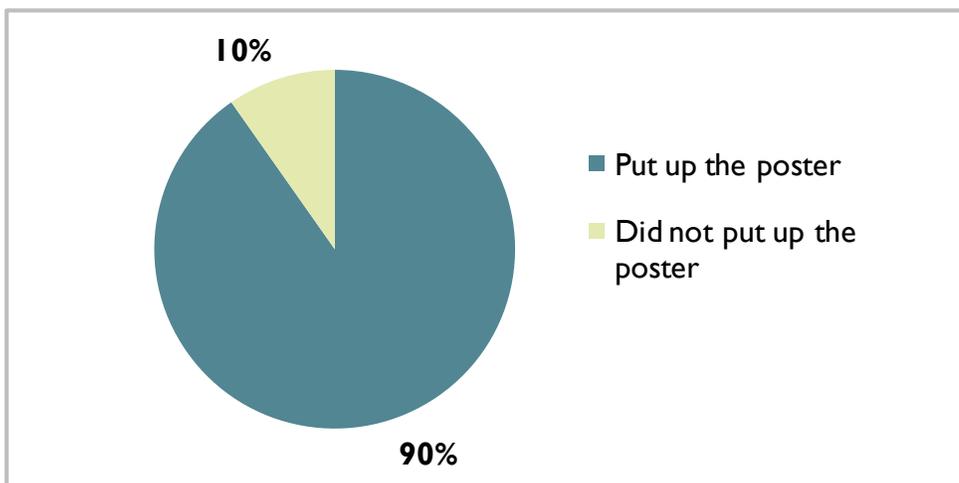
Anticipated Outcome #2

Metric: At least half of the target audience will respond to the poster and spill kit.

Met and Exceeded: 90% of the pilot businesses have displayed the poster and an additional 8% plan to put up the poster. 80% think the spill kit will be useful.

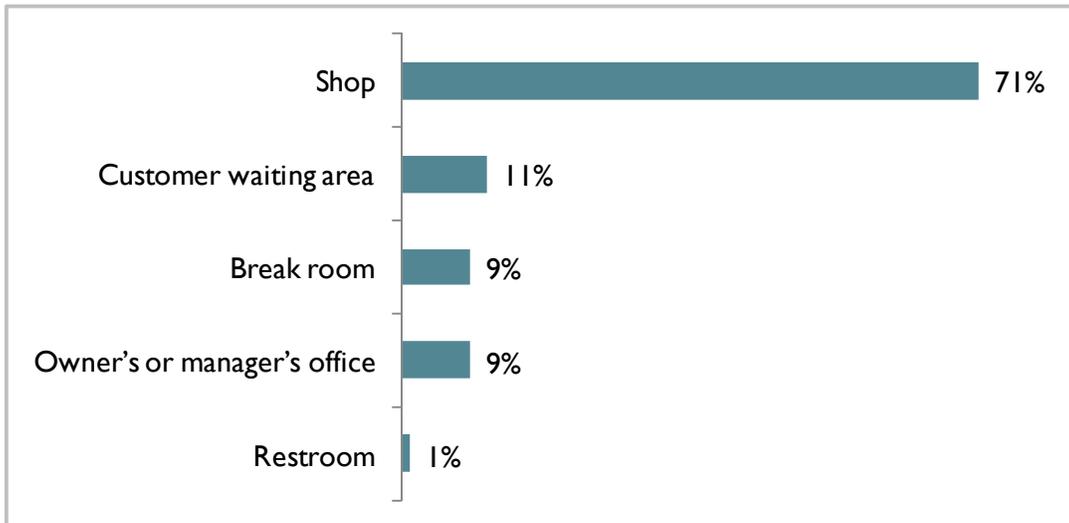
The businesses responded very favorably to the 4Cs poster, both when they were delivered and in response to the survey. The vast majority had put the poster up. Of the few businesses that did not have it up, all businesses except for one plan to put the poster up.

