

Kitsap County Public Works Surface and Stormwater
Management Program

Runoff from Fundraiser Car Washing

A Situational Analysis



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Executive Summary

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A Situational Analysis

Fundraiser car washes are a popular way for local Kitsap County groups to raise money. However, studies show that runoff from car washing can have a negative affect on local waterways and habitat. Kitsap County has a responsibility under the National Pollutant Discharge Elimination System Phase II permit (NPDES Phase II) issued in February 2007 to ensure that discharges from the county-maintained stormwater system do not negatively impact local waterways and habitat. Under this permit, runoff from car washing is classified as an illicit or non-stormwater discharge and must be addressed through education and/or enforcement. In addition, local commercial car wash owners are required to invest in and maintain costly treatment systems, yet owners/operators of properties that allow fundraiser car washes—a similar activity—are not held to the same water quality standard. This Situational Analysis reviews and summarizes the issues and past solutions. It will be used as a tool to determine the best approach to address runoff from fundraiser car washes in Kitsap County.

Since 1994, Kitsap County has been working to address the issue of runoff from fundraiser car washes. Various programs and alternatives have been implemented. Through this work, staff has learned that:

- Staff availability to provide car wash kits that redirect car wash runoff from fundraiser car washes is costly, difficult to implement due to varying schedules, and limited to only 3-4 events throughout the county per day.
- Providing car wash kits to certain sites requires periodic inspection to ensure the equipment is being installed and used properly.
- Providing car wash kits provides no guarantee or incentive for property owners or fundraising groups to choose this alternative if traditional parking lot car wash fundraisers are still allowed.
- Even if car wash kits are used vigilantly, many locations do not have adequate access to sewer. Instead, runoff from car washing is directed to pervious areas, which are usually small landscaped areas. Pollutants may build up on these landscaped areas and be released during intense rain events.
- Attempting to identify groups and discuss available alternatives is made difficult due to the varied groups who hold fundraiser car washes.
- As an alternative to parking lot car washes, many local commercial car wash operators have agreed to accept coupons sold by fundraiser groups for a basic car wash.
- According to Kitsap County Code, property owners are responsible for the maintenance of their stormwater system and prevention of non-stormwater discharges, also known as “illicit discharges” per County Code, so property owners are a natural choice for addressing this issue.
- Although the exact impact of each illicit discharge is unknown, the cumulative impact of these discharges has the potential to severely degrade stream and nearshore water quality and habitat.

Recommended Solutions

Runoff from car washing has received local and regional media attention in 2009. Car washing, both fundraiser and residential, is a “hot-button” issue which can interfere with the education process. The selected approach to prevent runoff from car wash activity from entering the storm drainage system is educating property owners and managers. Kitsap County Surface and Stormwater Management Program (KCSSWM) will:

- Perform an illicit (non-stormwater) discharge education campaign targeting commercial and residential property owners. The campaign will focus on: 1) prevention of non-stormwater discharges, 2) the impacts of non-stormwater discharges to Puget Sound, and 3) solutions to preventing the most common non-stormwater discharges.
- Include runoff from car washing (residential, fleet, courtesy, and fundraising) as a component of the illicit (non-stormwater) discharge education program.
- Raise awareness that stormwater flows to surface waters with little or no treatment.
- Integrate the education and awareness messages with existing educational programs such as Local Source Control, Water Pollution Hotline, Drain Marker Project, Commercial Property Inspection Program and Youth Education Program.

KCSSWM will create an Illicit Discharge Education and Outreach Plan for implementation in 2010. The plan will incorporate these recommended solutions.

A. Introduction

Fundraiser car washes are a popular way for local Kitsap County groups to raise money. However, studies show that runoff from car washing can have a negative affect on local waterways and habitat. Kitsap County has a responsibility under the National Pollutant Discharge Elimination System Phase II permit (NPDES Phase II) issued in February 2007 to ensure that discharges from the county-maintained stormwater system do not negatively impact local waterways and habitat. Under this permit, runoff from car washing is classified as an illicit or non-stormwater discharge and must be addressed through education and/or enforcement. In addition, local commercial car wash owners are required to invest in and maintain costly treatment systems, yet owners/operators of properties that allow fundraiser car washes—a similar activity—are not held to the same standard. This Situational Analysis reviews and summarizes the issues and past solutions. It will be used as a tool to determine the best approach to address runoff from fundraiser car washes in Kitsap County.

