



# Water Quality Program

## Permit Submittal Electronic Certification

**Permittee:** BREMERTON CITY OF

**Permit Number:** WAR045507

**Site Address:** 345 6th St  
#600  
Bremerton, WA 98337

**Submittal Name:** MS4 Annual Report Phase II Western

**Version:** 1

**Due Date:** 3/31/2024

### Questionnaire

Number	Permit Section	Question	Answer
1	S5.A	Attach a copy of any annexations, incorporations or boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period per S9.D.6.	Not Applicable
2	S5.A	Attach updated annual Stormwater Management Program Plan (SWMP Plan). (S5.A.2)	Bremerton 2024 SWMP Plan FINAL_2_03072024091836
3	S5.A	Implemented an ongoing program to gather, track, and maintain information per S5.A.3, including costs or estimated costs of implementing the SWMP.	Yes
4	S5.A.5.b	Coordinated among departments within the jurisdiction to eliminate barriers to permit compliance. (S5.A.5.b)	Yes

5	S5.C.1.	Have you convened an interdisciplinary team to inform and assist in the development, progress, and influence of the comprehensive stormwater planning program? (S.5.c.1). August 1, 2020	Yes Comment: Bremerton has an interdisciplinary group that meets to review areas of the planning effort within their areas of responsibility. Representatives from Engineering, Community Development, Stormwater Operations and Maintenance, and our Building Department participate in this process. We accept written comments from the community and discuss concerns when presented. All relevant planning and regulatory documents are posted to the City's Website. In addition, email, social media posts, news releases and billing inserts are used to disseminate information and encourage public review and comments. Regional stakeholders such as WDFW, other state agencies and local Tribes are sent draft documents for review and comment and are included in the planning processes as they are available.
14	S5.C.1.b	Did you submit a report as described in S5.C.1.b.i(b)? (Required to submit no later than January 1, 2023)	Yes
15	S5.C.1.c	Continue to design and implement local development-related codes, rules, standards, or other enforceable documents to minimize impervious surfaces, native vegetation loss, and stormwater runoff, where feasible? See S5.C.1.c.i. (Required annually)	Yes
16	S5.C.1.c	From the assessment described in S5.C.1.c.i (a), did you identify any administrative or regulatory barriers to implementation of LID Principles or LID BMPs? (Required annually)	No
20	S5.C.2	Did you choose to adopt one or more elements of a regional program? (S5.C.2)	Yes

20a	S5.C.2	If yes, list the elements, and the regional program.	<p>Bremerton is a member of the West Sound Stormwater Outreach Group (WSSOG). WSSOG is a consortium of local jurisdictions including Port Angeles, Poulsbo, Kitsap County, Bremerton, Port Orchard, Gig Harbor and Bainbridge Island. The WSSOG collaborative effort develops, implements, and funds stormwater education, outreach messages, materials, activities, and program assessment tools for the public, businesses, and other target audiences.</p> <p>This regional program provides education and outreach with a consistent message through sharing of resources and ideas. WSSOG educational materials are used within Bremerton's existing programs including pet waste management, outreach to the automotive industry, vehicle maintenance, paint and household hazardous chemical disposal, the regional spills reporting hotline, and natural yard care. In addition, Bremerton promotes the use of the Regional Kitsap County Moderate Risk Waste Facility.</p> <p>The 2023 WSSOG Annual Activities Report is attached to this submittal for reference.</p>
21	S5.C.2	Attach a description of general awareness efforts conducted, including your target audiences and subject areas, per S5.C.2.a.i.	S5.C.2.a.i – General Awareness_21_022720 24094034
24	S5.C.2	Began implementing strategy outlined in S.5.C.2.a.ii(c) (S5.C.2.a.ii(d) – Required by April 1, 2021)	Yes

25	S5.C.2	Attach the report developed in accordance with S5.C.2.a.ii(e), which evaluated the changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy and any planned or recommended changes to the program in order to be more effective. (Required no later March 31, 2024)	WSSOG_NYC_evaluati onV2_25_02272024093 024
26	S5.C.2	Promoted stewardship opportunities (or partnered with others) to encourage resident participation in activities such as those described in S5.C.2.a.iii.	Yes
26a	S5.C.2	Attach a list of stewardship opportunities provided.	S5.C.2.a.iii – Stewardship Opp_26a_02272024094 339

27	S5.C.3.	Describe in Comments field the opportunities created for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation, and updates of the Permittee's SWMP and the SMAP. (S5.C.3.a)	<p>The City of Bremerton recognizes the inherent value of public involvement and engagement with the Stormwater Program and encourages the public to stay informed on current and future Stormwater projects. Bremerton solicits feedback through the City's website, Utility bill messages, e-News emails to customers, and has provided a survey specific to stormwater on its website. To address communities burdened by limited internet access or technology constraints, additional efforts to distribute printed materials and newspaper notifications in these communities has been conducted.</p> <p>Public access TV and social media will be used again in 2024 to encourage participation in program development. Modified efforts such as printed distribution and newspaper notifications for overburdened communities will continue to be developed. New efforts to distribute multilingual notifications will also be researched for implementation. Other partnership opportunities between the Stormwater Program and the public will be pursued in 2024, including LID guidance, assistance, and site assessments to identify opportunities for business and residents.</p>
28	S5.C.3.	Posted the updated SWMP Plan and latest annual report on your website no later than May 31. (S5.C.3.b)	Yes

28a	S5.C.3.	List the website address in Comments field.	<a href="https://www.bremertonwa.gov/489/Stormwater-Management-NPDES-Phase-II">https://www.bremertonwa.gov/489/Stormwater-Management-NPDES-Phase-II</a>
29	S5.C.4.	Maintained a map of the MS4 including the requirements listed in S5.C.4.a.i-vii?	Yes
30	S5.C.4.	Started mapping outfall size and material in accordance with S5.C.4.b.i? (Required no later than January 1, 2020)	Yes
30a	S5.C.4.	Attach a spreadsheet that lists the known outfalls' size and material(s).	Outfall_inventory_022724_30a_02272024134624
31	S5.C.4.	Completed mapping connections to private storm sewers in accordance with S5.C.4.b.ii? (Required no later than August 1, 2023)	Yes
33	S5.C.5	Informed public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste? (S5.C.5.b)	Yes
33a	S5.C.5	Actions taken to inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.	Bremerton has several videos uploaded to the city's network that present issues such as IDDE, and various stormwater related pollution prevention topics. Staff are assigned training that is accompanied by a test on a regular basis. Inspection staff provide brochures and general pollution prevention information during inspections. These brochures are also placed in public spaces and businesses around the city.
34	S5.C.5	Implemented an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges as described in S5.C.5.c.	Yes
35	S5.C.5	Implemented procedures for conducting illicit discharge investigations in accordance with S5.C.5.d.i.	Yes
35a	S5.C.5	Cite field screening methodology in Comments field.	2020 Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual (IC-ID Manual), Herrera and King County, 2020.