Would you say that you..... n=103



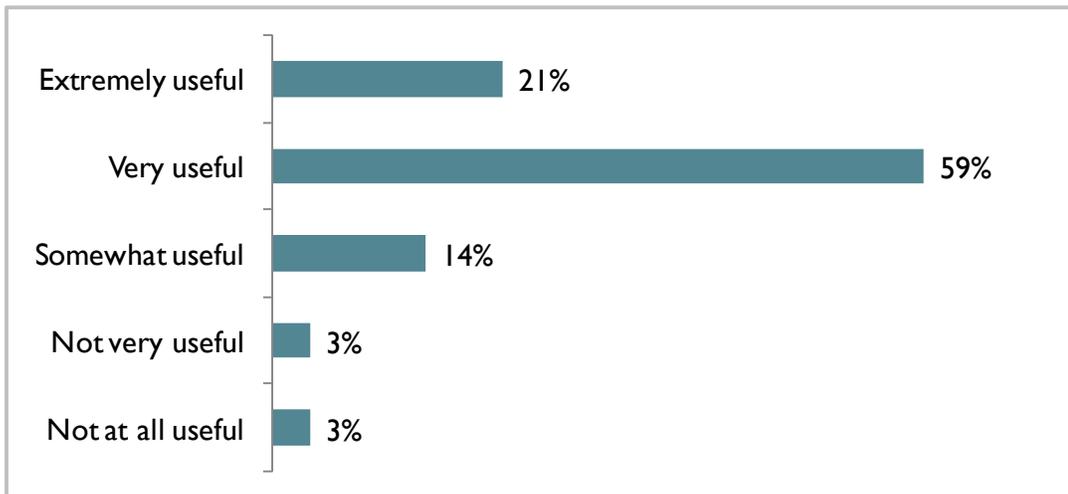
Nearly 3 in 4 business owners put the poster in the shop, which would provide the most exposure to the employees.

Where exactly did you put the poster? n=94



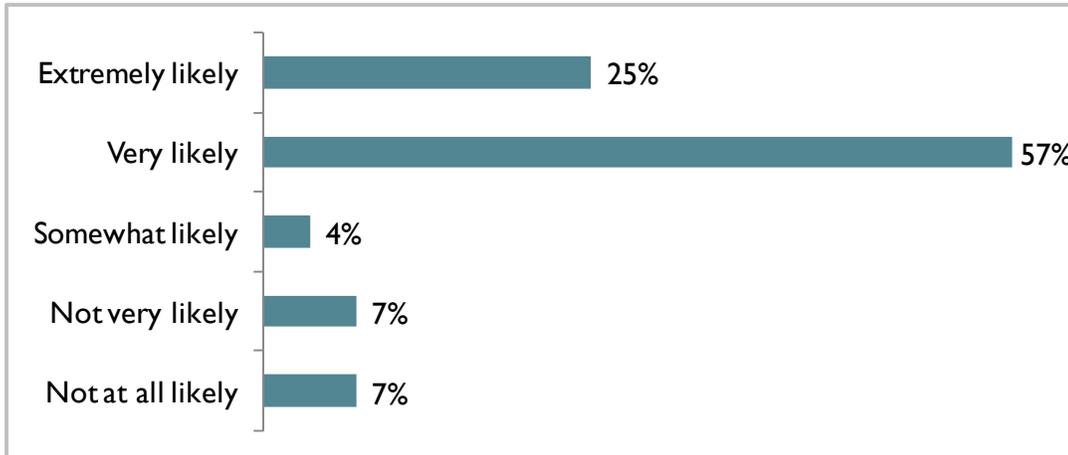
The majority (8 in 10) of pilot businesses thought the spill kit would be either very or extremely useful.

How useful do you think the spill kit will be for your business? n=29



The majority (8 in 10) are also either very or extremely likely to replace the used items in the spill kit.

How likely are you in the future to replace the used items in the spill kit? n=28



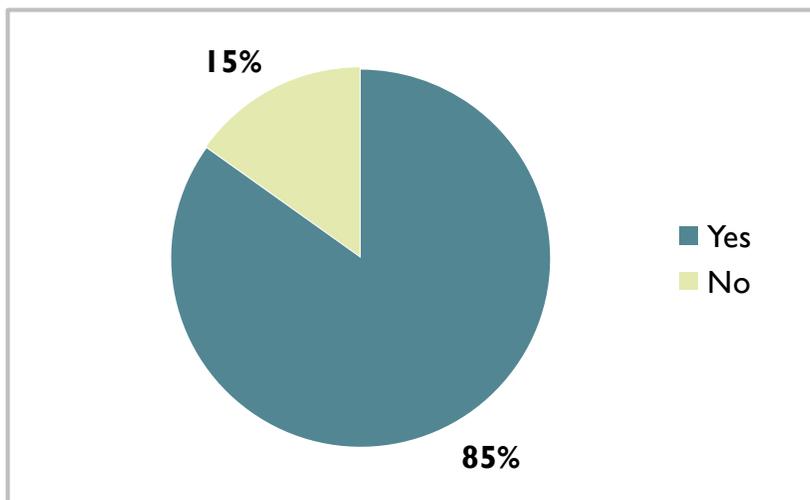
Anticipated Outcome #3

Metric: 20% of the pilot businesses will discuss the poster with others.