B. Background

- Runoff from car washing contains surfactants (soaps), metals, nutrients, oils and grit, causing harm to fish¹. Surfactants affect fish mucous membranes, washing away natural oils, affecting oxygen uptake by the gills, and leaving fish more susceptible to the harmful affects of petroleum, pesticides, metals, and other chemical pollutants². Surfactants are found in all soaps: biodegradable, low phosphate as well as dish, laundry and specialty car care products.
- Runoff from car washing is generated from a variety of activities including residential car washing, small business fleet vehicle washing, commercially operated car washing facilities, auto dealerships, and fund raiser car wash events.
- Runoff from car washing at commercially operated facilities, most auto dealerships, and other vehicle intensive businesses are plumbed to an oil/water separator followed by connection to the sanitary sewer system. This water is treated before discharge to Puget Sound³.
- Generally, runoff from residential car washing, some small business fleet vehicle washing and fundraiser car wash events can flow directly into the storm drainage system untreated into lakes, streams and Puget Sound.
- The average volume of runoff from car washing is dependent on the type of activity⁴.
 - Commercially operated car washes: 8 – 70 gallons per car
 - Residential car washing: 5 – 30 gallons per car
(20 gallons per car average)
 - Fleet/courtesy washing: 150 – 500 gallons per event
 - Fundraiser car wash 500 – 2,000 gallons per event
- When runoff from car washing flows into storm drain systems local receiving water quality is degraded. One storm drainage system collects runoff from hundreds of homes, many businesses and numerous miles of roads where

pollutants are generated, accumulate, and ultimately discharge into Puget Sound.

- Stormwater outfall monitoring of summertime flows shows that 22% of all Kitsap outfalls are contaminated with surfactants. In the urban area of Silverdale 33% of outfalls are contaminated⁶. The field test is not specific for car wash soaps⁷ but is indicative of the activity. Other possible sources are building washing, failing septic systems or failing wastewater infrastructure.
- Education for the proper management of runoff from residential car washing is performed by Kitsap County as well as regional agencies with messages including simple solutions to prevent runoff from entering storm drains (such as wash your car on a lawn or gravel area where the wash water soaks into the ground)⁸.
- The Kitsap Local Source Control Program and the Kitsap Regional Illicit Discharge Detection and Elimination Program perform sporadic education for the proper management of runoff from business car washing. Inspectors educate business and property owners about runoff from car washing at auto dealerships, vehicle intensive businesses and small business fleet vehicle washing during commercial property inspections.

C. The Issues

- Kitsap County was issued a National Pollutant Discharge Elimination System (NPDES) Phase II Permit in February 2007 by the Washington State Department of Ecology (Ecology). This permit requires the County to develop and implement an ordinance to prohibit non-stormwater discharges to or from the municipal stormwater system⁹. Kitsap County adopted this ordinance in August 2009.
- The NPDES Phase II permit issued by Ecology states runoff from car washing is an illicit discharge and is subject to requirements for reporting as a spill into the storm drainage system⁹.
- Community groups organize and perform fundraiser car wash events in Kitsap County. These events are held at locations of high visibility, frequently at a commercial property such as a gas station or convenience store.
- Fundraiser car washes are usually held on Saturdays and Sundays between April 1 and September 30.
- Kitsap County Surface and Stormwater Management Program (SSWM) operates the Commercial Stormwater Inspection Program and utilizes an educational approach for lower impact car washing situations. SSWM staff inspect commercial privately maintained stormwater systems annually to ensure proper maintenance to reduce flooding and improve water quality. Properties discharging vehicle washwater runoff into the storm drainage system are requested to stop the activity, find alternatives including washing vehicles at a commercial car wash or creating a designated area for the activity and installing the proper treatment facilities.
- Under current building codes, commercial car wash operators are required to install systems to collect and treat wash water from car washing³. They are also required to discharge the effluent to the sanitary sewer system and perform

regular costly maintenance. Their storm drainage and treatment systems are inspected annually by County stormwater and wastewater inspectors.

- Commercial car wash operators are required to incur expenses for the installation of equipment and maintenance to properly treat runoff from car washing; however, commercial car wash operators observe local government allowing a significant volume of car wash runoff from fundraiser car wash events to be discharged to the storm drainage system untreated.
- Commercial car wash operators, as a business, are contributing tax dollars to local jurisdictions; yet regularly lose business to fundraiser car washes, which are not required to pay taxes.
- Fundraiser car washes are often held in the vicinity of commercial car wash businesses and therefore, a competition between the fundraiser car wash and commercial car wash business exists.
- Businesses that currently engage in fleet, equipment, or courtesy vehicle washing are encouraged to install costly treatment systems. However, these same businesses could allow fundraiser car washes to be held on their property and would not be required to install best management practices for this activity.

D. Situation Statement

Public education is the first approach to achieving compliance with lower impact water quality violations. Car wash runoff from fundraiser events violates the NPDES Phase II Permit. The current approach communicates an inconsistent message for managing runoff from car washing to the public, property owners, and commercial car wash businesses regarding the commitment of local government to address non-stormwater discharges to streams, lakes and Puget Sound.

E. Past Solutions

Since 1995 Kitsap County has worked to prevent car wash runoff from entering the drainage system. The following are highlights of each program and identified strengths and limitations.