36	S5.C.5	Percentage of MS4 coverage area screened in the reporting year per S5.C.5.d.i. (Required to screen 12% on average each year.)	31 Comment: In 2023, Bremerton screened 31% of its MS4's catch basins and pipes. In addition, Bremerton screened 28% of its outfalls. Bremerton also screened 7 miles of open channel ditch during routine maintenance activities.
36a	S5.C.5	Cite field screening techniques used to determine percent of MS4 screened.	Bremerton uses the 2020 Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual (IC-ID Manual) created by Herrera and King County. Per the manual, the City utilizes table 3.2 for determination of percentages screened annually.
37	S5.C.5	Percentage of total MS4 screened from permit effective date through the end of the reporting year. (S5.C.5.d.i.)	100 Comment: Bremerton has screened 100% of its known MS4 for illicit connections and illicit discharges since 2019. This work will continue in 2024 in order to identify if any new connections have been made to the system since screening began in 2019 and to eliminate illicit discharges if discovered.
38	S5.C.5	Describe how you publicized a hotline telephone number for public reporting of spills and other illicit discharges in the Comments field. (S5.C.5.d.ii)	Bremerton uses the following methods to post email address and Hotline phone number for public use: signs are posted in public areas in the downtown core, in parking garages, and other public property; signs on the side of street sweepers; City's website; and the Bremerton1 application that can be downloaded to phones, tablets, and computers.
39	S5.C.5	Implemented an ongoing illicit discharge training program for all municipal field staff per S5.C.5.d.iii.	Yes
40	S5.C.5	Implemented an ongoing program to characterize, trace, and eliminate illicit discharges into the MS4 per S5.C.5.e.	Yes

41	S5.C.5	Municipal illicit discharge detection staff are trained to conduct illicit discharge detection and elimination activities as described in S5.C.5.f.	Yes
42	S5.C.5	Attach a report with data describing the actions taken to characterize, trace, and eliminate each illicit discharge reported to, or investigated by, the Permittee as described in S5.C.5.g. The submittal must include all of the applicable information and must follow the instructions, timelines, and format described in Appendix 12.	WAR045507-2023-ImportedIDDEs_03152024142839
43	S5.C.6.	Implemented an ordinance or other enforceable mechanism to effectively address runoff from new development, redevelopment, and construction sites per the requirements of S5.C.6.b.i-iii.	Yes
45	S5.C.6.	Number of adjustments granted to the minimum requirements in Appendix 1. (S5.C.6.b.i. and Section 5 of Appendix 1)	Not Applicable
46	S5.C.6.	Number of exceptions/variances granted to the minimum requirements in Appendix 1. (S5.C.6.b.i., and Section 6 of Appendix 1)	Not Applicable
47	S5.C.6.	Reviewed Stormwater Site Plans for all proposed development activities that meet the thresholds adopted pursuant to S5.C.6.b.i. (S5.C.6.c.i)	Yes
47a	S5.C.6.	Number of site plans reviewed during the reporting period.	54
48	S5.C.6.	Inspected, prior to clearing and construction, permitted development sites per S5.C.6.c.ii, that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 – Determining Construction Site Sediment Damage Potential?	No Comment: Bremerton is updating its permit submittal processes in 2024 to improve transparency, increase efficiency of permit review and responses, and to streamline customer service. One of the updates is to require applicants to submit an Appendix 7 assessment along with any development or redevelopment applications. The City has developed an SOP for this process and plans to begin including this as a requirement of the permit application process sometime in 2024.
48a	S5.C.6.	If no, inspected, prior to clearing and construction, all construction sites meeting the minimum thresholds (S5.C.6.c.ii)?	Yes
49	S5.C.6.	Inspected permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls per S5.C.6.c.iii.	Yes
49a	S5.C.6.	Number of construction sites inspected per S5.C.6.c.iii.	56

49b	S5.C.6.	Inspected stormwater treatment and flow control BMPs/facilities and catch basins in new residential developments every 6 months per S5.C.6.c.iv?	Yes
50	S5.C.6.	Inspected all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. (S5.C.6.c.v)	Yes
51	S5.C.6.	Verified a maintenance plan is completed and responsibility for maintenance is assigned for projects prior to final approval and occupancy being granted. (S5.C.6.c.v)	Yes
52	S5.C.6.	Number of enforcement actions taken during the reporting period (based on construction phase inspections at new development and redevelopment projects). (S5.C.6.c.ii-iv) (S5.C.7.c.viii)	3
53	S5.C.6.	Achieved at least 80% of scheduled construction-related inspections. (S5.C.6.c.vi)	Yes
54	S5.C.6.	Made Ecology's Notice of Intent for Construction Activity and Notice of Intent for Industrial Activity available to representatives of proposed new development and redevelopment? (S5.C.6.d)	Yes
55	S5.C.6.	All staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites including permitting, plan review, construction site inspections, and enforcement are trained to conduct these activities? (S5.C.6.e)	Yes
56	S5.C.7.	Implemented maintenance standards that are as protective, or more protective, of facility function than those specified in the Stormwater Management Manual for Western Washington or a Phase I program approved by Ecology per S5.C.7.a.?	Yes
58	S5.C.7.	Applied a maintenance standard for a facility or facilities which do not have maintenance standards specified in the Stormwater Management Manual for Western Washington? If so, note in the Comments field what kinds of facilities are covered by this alternative standard. (S5.C.7.a)	No
59	S5.C.7.	Verified that maintenance was performed per the schedule in S5.C.7.a.ii when an inspection identified an exceedance of the maintenance standard.	Yes
59a	S5.C.7.	Attach documentation of maintenance time frame exceedances that were beyond the Permittee's control.	Not Applicable
60	S5.C.7.	Implemented an ordinance or other enforceable mechanisms to verify long-term operation and maintenance of stormwater treatment and flow control BMPs/facilities regulated by the permittee per (S5.C.7.b.i (a))?	Yes

61	S5.C.7.	Annually inspected stormwater treatment and flow control BMPs/facilities regulated by the Permittee per S5.C.7.b.i(b)	Yes
61a	S5.C.7.	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.b.i (b)	Not Applicable
62	S5.C.7.	Achieved at least 80% of scheduled inspections to verify adequate long-term O&M. (S5.C.7.b.ii)	Yes
63	S5.C.7.	Annually inspected all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	Yes
63a	S5.C.7.	Number of known municipally owned or operated stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	60
63b	S5.C.7.	Number of facilities inspected during the reporting period.	60
63c	S5.C.7.	Number of facilities for which maintenance was performed during the reporting period.	60
64	S5.C.7.	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.c.i.	Not Applicable
65	S5.C.7.	Conducted spot checks and inspections (if necessary) of potentially damaged stormwater facilities after major storms as per S5.C.7.c.ii.	Yes
66	S5.C.7.	Inspected municipally owned or operated catch basins and inlets every two years or used an alternative approach? Cleaned as needed? (S5.C.7.c.iii)	Yes
66a	S5.C.7.	Number of known catch basins?	4500
66b	S5.C.7.	Number of catch basins inspected during the reporting period?	1900 Comment: Maintenance of catch basins was greatly inhibited in 2023 due to two catastrophic eductor truck failures that put the vehicles out of commission for nearly three months. Inspection and maintenance activities in 2024 will be ramped up to ensure that 100% of our catch basins are inspected and maintained as needed biennially as required by the permit.
66c	S5.C.7.	Number of catch basins cleaned during the reporting period?	1398
67	S5.C.7.	Attach documentation of alternative catch basin cleaning approach, if used. (S5.C.7.c.iii.(a)-(c))	Not Applicable
68	S5.C.7.	Implemented practices, policies and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the Permittee, and road maintenance activities under the functional control of the Permittee. (S5.C.7.d)	Yes