Met and Exceeded: 85% of pilot business owners have talked about the poster, mostly with employees.

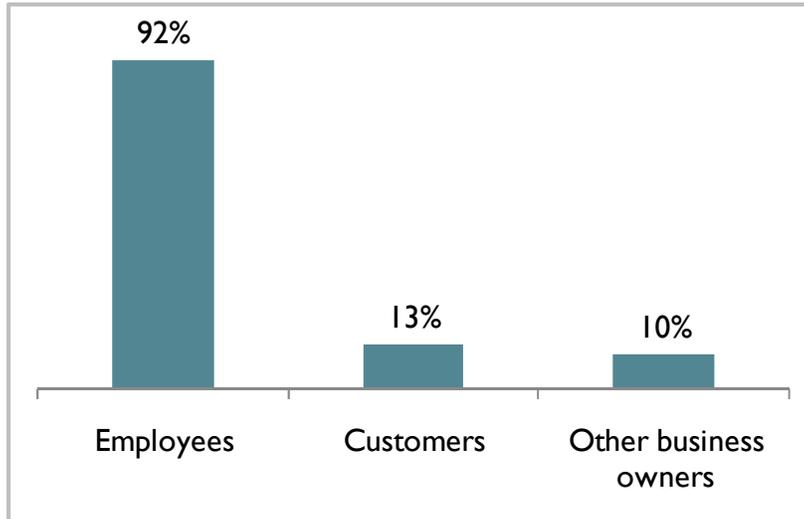
The vast majority of business owners have talked about the poster.

Have you talked about this poster with anyone? n=93



While nearly all of those who have talked about the poster have done so with employees, about 1 in 10 business owners have also talked about the poster with customers and other business owners.