1. 1994 – 1995. Washington State Department of Ecology grant funded the review of best management practices (BMPs) that would prevent runoff from fundraiser car washes from entering the storm drainage system. The optimum alternatives identified were a commercial product called a Vacu-Boom and a catch basin insert with a sump pump. Both alternatives physically divert the runoff to a grassy area or sanitary sewer during the event.

A. STRENGTHS:

- 1) Identified viable alternatives.
- 2) Began addressing the problem of runoff from fundraiser car washes.

B. LIMITATIONS:

- 1) After these alternatives were identified and purchased with grant funding, they were used for a short period, but funding ended and the program was discontinued.

2. In 1997, interest in alternatives to address runoff from fundraiser car washes was renewed and the Vacu-Boom and a catch basin insert with a sump pump were re-instituted. From 1997 to 2002, summer help was hired to work with groups holding fundraiser car washes to install either of these options.

A. STRENGTHS:

- 1) Provided an alternative to allow fundraiser car washes to be held without discharging wash water directly into storm drains.
- 2) Provided education to groups holding fundraiser car washes.

B. LIMITATIONS:

- 1) The County had four alternative set-ups available for use (three Vacu-Booms and one drain insert). Often more than four fundraiser car washes were held in one day throughout Kitsap County and so a limited number of events were provided equipment.
- 2) The program was labor-intensive and only available on Saturdays. Short-notice of car washes made Sunday schedules challenging.
- 3) Many locations did not have available access to sanitary sewer, which allowed up to 4,000 gallons of runoff to discharge to the same small grassy or landscaped area every weekend. Pollutants may build up on the grassy area and be released during intense rain events.
- 4) An inconsistent message to commercial car wash businesses is relayed: runoff from car wash is a water quality concern and commercial operators must mitigate for it; however, runoff from fundraiser car washing can be simply filtered into a grassy or landscaped area.

3. 1994-present: Provide educational materials to community groups via direct mail

A. STRENGTHS

- 1) Provides information to groups who may potentially hold fundraiser car washes.
- 2) Low-cost.

B. LIMITATIONS

- 1) Groups that hold fundraiser car washes vary from organized school-type groups to individuals raising money for a worthy cause. Mailing lists are inaccurate and many groups are difficult to contact.

4. 2003 – present. Provide an alternative coupon program implemented by a coalition of local commercial car wash businesses¹⁰.

A. STRENGTHS

- 1) Car washing occurs only at commercial car wash businesses. Runoff is directed to the sanitary sewer system. No up front cost for fundraising groups.
- 2) There is limited County staff time required to implement the program. Some cost is incurred from advertising the program.
- 3) Many fundraiser groups like the idea of not having to actually wash vehicles.

B. LIMITATIONS

- 1) Fundraiser groups lose the opportunity for members to work together at a specific event.
- 2) Difficult to get the word to groups holding traditional fundraiser car washes.
- 3) Traditional fundraiser car washes have still been allowed, providing little or no incentive to change to this alternative.
- 4) Staff is promoting a program that is implemented and controlled by local businesses.

F. Alternatives

The approaches utilized in the past have been somewhat effective; however, it is recognized that a comprehensive regional campaign is needed to promote a consistent message regarding runoff from car washing that enters the storm drain system. Five alternatives are presented. The solution may be one alternative, or a combination of alternatives. The alternatives are:

- **Promote the coupon program**
- **Ban car washing (fundraiser, fleet, and courtesy) in areas where treatment is not sufficient**
- **Allow fundraiser car washes only at approved locations**
- **Reduce treatment standards for fundraiser and courtesy washing sites**
- **Develop and promote a fundraising car care alternative**

1. Promote the coupon program through advertisements.

A. STRENGTHS

- 1) No change in the current program and easy to implement.

B. LIMITATIONS

- 1) Coupon program is a private-public partnership and presents challenges relating to the roles of the County and the coalition of car wash operators.

2. Ban car washing (fundraiser, fleet, and courtesy) in areas where treatment is not sufficient under the Illicit Discharge Ordinance effective August 2009.

A. STRENGTHS

- 1) No illicit discharges from car washing entering the municipal storm drainage system.
- 2) The message is consistent with County Code for illicit discharges and requirements for treatment of runoff from car washing for commercial car wash operators.

B. LIMITATIONS

- 1) Banning car washing, specifically fundraiser car washing, may be seen by the public as an unnecessary restriction by local government. In a survey conducted in November 2008 of residents of the Kitsap Peninsula, 44% of survey respondents thought some restrictions should be placed on fundraiser car washes while 46% felt they should be left alone and 10% did not share an opinion.
 - 2) A total ban would require vigilant enforcement.
3. Fundraiser car washes only at approved locations around the county (possibly two per Commissioner District) that would be retrofitted to meet the same treatment standards as commercial car wash operators.