70	S5.C.7.	Implemented an ongoing training program for Permittee employees whose primary construction, operations or maintenance job functions may impact stormwater quality. (S5.C.7.e)	Yes
71	S5.C.7.	Implemented a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under an NPDES permit that covers stormwater discharges associated with the activity. (S5.C.7.f)	Yes
74	S5.C.8	Established an inventory per S5.C.8.b.ii. (Required by August 1, 2022.)	Yes
74a	S5.C.8	Number of total sites identified for the inventory.	802
75	S5.C.8	Implemented an inspection program S5.C.8.b.iii (Required by January 1, 2023).	Yes
76	S5.C.8	Implemented a progressive enforcement policy per S5.C.8.b.iv (Required by January 1, 2023).	Yes
77	S5.C.8	Attach a summary of actions taken to implement the source control program per S5.C.8.b.iii and S5.C.8.b.iv.	S5.C.8.b.iii & iv - Source Con_77_02292024130208
78	S5.C.8	Attach a list of inspections, per S5.C.8.b.iii, organized by the business category, noting the amount of times each business was inspected, and if enforcement actions were taken.	Source Control Inspection Repo_78_02292024130209
79	S5.C.8	Implemented an ongoing source control training program per S5.C.8.b.v?	Yes
80	S7	Complied with the Total Maximum Daily Load (TMDL)-specific requirements identified in Appendix 2. (S7.A)	Yes
81	S7	For TMDLs listed in Appendix 2: Attach a summary of relevant SWMP and Appendix 2 activities to address the applicable TMDL parameter(s). (S7.A)	S7 - 2023 TMDL Activities_81_03052024084455
82	S8	Submitted payment for cost-sharing for Stormwater Action Monitoring (SAM) status and trends monitoring no later than December 1, 2019 (S8.A.1); and no later than August 15 of each subsequent year? (S8.A.2.a.)	Yes
84	S8	Submitted payment for cost-sharing for SAM effectiveness and source identification studies no later than December 1, 2019 (S8.B.1); and no later than August 15 of each subsequent year (S8.B.2.a or S8.B.2.c)?	Yes
87	S8	If conducting stormwater discharge monitoring in accordance with S8.C.1, attach a data and analysis report per S8.C.1. and Appendix 9. (Due annually beginning March 31, 2021.)	Not Applicable
88	G3	Notified Ecology in accordance with G3 of any discharge into or from the Permittees MS4 which could constitute a threat to human health, welfare or the environment. (G3)	Yes

89	G3	Took appropriate action to correct or minimize the threat to human health, welfare, and/or the environment per G3.A.	Yes
90	Compliance with standards	Notified Ecology within 30 days of becoming aware that a discharge from the Permittee's MS4 caused or contributed to a known or likely violation of water quality standards in the receiving water. (S4.F.1)	Not Applicable
91	Compliance with standards	If requested, submitted an Adaptive Management Response report in accordance with S4.F.3.a.	Not Applicable
92	Compliance with standards	Attach a summary of the status of implementation of any actions taken pursuant to S4.F.3 and the status of any monitoring, assessment, or evaluation efforts conducted during the reporting period. (S4.F.3.d)	Not Applicable
93	G20	Notified Ecology of the failure to comply with the permit terms and conditions within 30 days of becoming aware of the non-compliance. (G20)	Not Applicable
94	G20	Number of non-compliance notifications (G20) provided in reporting year. List permit conditions described in non-compliance notification(s) in Comments field.	Not Applicable

*I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Chance Berthiaume

3/20/2024 2:23:14 PM

Signature

Date

#### S5.C.2.a.i – General Awareness Efforts

The City sets up and staffs information tables at water-related public events such as Kids Fishing Day and Kitsap Salmon Tours. A variety of posters and handouts both raise awareness of stormwater and receiving water quality and encourage behavior changes in the attendees.

Bremerton School District (BSD) provides environmental education to K-12 students. In return, the City reduces the School District's stormwater fees. The approved curriculum covers science, biology, and environmental topics covering water and climate, salmon, soil erosion, plants, insects, stormwater, pollution, and human impacts on the environment. This program provides local students with a well-rounded knowledge base that supports our environmental restoration and preservation efforts for future generations.

#### Planned Activities:

In 2024 the City will continue to provide information at display tables the city hosts at Kids Fishing Day and Kitsap Salmon Tours, as well as pursue any new general awareness opportunities that may present themselves. Bremerton will continue providing BSD with funding (by way of discounted stormwater fees) to implement general awareness activities in its school curriculum that teach students about impacts of stormwater and impervious surfaces, as well as environmental stewardship. The value of the discounted stormwater fees will be \$228,794.51 in 2024.

#### S5.C.2.a.iii – Stewardship Opportunities

Bremerton coordinates a portion of the Sinclair Inlet Cleanup, a volunteer cleanup effort supported by local agencies, business, and residents that was established in 1995. This cleanup effort is conducted twice annually. Stormwater educational materials and program information are provided and displayed at this event. The cleanup volunteers collect trash from the shorelines and local streets, and install storm drain markers when teams are available. Storm drain markers are also provided to Bremerton's schools and local neighborhoods upon request.

#### Planned Activities:

The City will continue to promote and participate in both of the Sinclair Inlet Cleanup efforts in 2024.



## **Source Control Program Development and Implementation**

### **Activities completed to develop and implement the Business Source Control Program** **Identify Bremerton businesses that meet Ecology provided SIC codes.**

Base list of sites to inspect and assist with BMP implementation.

- Draft list in February of 2022.
- Final list in August of 2022 which is updated as changes are identified.

### **Identify staff needs to implement the program:**

- Completed in May of 2022.
- Identified new staff position specifically for the program in July 2022.
- Budgeted new position with Union approval in September 2022.
- Staff approved in adopted 2023 budget by City Council in December 2022.

### **Reviewed program funding options beginning in July that included:**

- City funded by using existing utility budget,
- Per site charges for each inspection and assistance visit,
- Impervious surface area-based charge,

Selected using existing utility funding as source to implement the program in October 2022.

### **Bremerton Municipal Code and other authorities to support program implementation.**

Reviewed existing codes and policies to ensure we were able to complete the inspections with current regulations and found that we can. Current codes and adopted guidance provide sufficient authority to implement the program, plus provide a progressive enforcement policy to support regulatory compliance before the implementation of the program began in January, 2023.

### **Regional approach:**

Developed working group with members from West Sound Stormwater Outreach Group and West Sound Stormwater Managers group to develop regional program guidance and informational brochures. Group meetings were held between May and November of 2022. City Utility Compliance staff were included as they are the inspectors for the program.

### **Regional Training:**

Provided by WSU Puyallup Extension, with Herrera Consulting, on 10/6/2022 as part of our regional coordination to implement the program. Source Control inspector training for staff provide consistent groundwork to implement the program.



## 2023 TMDL Activities

### Compliance with Total Maximum Daily Load (TMDL) Requirements

*Designate any previously unscreened areas discharging via the MS4 to the TMDL area as the highest priority for illicit discharge detection and elimination routine field screening. Screen for bacteria sources when conducting illicit discharge detection and elimination field screening activities in these areas.*

In 2023, the City prioritized system maintenance and inspections of private and public stormwater facilities discharging to the MS4 in Kitsap Lake, Oyster and Ostrich Bays basins. No illicit discharges were found. Bremerton screens a percentage of its outfalls every year for various pollutants including fecal coliform. Of the outfalls screened, one outfall in East Bremerton that drains to Sinclair Inlet had elevated levels of fecal coliform. Upon source tracing, it was determined that the source was an animal latrine located upstream of the sampling location. The City will continue monitoring this outfall to track changes over time.

### Kitsap Lake Activities

The 2012 Sinclair and Dyes Inlets Fecal Coliform TMDL identified Kitsap Lake as part of the cleanup plan, the lake is listed for elevated fecal coliform and phosphorus. Bremerton has implemented an ongoing program to reduce phosphorus, and fecal coliform levels in Kitsap Lake. In 2023 a product named Phoslock was applied to the lake water two times over the summer (June 6th and September 7th) to reduce free reactive phosphorus that feeds cyanobacteria blooms (blue-green algae). This product also reduces the amount of phosphorus leaving the lake that ultimately ends up in Dyes Inlet, part of Puget Sound, where conditionally approved shellfish beds are located. Fecal coliform was determined to be from waterfowl at the Kitsap Public Health's sample location, Kitsap Lake Park. Aquatic vegetation harvesting (July 31<sup>st</sup> -August 14<sup>th</sup>) and shoreline management improved circulation at the sample site, and signage was installed to prevent visitors from feeding birds at the park. This program is very effective and has reduced FC and phosphorus issues at the lake. This activity is permitted with coverage under the Aquatic Plant and Algae Management General Permit, Permit Number WAG994463.