Who have you talked to about this poster? n=79

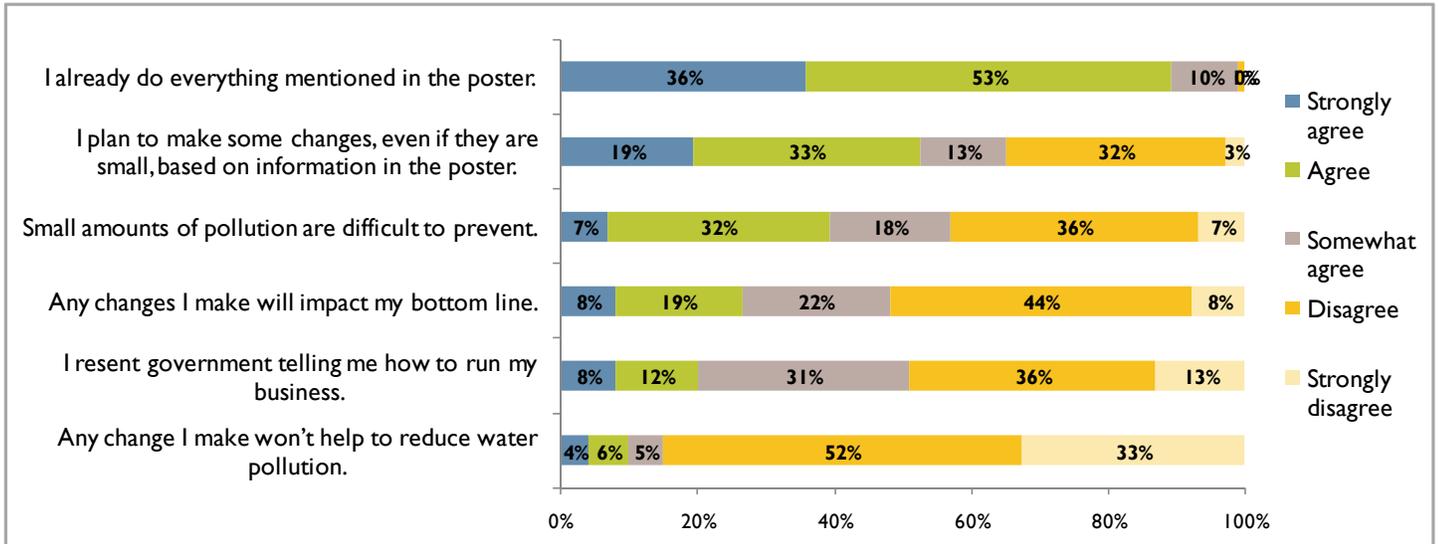


Attitudes about Changing Daily Practices

Nearly 9 in 10 pilot businesses either agree or strongly agree that they do everything mentioned in the poster. Yet, more than half plan to make changes, even if small, based on information in the poster. During the in-person interviews, we discovered that the respondents felt they were “doing everything in the poster”, but perhaps not using the optimal or best practices methods. Their intent to make some changes would be further improvements to what may be the minimum standard of best management practices. Other findings include:

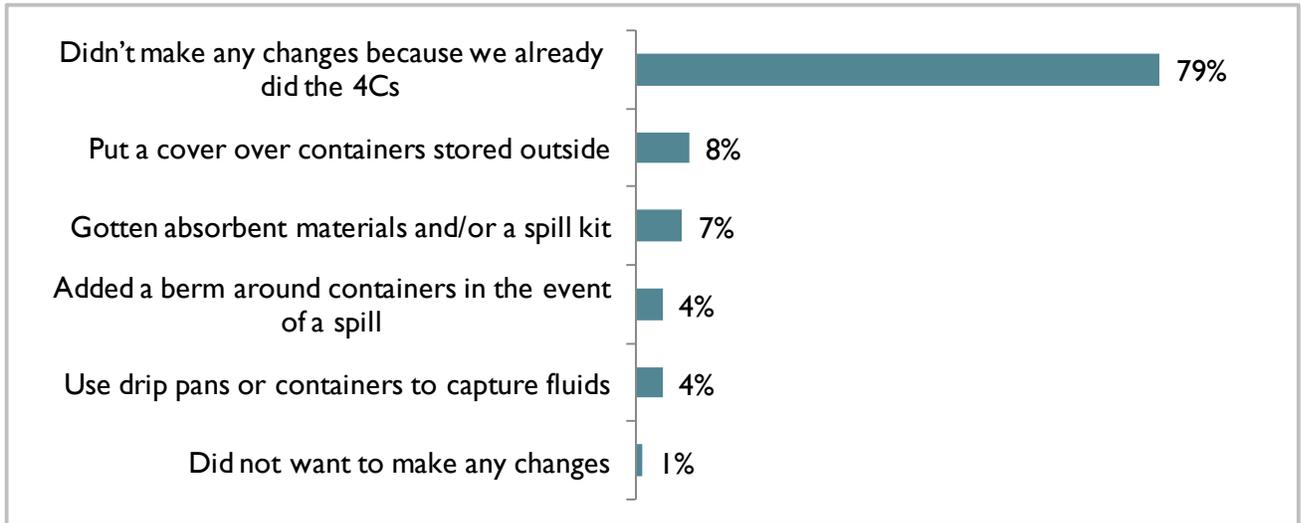
- Nearly 40% agreed with “small amounts of pollution are difficult to prevent”.
- 85% disagreed with “any changes they make will not help to reduce water pollution”.
- 27% agreed with “any changes they make will impact their bottom line.”
- 20% agreed with “I resent government telling me how to run my business”.

Listed below are a number of statements that refer to the poster. We would like to know how strongly you agree with these statements. n=103



One in 5 businesses has made changes since receiving the poster. During the in-person interviews, some of the respondents said they made changes other than those listed, or plan to make changes in the future.