A. STRENGTHS

- 1) Runoff from car washing would be diverted to sanitary sewer.
- 2) Fundraiser car washes can still be held with little or no concern regarding runoff.

B. LIMITATIONS

- 1) County staff time would be required to approve locations and verify that runoff was properly diverted to sanitary sewer.
 - 2) Does not address properties where no sanitary sewer is available.
 - 3) Enforcement would be required for locations with no retrofits.
4. Reduce the treatment standards for fundraiser and courtesy washing sites. Reduce the treatment requirements for these events since less wash water is produced. Develop science-based BMPs that meet specific water quality criteria while reducing the cost of retrofits.

A. STRENGTHS

- 1) A Kitsap regional science-based BMP list will be developed for the proper management of runoff from fundraiser car washing as well as runoff from fleet, equipment, and courtesy washing.
- 2) Costly treatment systems will be avoided for sites performing occasional car washing.

B. LIMITATIONS

- 1) County staff time will be required to research, test and publish the BMP list.
- 2) Education of property owners on requirements to address the runoff if they chose to hold fundraiser car washes on their property. However, this could be accomplished through the Stormwater Inspection Program.
- 3) The approved locations would not be required to treat car wash runoff to the same standards as commercial car washes.
- 4) County staff time would be required to ensure BMPs are installed and used properly at fundraiser events.

5. Develop and promote a fundraising car care alternative where groups vacuum inside vehicles or wash windows only rather than the entire vehicle.

A. STRENGTHS

- 1) No car wash runoff is generated.
- 2) Provides an alternative for groups to continue to raise funds through a group, team-building activity, yet not pollute local waterways.
- 3) The only requirement for a location is electricity for vacuums rather than needing a water/hose hook up as for vehicle washing, so this option may open up more locations for fundraising groups.
- 4) This option does not compete directly with commercial car wash businesses.

B. LIMITATIONS

- 1) This program will require time to develop, pilot, evaluate effectiveness and implement.
- 2) There needs to be an incentive to switching to this type of fundraiser. If traditional parking lot fundraiser car washes are not limited in some way, groups may still choose that option.

G. Recommended Solutions

Runoff from car washing has received local^{11, 12} and regional¹³ media attention in 2009. Car washing, both fundraiser and residential, is a “hot-button” issue which can interfere with the education process. The selected approach to prevent runoff from car wash activity from entering the storm drainage system is educating property owners and managers. KCSSWM will:

- Perform an illicit (non-stormwater) discharge education campaign targeting commercial and residential property owners. The campaign will focus on: 1) prevention of non-stormwater discharges, 2) the impacts of non-stormwater discharges to Puget Sound, and 3) solutions to preventing the most common non-stormwater discharges.
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References:

1. Abel, P.D. 2006. “Toxicity of Synthetic Detergents to Fish and Aquatic Invertebrates.” *Journal of Fish Biology*, Vol. 6. No.3.

2. Baldwin, et al. 2003. "Sublethal Effects of Copper on Coho Salmon: Impacts on Nonoverlapping Receptor Pathways in the Peripheral Olfactory Nervous System." Environmental Toxicology and Chemistry. Vol. 22. No. 10.
3. Kitsap County Code Title 14 Buildings and Construction.
4. International Car Wash Association. 2002. "Water Use in the Professional Car Wash Industry".
5. International Car Wash Association. 2008. ICA Study of Consumer Car Washing Attitudes and Habits.
6. Kitsap County Surface and Stormwater Management. 2009. Stormwater Outfall Dry Weather Detergent Screening Project Plan.
7. Chemetrics, Inc. instructions for the detergent field test.
<http://www.chemetrics.com/instructions/i9423.pdf>
8. Kitsap County Surface and Stormwater Education website "Tips for Clean Runoff"
<http://www.kitsapgov.com/sswm/tips.htm>.
9. Western Washington National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit, page 11.
<http://www.ecy.wa.gov/Programs/wq/stormwater/municipal/phaseIIww/MODIFIEDpermitDOCS/WWpermitMODsigned.pdf>
10. Kitsap County Surface and Stormwater Education website "Fundraiser Car Wash Program" <http://www.kitsapgov.com/sswm/carwash.htm>.
11. North Kitsap Herald article, June 2009. "Potential car wash regulations could help fight against pollution" and "Picking on the small fries to clean up the Puget Sound?"
<http://www.pnwlocalnews.com/kitsap/nkh/news/47813892.html?period=W>
12. Kitsap Sun article, August 2009. "County has Dirty Car Water In its Sight"
<http://www.kitsapsun.com/news/2009/aug/11/county-has-dirty-car-wash-water-in-its-sights/>
13. USA Today article, September 2008. "No driveway carwashes, Wash. state says"
http://www.usatoday.com/news/nation/2008-09-28-car-wash_N.htm