### Pet Waste Dispenser Program

Pet waste bag dispensers and trash cans have been installed throughout the city at sensitive locations for a total of 50 city-owned stations and approximately 18 additional units that are maintained by private citizens. Additional dispensers may be installed this year in ROW and city-owned properties as needed. The city provided approximately 204,000 pet waste bags in 2023 and will continue to supply these at designated dispenser stations.

## City of Bremerton TMDL Requirements

Western Washington Phase II Municipal Stormwater Permit Appendix 2 Total Maximum Daily Load (TMDL) Requirements	
<b>Name of TMDL</b>	<b>Sinclair and Dyes Inlets Fecal Coliform Bacteria Total Maximum Daily Load</b>
<b>Document(s) for TMDL</b>	<i>Sinclair and Dyes Inlets Fecal Coliform Bacteria Total Maximum Daily Load (TMDL) Water Quality Implementation Plan</i> , In Draft, Ecology Publication No. 11-10-051. <a href="https://fortress.wa.gov/ecy/publications/publications/1110051.pdf">https://fortress.wa.gov/ecy/publications/publications/1110051.pdf</a>
<b>Location of Original 303(d) Listings</b>	Dyes Inlet & Port Washington Narrows (WA-15-0020) Gorst Creek (WA-15-4000), Blackjack Creek (WA-15-4200) Annapolis Creek (WA-15-4400), Beaver Creek (WA-15-4900) Clear Creek (WA-15-5000), Barker Creek (WA-15-5100) Sinclair Inlet (WA-15-0040)
<b>Area Where TMDL Requirements Apply</b>	These requirements apply to areas served by MS4s listed below within the TMDL coverage area.
<b>Parameter(s)</b>	Fecal coliform bacteria
<b>EPA Approval Date</b>	July 5, 2012
<b>MS4 Permittee:</b>	Phase II Permit: City of Bainbridge Island, WAR04-5503; City of Bremerton, WAR04-5507; City of Port Orchard, WAR04-5536; Kitsap County, WAR04-5546

### City of Bremerton (requirement language from the NPDES Permit)

- Designate any previously unscreened areas discharging via the MS4 to the TMDL area as the highest priority for illicit discharge detection and elimination routine field screening. Screen for bacteria sources when conducting illicit discharge detection and elimination field screening activities in these areas. Implement the schedules and activities identified in S5.C.5 of the Western Washington Phase II Permit for response to any illicit discharges found.
- Install and maintain pet waste education and collection stations at municipal parks and other Permittee owned and operated lands adjacent to stream and marine shorelines. Focus on locations where people commonly walk their dogs.

<u>Business Name</u>	<u>Address</u>	<u>NAICS</u>	<u>Site Visits</u>	<u>Enforcement Actions</u>	<u>Date</u>
Cal-Portland	8430 SW Barney White RD	423320 / 423	2	no	1/4/2023
Bremerton Ice Arena	1950 Homer J Jones Drive	61120 / 611	2	no	1/5/2023
Coastal Marine Services INC	1123 N Wycoff Ave	336611 /336	2	no	1/9/2023
Discount Tire & Wheel	702 Park Ave	441320 / 441	1	no	1/9/2023
Uptown Autobody	5150 Auto Center Blvd	811121 / 811	1	no	1/31/2023
All About Transmissions	5219 1st St	811111 / 811	2	no	2//3/2023
The Heights at Sheridan Rd	100 Sheridan Rd	531110 /531	2	no	2/22/2023
Platt Electric	5235 Auto Center Way	449210 / 449	2	no	3/3/2023
The Auto Spa Plus	3740 Wheaton Way suite B	811192 / 811	2	no	3/14/2023
Cars Automotive Repair	3740 Wheaton Way suite A	811111 / 811	2	no	3/14/2023
Cascade Natural Gas Corp	6313 Kitsap Way	486210 / 486	2	no	3/21/2023
Our Lady Star Of the Sea	517 Veneta Ave	611110 / 611	2	no	3/27/2023
Gerber Collision & Glass	327 N Montgomery Ave	811111 / 811	2	no	4/3/2023
Fk Insigna LLC	1035 Insigna Loop	531311 / 531	2	no	4/5/2023
Bottling Group LLC (Pepsi)	5210 1st St	31211 / 312	2	no	4/11/2023
Dealin Inc (76 station & car wash)	2550 Burwell St	447110 / 447	2	no	4/14/2023
Peninsula Truck Lines Inc	4911 Auto Center Blvd	484230 / 484	2	no	4/20/2023
Cosmopolitan Motors LLC	6525 Kitsap Way	441120 / 441	2	no	4/24/2023
Maaco LLC	911 Union Ave	811121 / 811	3	no	5/2/2023
Inventech Marine Solutions LLC	5626 Imperial Way	541490 / 541	3	no	5/3/2023
Discount Tire & Wheel	702 Park Ave	441320 / 441	2	no	5/9/2023
Midway Muffler & Radiator (Bucky's)	601 N Callow Ave	811111 / 811	3	no	5/10/2023
Pacific Ship Repair & Fabrication Inc	8390 SW Barney White Rd	423390 / 423	3	no	4/18/2023

L & R Automotive	1112 Pearl St	811111 / 811	2	no	5/17/2023
Wilco Farm Store	4330 Wheaton Way	444210 / 444	4	no	5/25/2023
Kitsap Peninsula Vocational Center	101 National Ave	61151 / 611	3	no	5/26/2023
Brothers Auto Repair LLC	500 Naval Ave	811111 / 811	2	no	5/30/2023
Works Granite & Stone LLC	4535 Auto Center Way STE D	238340 / 238	2	no	5/31/2023
Imperial RV Repair	5630 SW Imperial way	811111 / 811	4	no	6/5/2023
Big Boys Tire	3711 Kitsap Way	811111 / 811	3	no	6/6/2023
Woodlawn Cemetery	5505 Kitsap Way	812210 / 812	2	no	6/7/2023
Uptown Autobody	5150 Auto Center Blvd	811121 / 811	3	no	6/8/2023
Belfair Hose & Hydraulic	5737 Sw Imperial Way	811111 / 811	2	no	6/14/2023
Pacific Welding Supply	200 Katy Penman Ave	532412 / 532	3	no	6/21/2023
American Scaffold LLC	130 Tweed Ln NW STE # 5	238990 / 238	2	no	6/22/2023
Westbay Auto Parts Inc	3050 Kitsap Way	441310 / 441	3	no	6/27/2023
Pipeworks Mechanical & Service Inc	1701 Thompson Dr	238220 / 238	2	no	6/29/2023
Color Shift Coatings LLC	130 Tweed Ln NW STE # 4	238990 / 238	2	no	7/6/2023
PC Pine Ridge Bremerton LLC	3232 Pine Rd	531210 / 531	2	no	7/11/2023
Coopers NW Inc	3236 Wheaton Way	441310 / 441	2	no	7/18/2023
Stripe Rite Inc	8320 SW Barney White RD	237310 / 237	2	no	7/21/2023
United Parcel Service Inc	8000 W Werner Rd	492110 / 492	2	no	7/25/2023
Coastal Marine Services INC	1123 N Wycoff Ave	336611 / 336	3	no	7/26/2023
Habitat for Humanity of Kitsap County	3451 Wheaton Way	236115 / 236	2	no	7/27/2023
The Post (Viewcrest Village)	3401 Spruce Ave	53111 / 531	2	no	8/2/2023
Kitsap Kustoms Automotive	6714 Kitsap Way	811111 / 811	2	no	8/3/2023