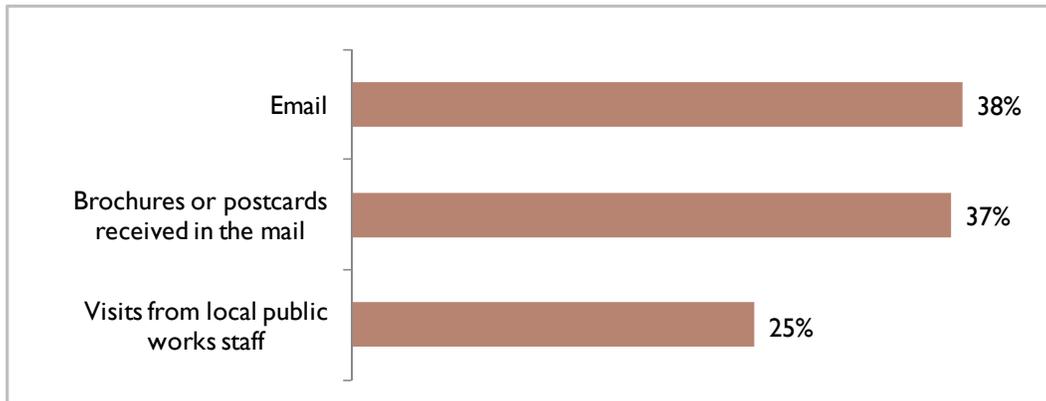
Did you make any changes as a result of receiving the poster? n=100



Information Vectors

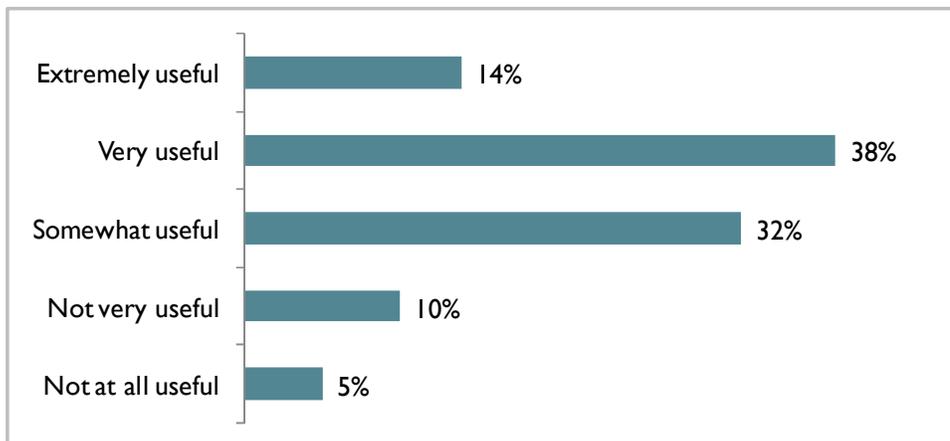
Both pilot and control businesses had mixed reaction to how they would most like to receive information about business practices that affect stormwater runoff. Email and direct mail were preferred over visits from local public works staff. There were no significant differences between the responses of the pilot and control groups.

What do you think is the best way to hear about business practices that may reduce water pollution? n=148



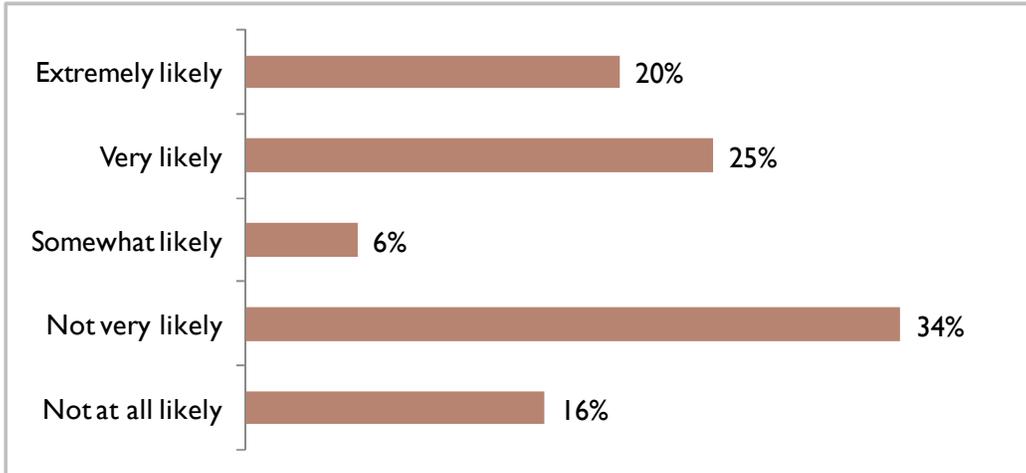
We learned in the focus groups that local city or county public works departments were seen mostly as supportive of businesses and were viewed as credible messengers. Based on that finding, the 4Cs posters and spill kits were hand delivered by the stormwater inspectors. More than half of the pilot businesses thought that it was very or extremely useful to have the poster delivered by public works staff.

