

# Effectiveness of Public Education and Outreach for Reducing Impacts of Stormwater on Rivers and Streams

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*Prepared by*

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Prepared for

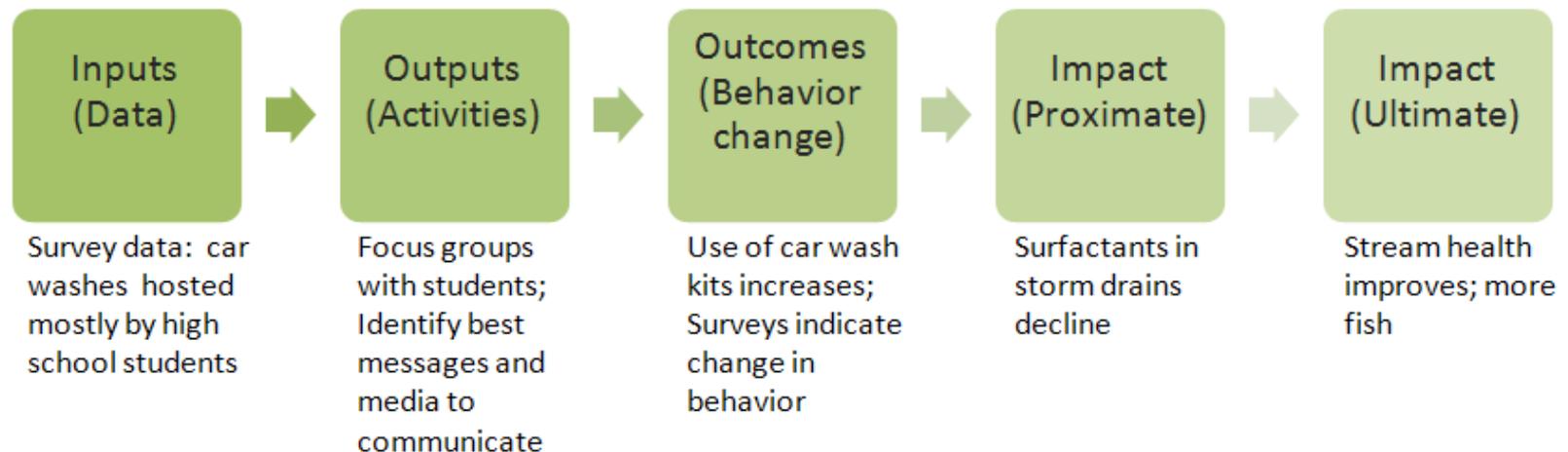
Washington Department of Ecology  
Association of Washington Cities

# Social Marketing – Model for Behavior Change

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*Multiple points to test for effectiveness*

## Example of Social Marketing Model for Fundraiser Car Washes



# Questions from the Stormwater Work Group

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3. Does public education decrease pollutants in stormwater?
9. Does public education increase awareness and change behavior?
16. Does public education of lake property owners reduce summer algae blooms?
17. Does drain stenciling increase awareness about untreated stormwater?

### 3. Does public education decrease pollutants in stormwater?

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*Are fecal coliform levels in stormwater reduced after pet waste education?*

Mixed results re: behavior change; unknown if significant outcome;  
Kitsap Co = 5 tons/day

*Are nutrient levels in stormwater reduced after natural yard care education?* Nutrients decline with education and fertilizer restriction (outcome); behavior change (outputs) found dramatic decline in fertilizer: 84% → 11%, King Co.

*Are pesticide concentrations and number of hits reduced in an urban stream after general awareness?* Dramatic behavior change in pesticide use: 74% → 16%, Kitsap

*Does establishing a spill hotline result in reduced stormwater pollutants?*  
Education increased use of spill hotlines in Kitsap Co. (outputs)

*Does fundraiser car washing education reduce surfactants in stormwater?*  
Attitudes about car washes have changed, fewer wash on street  
Unknown if fewer car washes, or if stormwater improved

## 9. Does public education increase awareness and change behavior?

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Yes. Dramatic changes in awareness and behavior change. Puget Sound residents very aware of issues and ready to do more.

*What is the change over time in willingness to make a simple change?*

Too general a question. Better to focus on behavior change.

*What is the change over time in willingness to invest over \$1,000?*

Farmers yes; small businesses not even if money given.

*What is the change over time of car owners to fix leaks? Unknown. Active STORM program to address.*

*What is the change in stormwater drain awareness of various business sectors involved in commercial property maintenance inspections?*

Small businesses do better with simple messages about desired behavior; awareness less important.

*Does a fundraiser car wash education decrease car wash events?*

Unknown; attitudes toward car washes changing.

## 16. Does education of lake prop. owners reduce algal blooms?

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Unknown. This question relates to the outcome.

*Are summer algae blooms due to excess runoff or recycling of nutrients?*

P more important than N. Fertilizer reduction programs in place could be measured.

*Can education and prevention of phosphorus loads from runoff influence the frequency and duration of lake algae blooms?* Unknown.

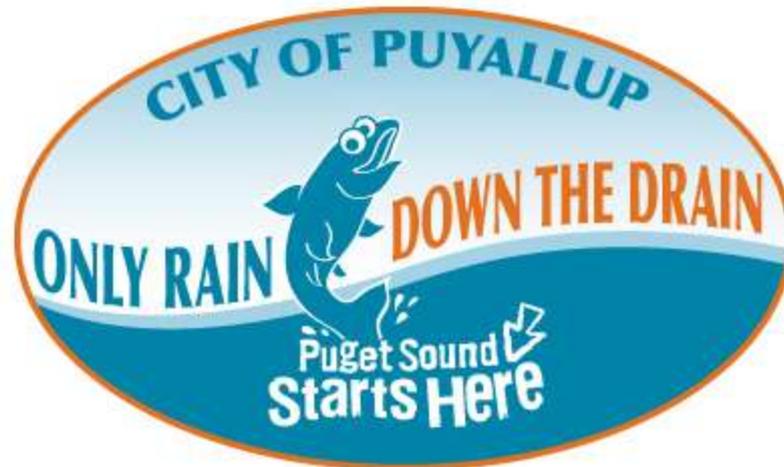


## 17. Does storm drain stenciling increase awareness about untreated stormwater?

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Too general a question. Better: What is the desired behavior and who needs to change?

*What is level of awareness of adjacent land owners to stencils compared to those without stencils? Behavior has changed related to stormwater drains, no oil down drain, fewer car washes on street, car wash kits in use*



# Regional connections

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## *Groups working on behavior change*

- STORM – Stormwater Outreach for Regional Municipalities
- Puget Sound Partnership  
Sound Behavior Index & Social Capital Index  
ECO Net
- King County/WRIA 8 Salmon Recovery Council
- Dept. of Ecology – chemical action plans

# Recommendations

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1. Recognize the enormous potential of public education
2. Identify major sources of pollutants, consider expanding beyond pet waste, lawn care, and automobile leaks
3. Define behavior change, target the audience, and work with experts to create a communication campaign.
4. Partner with existing programs to assess effectiveness.
5. Use existing regional indexes to measure change in attitudes and behavior.