Delphinus Engineering Inc	5536 Cruiser Loop	336611 / 336	2	no	8/15/2023
Pacific Western Timbers	5555 Cruiser Loop	339992 / 321	2	no	8/17/2023
Olympic College	1600 Chester Ave	921190 / 921	3	no	8/22/2023
Shearere Auto Glass Plus Inc	555 Bruenn Ave	811122 / 811	3	no	8/23/2023
Shur-kleen Car Wash	3311 Kitsap Way	811192 / 811	3	no	8/24/2023
Swire Coca-Cola Western WA C.C. Bottling	5001 Auto Center Blvd	424490 / 424	2	no	8/16/2023
Peget Sound Energy	6522 Kitsap Way	22111 / 221	3	no	8/29/2023
International Marine & Industrail Applicators	5695 SW Imperial Way	336611 / 336	3	no	8/30/2023
Top Notch Detail LLC	2132 6th St STE B	811192 / 811	2	no	8/31/2023
S & S Landscaping Services Inc	1710 6th St	561730 / 561	2	no	9/11/2023
Mayflower Trucking	8576 SW Warrior Dr	484121 / 484	2	no	9/12/2023
Eastside Hot Rods LLC	3940 Wheaton Way	811121 / 811	3	no	9/13/2023
Autozone Parts Inc	2008 6th St	441310 / 441	2	no	9/14/2023
Western Refining Retail LLC	2808 Wheaton Way	447110 / 447	2	no	9/18/2023
Thermal Supply	5255 Sinclair Way	423730 / 432	2	no	9/18/2023
Evergreen Goodwill of Northwest WA	4209 Wheaton Way	624310 / 624	2	no	9/19/2023
Bremerton Collision / Expresss Collision Repair	708 Pacific Ave	811121 / 811	2	no	9/20/2023
Speath Transfer Inc / Allied Van Lines	1229 Hollis St	484210 / 484	3	no	9/26/2023
Bremerton Ice Center LLC	1950 Homer R Jones Dr	713990 / 713	2	no	9/27/2023
Sodexo-Live Centerplate	6020 W Werner Rd	453998 / 453	2	no	9/28/2023
Petco Animal Supplies Store Inc	4209 Wheaton Way	453910 / 453	2	no	10/9/2023
Saint Vincent De Paul	3449 Wheaton Way	453310 / 453	3	no	10/11/2023
Sp Marine	5770 SW Imperial Way	541490 / 541	2	no	10/16/2023
SWP Properties LLC / Defiance Boats	5120 SW Nixon Loop STE B	336612 / 336	3	no	10/17/2023

East Towne Cleaners LLC	4207 Wheaton Way STE D	812310 / 812	2	no	10/19/2023
Mikes Auto Repair	934 N Wycoff Ave	811111 / 811	2	no	10/24/2023
Seattle Automotive Distributing Inc	5877 W Werner Rd	441310 / 441	2	no	11/6/2023
Gold Mountain Golf Club	7263 W Belfair Valley Rd	722110 / 722	3	no	11/8/2023
General Dynamamics Electric Boat	8707 Sw Sentinel Peak Way	336611 / 336	2	no	11/15/2023
Consolidated Electric Distributors	4503 Auto Center Way	423610 / 423	2	no	11/16/2023
Addison Construction Supply Inc	202 Katy Penman Ave	332312 / 332	2	no	11/20/2023
Reds Electric Motors Inc	2300 6th St	335312 / 335	2	no	11/12/2023
Holmes Mechanical Inc	5210 Sinclair Way	238220 / 238	2	no	11/22/2023
Saaar's Super Saver Inc	2900 Wheaton Way	445110 / 445	2	no	11/27/2023
Brothers Powersports / Nilson Brothers Inc	5205 1st St	441228 / 441	2	no	11/29/2023
Secret Gardens LLC	410 Ida St	111419 / 111	2	no	11/30/2023
Copperwood LLC	5765 SW Imperial Way	337110 / 337	2	no	12/5/2023
Team Car Care West LLC / Jiffy Lube	3515 Kitsap Way	811111 / 811	4	no	12/5/2023
Meineke Car Care Center / TRR LLC	3936 Wheaton Way	811191 / 811	3	no	12/6/2023
Firestone Retail / Bridgestone Operations LLC	3957 Wheaton Way	441320 / 441	3	no	12/7/2023
JPL Habitability LLC	112 Shore Dr	332999 / 332	3	no	12/8/2023
Blue Canary Automotive LLC	706 Pacific Ave STE 100	811111 / 811	2	no	12/11/2023
Jet Heating & Cooling LLC	800 11th St	238220 / 238	4	no	12/12/2023
Les Schwab Tire Center # 405	240 Bruenn Ave	441320 / 441	2	no	12/13/2023
O'Reilly Auto Parts # 2984	3402 Kitsap Way	441310 / 441	3	no	12/14/2023
Paul Davis Construction LLC	5538 Cruiser Loop SW	236118 / 236	2	no	12/18/2023
Shannon's Auto Sale Group LLC	3246 Wheaton Way	441120 / 441	2	no	12/19/2023

Total number of site visits in 2023 - 216

Enforcement actions taken in 2023 - None warranted



# West Sound Stormwater Outreach Group 2023 Summary of Activities

February 2024

*PREPARED BY: KITSAP COUNTY, STORMWATER DIVISION*

## TABLE OF CONTENTS

Who We Are .....	3
2023 Highlights .....	4
BEHAVIOR CHANGE PROGRAMS (S5.C.2.a.ii) .....	5
ILLCIT DISCHARGE DETECTION AND ELIMINATION (S5.C.5.d.ii) .....	14
GENERAL AWARENESS (S5.C.2.a.i) .....	15
STEWARDSHIP (S5.C.2.a.iii) .....	17
MAXIMIZING OUR REACH THROUGH PARTNERSHIPS .....	18
PLANNING FOR 2024.....	20
Appendix A: STORM 2023 ANNUAL REPORT	
Appendix B: WSSOG 2023 WORK PLAN	
APPENDIX C: PUGET SOUND STARTS HERE PROCLAMATION	
Appendix D: WSSOG 2023 NATURAL YARD CARE REPORT	
Appendix E: NATURAL YARD CARE CAMPAIGN EVALUATION REPORT	

## WHO WE ARE

Kitsap County and the Cities of Bremerton, Gig Harbor, Port Orchard, and Poulsbo have been working to jointly fund, develop and implement education and outreach programs via interlocal agreements since 2008. With the additions of Bainbridge Island and Port Angeles in 2012, the group assumed the name of West Sound Stormwater Outreach Group (WSSOG). The US Navy participates as an informal member. The WSSOG goal is to work cooperatively to improve water quality and to meet key requirements of the public education and outreach components of the 2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit (herein referred to as the Permit). In doing so, we create cost savings and efficiencies and benefit the community through consistent outreach and messaging.



## 2023 HIGHLIGHTS

In 2023, WSSOG focused on continuing to implement the natural yard care behavior change campaign. WSSOG initially began working with a consultant, C+C, in 2018 to identify a new priority audience and best management practice (BMP). WSSOG chose to focus on natural yard care and identified residents who have either children or pets in their homes as the priority audience. The BMP selected was the use and storage of pesticides, fertilizers and/or other household chemicals. WSSOG piloted implementation of the strategy in 2021 and full implementation in 2022.

*Permittee may choose to meet these requirements individually or as a member of a regional group. Regional collaboration...includes permittees developing a consistent message, determining the best methods for communicating the message...and creating strategies to effect behavior change. If a permittee chooses to adopt...a regional program, the permittee should participate in the regional group and shall implement the adopted element(s) of the regional program in the local jurisdiction.*

*2019-2024 NPDES Municipal Stormwater Permit – S5.c.2*

In addition to expanding this behavior change campaign, WSSOG focused on maintaining and improving existing programs including the successful Mutt Mitt program, spills and illicit discharge outreach and continued to stay involved in regional collaborative efforts including local work groups and the STORM group (Stormwater Outreach for Regional Municipalities). The group also participated in Puget Sound Starts Here Month in September. Bainbridge Island declared September 2023 as “Puget Sound Starts Here Month” to solidify its commitment to clean water (Appendix C).