How useful was it to have the poster delivered by someone from the local public works department? n=99



Nearly half of pilot and control businesses are either extremely likely to contact the local public works department about stormwater issues. Half are not very or not at all likely to contact them.

How likely are you in the future to contact your local public works agency about stormwater issues at your business? n=146



4. Recommendations

-  Devise a system to track the location and number of 4Cs posters that are being distributed. This will be an indicator of the poster's effectiveness over time.
-  Continue in-person poster distribution, if possible, since it gives the local public works staff an opportunity to discuss the benefits of the poster and increases the likelihood of the poster being displayed.
-  Stormwater inspectors can check to see if the poster is still up in 2012, and if automotive businesses have made any changes in their daily practices.
-  Investigate what kinds of spill kits businesses are currently using since 90% of control businesses said they have a spill kit. It may not make economic sense for jurisdictions to pay for or subsidize spill kits for this business sector.
-  Evaluate the costs and benefits of including incentives to businesses for participating in online surveys. The cost of conducting in-person supplemental interviews was significantly higher than the cost of administering an online survey.

Appendices

Control Business Survey – business owners were shown the 4Cs poster

What do you think of the 4Cs poster?

Positive comments

Great way to reinforce
Looks good
Good poster
Accurate. Laminated is best.
Useful
Looks pretty good
Shows typical problems. Good poster.
Looks good
Good, useful, reminder
Can I have one?
Looks great
Eye catching
Good visual and word communication
People need to be educated
Good
For uneducated, would be useful
Pretty cool
Looks good - typical of what you might see.
We deal with this every day. Good reminder.
Educational
Very informative
Good visual reminder
Nice descriptions/visuals
Good one
Self explanatory

Neutral comments

Why is absorb it OK?
Same thing as we normally do
"Cover" picture isn't clear area is covered
Would be more useful for customers
Could be bigger. I'd like two.
Not applicable here
We're already doing these things

Negative comments

Too small

Doesn't fit service station

Not useful

Pilot Business Survey

Do you have any suggestions about how cities and counties can support local businesses in helping to improve water quality?

Comments about the poster or spill kit

Providing kits is the best.

Gave spill kit to next door business.

Where can you get more of the "big boom" (spill kit)?

Reminders with stuff like this poster.

What does the "no suds" on the poster mean?

Keep providing helpful information like this.

I think the poster is great. We already do 3 of the 4 and will make effort to comply with all.

Comments about outreach and education

We have cut down on car washing. Need funding assistance for major projects, e.g. retention basins.

Continue to provide information and access to resources. Verify policies are being adhered to.

Continuing education and reasonable goals at an affordable cost.

Awareness of issues and presenting them is helpful.

Continued education and enforcement of proper containment practices with an emphasis on cooperation and money spent on improvements to water quality, not fines.

Comments about Public Works

They are doing a good job.

Keep ditches clean.

Improve permitting for system engineering for water runoff.

Stay on top of the businesses.

They (Public Works) have been very helpful.

The County is doing a great job.

Common sense regulations.

If pollution is found, show the business how they are impacting their environment directly. Show samples of pollution found and how it got there. Illustrate the trail back to the source so they can isolate the issue and resolve it.

It is nice to have someone stop by and give us information in an informative manner so that we know the community is involved and everyone is doing their part to keep our water system as clean as possible.

Comments about enforcement

You must do on site inspections, or you'll never keep up with the polluters.

Require emissions certification for private ownership-require owners to repair leaking vehicles-growing up in Japan we had a biannual inspection completed at the owners cost (2,000 Yen=\$20.00) that was part of our required insurance.

Yes, I think that Washington State needs to implement an environmental/safety vehicle inspection. It should be required every year and if there are environmental or safety related issues they need to be repaired before tab renewal..... Much like the emissions testing laws in King County. The owner of the vehicle should be responsible for their oil, coolant, gas etc... leaks. All too often I hear a customer say "Oil is cheap, I am not going to spend money to fix that oil leak".

Make people clean up their septic systems.

Expect separators for all water drain off that allows yuck to settle and the clear water to run into the storm drains. Environmentally harmless soaps should not be a problem to run into the storm drains.

General comments

Realize where the real problems are.

Realize that 50K or 100K above ground systems are costly and ignore ground source pollutants and filtration.

I understand that brake residue is a problem.

Maybe list places to dispose of certain chemicals.