Lastly, Kitsap County was awarded a Grants of Regional or Statewide Significance (GROSS) from the Washington State Department of Ecology in July 2021 on behalf of WSSOG. The grant included three distinct deliverables, designed to help WSSOG’s efforts in reaching overburdened communities. The grant provides for training, enhancement of an equity mapping tool, and an analysis of WSSOG’s outreach programs. Two of the deliverables were completed in 2022. The last deliverable was completed in 2023.

## BEHAVIOR CHANGE PROGRAMS (S5.C.2.a.ii)

WSSOG coordinates two behavior change campaigns: the long-standing Mutt Mitt program and the natural yard care campaign.

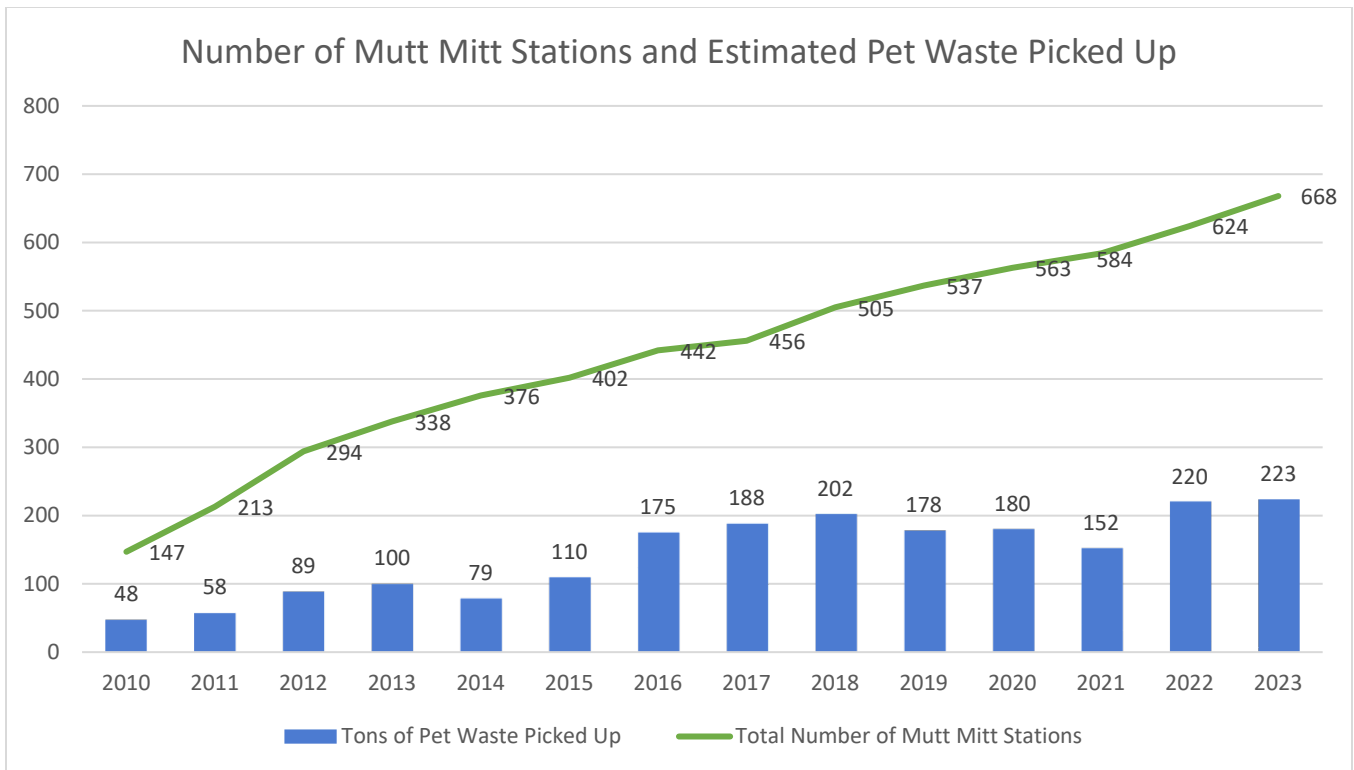
### PET WASTE IN PUBLIC AREAS – MUTT MITT PROGRAM

Members of WSSOG continue to meet the requirements of S5.C.2.a.ii of the Permit through the highly successful Mutt Mitt program including evaluation of the program by the July 1, 2020 deadline. Established in 2009, this program focuses on installing and maintaining pet waste bag stations to encourage and facilitate dog walkers to pick up after the pets when they are in public places such as parks, apartment complexes, or neighborhoods.

Adoption of the target behavior is measured in part through growth of the program. As of the end of 2023, there have been a total of 668 pet waste stations distributed throughout the Kitsap Peninsula, Gig Harbor and Port Angeles. On average, 20-40 stations are added annually. In 2023, Kitsap County along with partner cities and community sponsors distributed over 1,351,000 pet waste bags, resulting in a reduction of approximately 223 tons of pet waste into local waterways.

Dog walkers depend upon stations that are reliably stocked with bags to help them adopt this behavior. It is essential that Mutt Mitt branded stations are continuously stocked and in good working order. Kitsap County typically conducts inspections of all Mutt Mitt stations located within Bainbridge Island, Bremerton, Port Orchard and Poulsbo on an annual basis and all other stations located within the County on a biennial basis. 448 Mutt Mitt stations were inspected during 2023. Of the stations that were found during their inspection, 82% were stocked. Emails were sent to all sponsors (with working email addresses) that had missing or unstocked stations.





## TALKING (AND TOSSING) POOP FOR WATER QUALITY

2023 saw continued use of the popular Poop Toss game at various public events. The humorous nature of the game attracts participants of all ages and makes it easy to start a conversation about a topic



Vince McIntyre from Port Angeles shows two kids how to play the Poop Toss game.

people might otherwise have preferred to avoid. The Poop Toss game was used by jurisdictions at community events like Pets Walk (Poulsbo and Kitsap County), Bainbridge Island Boaters' Fair (Bainbridge Island) and the Clallam County Fair (Port Angeles). Port Angeles made contact with approximately 885 people at the Clallam County Fair. Kitsap County and Poulsbo spoke with 432 people at PetsWalk in 2023.

Game participants learn about the correct behavior when they play and receive a Puget Sound Starts Here (PSSH) branded clip-on bag dispenser for playing, which gives them the tool

they need to implement the behavior and a physical reminder to reinforce the action long after the staff contact. In total, this game helped jurisdictions reach and engage over 1,300 residents on proper pet waste pick up and disposal.



**Child playing the Poop Toss Game on Bainbridge Island and in the background see Dog and its Owner demonstrating the real thing.**

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## NATURAL YARD CARE – NEW BEHAVIOR CHANGE PROGRAM

Section S5.C.2.ii(b) of the Permit requires permittees to conduct a new evaluation of the effectiveness of an ongoing behavior change campaign (required under the 2013 Permit). Permittees were asked to document lessons learned and develop a strategy and schedule to improve or expand the existing program or identify a new target audience and BMP behavior change campaign, by July 1, 2020.

In 2018, WSSOG piloted an effort to encourage people to pick up their dog's waste at home. This effort promoted the use of a sticker placed on outdoor garbage cans at home to help set a social norm for scooping. The pilot effort used a postcard to promote the use of the sticker and importance of home scooping. Following the pilot, the group evaluated the campaign and ultimately decided not to move forward with this target audience and BMP but rather opted to develop a strategy and schedule for a new target audience and BMP behavior change campaign.

At that time, WSSOG hired a communications consultant, C+C, to help identify and select the new audience and BMP for a new behavior change campaign. The selected BMP is yard care techniques protective of water quality and the priority audience is single family home or townhome residents with kids and/or pets who have "Do It Yourself" yards and are potentially using harmful yard care products.

WSSOG's campaign focuses on residents who are using traditional "weed and feed" products on their lawn in single family residences or homes with lawns. The behavior campaign ask is: "In order to reduce pollutants in stormwater runoff, fertilize only with safer products, if you plan to fertilize your lawn. Through market research, the cost of organic/natural fertilizers was identified as a key barrier to the preferred behavior change. A coupon for an organic/natural fertilizer was offered as part of our strategy towards addressing this barrier. The coupon was also identified as an output towards measuring the change in behavior. Additionally, the priority audience indicated that Master Gardeners are the spokespeople the audience believes most when it comes to using organic products. The group worked with the local WSU extension office to coordinate educational webinars for the target audience.

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## NATURAL YARD CARE CAMPAIGN STRATEGY AND SCHEDULE

The following activities have been conducted through the multi-year effort:

### **Social Marketing Sessions (December 2018 - February 2019)**

The WSSOG conducted five social marketing planning sessions to define key project elements, including the campaign's focus on getting residents to reduce the use of traditional weed and feed on their lawns.

### **Initial Audience Research (December 2018)**

Research was conducted to better understand the priority audience's perceived barriers, benefits, and motivators in relation to the desired behavior. A total of 212 people responded to the survey, with 164 falling within the priority audience parameters. Some of the key high-level findings were:

When asked "have you ever considered switching to ALL organic yard care products," 56% of the priority audience indicated they have considered making the change.

The top three concerns the priority audience had about using organics:

- 50% believe organic products cost more
- 27% do not think organic products would work as well
- 35% are not sure where they would purchase organic products

### **Creative Development and Testing (April-June 2019)**

Based on research findings, creative concepts were developed then tested among the priority audience. The research results showed that the artwork of "Child and Puppy" performed the strongest overall and performed strong enough that no changes to the image or message were needed. The group selected this artwork for the pilot.

### COVID-19 Delays the Pilot (January – June 2020)

WSSOG was prepared to pilot the program in spring 2020 and began planning in earnest. Event dates and a retail partner had been scheduled. Due to COVID-19, the 2020 pilot was delayed to 2021. While the pilot was delayed, WSSOG used that time to conduct additional marketing research to further refine planned campaign tactics and messaging. WSSOG worked with C+C to conduct focus groups to test the ad concepts, language, and the audience's readiness for online/virtual events.

### Campaign Pilot (April 2021 – August 2021)

The pilot behavior change campaign was conducted in Poulsbo during peak fertilizer season in spring 2021, and included webinars hosted by WSU Kitsap County Extension's Master Gardeners; an organic fertilizer discount offered through a partnership with a local retailer; Valley Nursery, and campaign communications including a Facebook ad campaign, a postcard sent to 2,933 households, and government delivery channels such as e-newsletters, organic social media, and utility bill messaging.

The WSSOG chose the City of Poulsbo for the pilot based on several factors including the availability of Master Gardener outreach channels, the City's mix of representative demographics, and ease of access within the county. With roughly 4,126 households and a population of 10,602, Poulsbo makes up just 3.9% of the population - making it an ideal fit to pilot the campaign and build toward Kitsap County-wide implementation.

**Campaign Implementation Strategy and Schedule (April 2022 – August 2022)** WSSOG expanded the program to include all the jurisdictions – Kitsap County, and the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The format of the program followed the same parameters as the pilot – virtual webinars hosted by Master Gardeners, a retail discount and similar outreach strategies. Using the results and lessons learned from the pilot campaign, the 2022 program was modified to include a larger product discount and ability to use the discount at multiple retailers in different jurisdictions. Webinars were also expanded to include different topics.

A total of four webinars were offered. The two topics were "Lawn Alternatives" and "Nature Friendly Gardening for Beginners." For the product discount, four retailers with five physical locations offered a 25% discount off a bag of an organic lawn fertilizer.

### Continued Implementation (January – December 2023)

In 2023, the Natural Yard Care campaign was implemented throughout peak fertilizer season. It included three webinars hosted by WSU Kitsap County Extension Master Gardeners, a product discount at six participating retailers, a tabling event with Master Gardeners at the Bremerton City Nursery and campaign communications including a



Facebook ad campaign, a postcard, and government delivery channels such as e-newsletters, organic social media, and utility bill messaging. In addition, WSSOG worked with a consultant to evaluate the effectiveness of the campaign and identify successes and/or develop recommended changes to the program in order to be more effective. The Natural Yard Care Final Evaluation report is included in Appendix E.

### 2023 Campaign by the Numbers:

- 94,144 people reached on Facebook
- 14,350 direct mail impressions
- 2,890 link clicks on Facebook webinar ad, and 3,801 link clicks for Facebook coupon ad
- 103 webinar registrations
- 29 webinar attendees
- 68 coupons redeemed in-store
- 1 Tabling event with Master Gardeners

Moving forward in 2024, the WSSOG will use lessons learned from the past two years to continue the webinars and a product discount. A detailed Natural Yard Care Campaign report for 2023 has been included in Appendix D.

### Campaign Evaluation

Section S5.C.2.ii(e) of the 2019-2024 NPDES Permit requires that permittees, “evaluate and report on: 1. The changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy; and 2. Any planned or recommended changes to the campaign in order to be more effective; describe the strategies and process to achieve the results.” To this end, the WSSOG contracted with Kathryn Owen Consulting to conduct a robust evaluation of the effectiveness of the Natural Yard Care campaign. The Natural Yard Care Campaign Evaluation Report is available in Appendix E.

The evaluation included a number of methods for gathering data including, surveys of households who had received direct mail through the campaign, surveys of households who had not received direct mail, surveys sent through digital channels used to promote the campaign, surveys of webinar participants and surveys of retail partners. Because actual observations of behavior were not feasible with this campaign, the evaluation focused on gauging changes in people’s readiness to change their behavior.

### Key Findings

- Roughly 20% of survey respondents have used weed and feed, moss killer, weed killer, or a nonorganic, slow-release fertilizer. Only 5% identified themselves as “not interested” in using organic fertilizer. Another third are not interested in using *any type* of fertilizer on their lawns.

- In all, 40% of the audience falls into the “willing to change” category. They have already thought about doing the target behavior, have planned to start doing it, or have started doing it at least some of the time. Among those who are willing to engage in the target behavior, the challenge of controlling weeds and/or invasive plants was the most frequently mentioned barrier. Among the audience as a whole, the most prominent barriers were a) the perception that organics don’t work as well as chemical fertilizer, and b) the organic products are too expensive.
- Over a third of the audience said the Natural Yard Care campaign ads were “*likely*” or “*very likely*” to influence their lawn care practices. Not counting those who were *already* using organic exclusively, this translates to 19% of the audience showing intent to adopt a new behavior. This translates to a potential 3,457 pounds or 1.72 tons of nutrient runoff diverted from local waterways; if extrapolated to the entire audience reached (not just survey respondents) the figure comes to 23,673 pounds or 11.8 tons.
- The aspect of the ad campaign the audience found particularly compelling was the focus on things they cared about: protecting marine life and Puget Sound; protecting their children, pets, and families; and protecting nature in general. People also liked the use of direct and compelling words like “*healthy*” and “*safe*,” and some appreciated the offers for fertilizer discounts and webinars.
- The three webinars offered in 2023 by a Master Gardener on natural yard care were attended by 29 individuals, out of 103 registering. While they reached a fairly small audience, most who attended said they were likely to recommend the webinars to others. Of people surveyed six months later, the majority reported having taken one or more steps towards natural lawn care.
  - In 2022, there were 139 attendees for four webinars. 60 attendees too took an immediate post-workshop evaluation. There were two different webinars offered in 2023, Lawn Alternatives and Nature Friendly Gardening for Beginners. In the Lawn Alternatives webinar, 48% of attendees reported they were “very likely” or “likely” to switch to organic fertilizer. In the Nature Friendly Gardening for Beginners webinar, 60% of attendees reported they were “very likely” or “likely” to switch to organic fertilizer. 19 webinar registrants took a follow up survey approximately six months later. Of them, five indicated that they had stopped using weed and feed and two indicated that they had tried using organic fertilizer since the webinar.
  - In the 2021 pilot campaign, there were 68 attendees for three webinars. 16 attendees took an immediate post-workshop evaluation. Of them, 79% reported that they were very likely to try organic fertilizer and an additional 16% reported that they were likely

to try organic fertilizer. In a six month follow up, survey two of 16 respondents indicated that they had tried using organic fertilizer since the webinar.

- In 2023, of the four out of six nurseries and garden centers interviewed, all were interested in participating in future campaigns. Suggestions from nurseries included changing the discount to a flat fee rather than a percentage, having discount coupons available on days that the nursery is holding a workshop or demo on natural lawn care, and collecting additional info to find out whether the coupon is generating a) new customers for the retailers, and b) new users of organic fertilizers.

#### Direct Mail Survey Results on Intended Behavior Change

The sample used for the calculations below is 1187, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 1187:

- 34% (401) said the NYC ads were “likely” or “very likely” to influence their own lawn care practices.
- Of these, 38% (n=152) said they were already using only organic fertilizer or weren’t using anything on their lawn.
- The other 62% (n=248) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, 17% of direct mail respondents can be described as showing intent to adopt the new behavior.

#### Social Media/Online Survey Results on Intended Behavior Change

The sample used for the calculations below is 875, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 875:

- 36% (315) said the NYC ads were “likely” or “very likely” to influence their own lawn care practices.
- Of these, 44% (n=135) said they were already using organic fertilizer exclusively or hadn’t used any products on their lawn.
- The other 56% (n=175) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, 20% of online respondents can be described as showing intent to change their behavior to using organic fertilizer.

#### Webinar Impact on Intended Behavior

Prior to the webinars, just under half (47%) of those who registered (102 total registrants) said they were “thinking about” or “planning on” making the switch from weed and feed-type products to

natural/organic lawn products. Immediately after the webinar, the figure was 52%; however, respondents were much more likely to say they were “planning on” making the shift rather than thinking about it. Given the relatively small numbers of webinar participants (just half of whom completed the survey), it is not possible to say whether this reflects a statistically significant change.

### Impact on Understanding of Behavior

In all, 40% of the audience falls into the “willing to change” category, meaning they have already thought about doing the target behavior, have planned to start doing it, or have begun doing it at least some of the time. This means that for a large portion of the audience their understanding of the behavior is already high and that increasing their understanding is unlikely to result in increased adoption of behavior.

### Recommendations

- While there were people uninterested in the target behavior because they don’t believe that nonorganic fertilizers pose a hazard – to their households or to Puget Sound – this group was quite small. We recommend focusing future efforts on moving beyond awareness to skill building. To address the needs of the audience most likely to engage in the target behavior, the campaign could offer follow-up activities that can help people learn how to treat areas of concern (weeds, invasive plants, moss) without using toxic chemicals. These are most likely to be successful if they feature one-on-one conversations, which are able to respond to individualized conditions (e.g., lawn size, slope, proximity to water) and can contextualize the behavior.
- If WSSOG wants to continue using a social marketing approach, we recommend revisiting the target behavior and identifying a behavior that is non-divisible (doesn’t contain multiple steps) and end-state. That is, the behavior will produce the desired outcome for the audience without requiring additional action. If the desired outcome is caring for the lawn without chemicals, the current target works; we suspect, however, that the desired outcome among these households is for a lawn that looks good (weeds are under control, for instance).
- Continue and expand the use of social marketing tools, including social diffusion and norms, public commitment, and convenience.
- Clarify the intent of the fertilizer discount. The discount coupon for 25% off organic fertilizer was provided as a way to reduce the barrier of cost for people interested in switching to organic. But because the coupon is for one-time use, it may not maintain the behavior beyond one application. If unfamiliarity with the products and where to find them were the main barrier, simply introducing people to the products through a coupon would be helpful. But with a product consumers buy repeatedly the discount may be seen as having limited value. Our suggestions include a) collecting data during coupon redemption to find out the percentage of

a) first time customers to that retailer, and b) first-time organic users, to find out whether the coupon is having the desired effect. If WSSOG feels it would be helpful in convincing people of the benefits of organics, a cost comparison for customers showing organic and nonorganic costs over time could be helpful.

## ILLICIT DISCHARGE DETECTION AND ELIMINATION (S5.C.5.d.ii)

### REPORTING SPILLS

All WSSOG jurisdictions have a publicly listed hotline, telephone number and/or app for reporting spills and other illicit discharges. Kitsap County, Bainbridge Island, Bremerton, Poulsbo, and Port Orchard share the Kitsap1 phone number and SeeClickFix app.

WSSOG shares common branding and publicity through a tagline and graphics called *Spills Happen*. This catchy phrase and graphics are intended to bring awareness and encourage residents to report spills. Jurisdictions post their spills reporting phone numbers and app on their websites as well on print materials.

WSSOG utilizes outreach methods, including:

- Display of the upright *Spills Happen* banners at events, in building offices and public spaces.
- Bainbridge Island offers *Spills Happen* magnets and hotline stickers at their City Hall front counter displays, events, and upon request.
- Bainbridge Island shared information at the Bainbridge Island Farmers Market in September 2023.
- Bainbridge Island has the spills hotline phone number on the back of staff business cards.
- Bremerton features the *Spills Happen* branding on their sweeper trucks.
- Bremerton distributed *Spills Happen* paint sticks.
- Gig Harbor distributed *Spills Happen* paint sticks and magnets at City Hall.
- Kitsap County displays the *Spills Happen* graphics on a total of three spills trailers. The phone number is also on a spill response truck.
- Port Angeles promoted the program in their October 2023 *Stormwater Rains* newsletter.



Stella Collier, Bainbridge Island, hosts a booth at the Bainbridge Island Farmers Market

- Port Orchard handed out educational flyers, including spill, pressure washing, painting and IDDE pamphlets and 100 fridge magnets to interested parties, advertised the *Spills Happen* campaign on their website and posted banners within City Hall.
- Poulsbo distributes *Spills Happen* magnets at City Hall.
- Poulsbo stocks field vehicles with BMP pamphlets to hand to residents when an illicit discharge is spotted.

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## REPORTS RECEIVED

A total of 103 spill reports were received in 2023. Of those, 36 came in via Kitsap1 phone number, 18 via Kitsap1 email, and 25 spill complaints were reported through the SeeClickFix app or web-based reporting form. An additional 24 complaints were received by Kitsap County, through internal staff referrals or citizen complaints made directly to Kitsap County staff (Kitsap County – 77, Bremerton – 19, Bainbridge Island – 3, Port Orchard – 2, Poulsbo – 1).

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## SPILLS REPORTING AND RESPONSE TRAINING

Jurisdictions coordinate an ongoing training program and follow up trainings to their field staff on how to recognize, respond to and report spills (S5.C.5.d.iii). WSSOG reported the following trainings held in 2023:

- Bainbridge Island – Provided on-the-job training for operations and maintenance staff.
- Bremerton – A total of 112 employees completed the online training called "Municipal Storm Watch" consisting of a video and quiz became mandatory for all city employees. Fifteen employees completed online training "IDDE: A Grate Concern" consisting of a video and quiz.
- Gig Harbor – One training for 20 Public Works employees.
- Kitsap County – A total of 261 staff were trained in 2023, both online and in-person, which includes 30 Kitsap County Sheriff's officers who took the online training.
- Poulsbo Fish Park Committee hosted 20 restoration and planting work parties in Poulsbo's Fish Park, totaling 923.25 volunteer hours. The event was promoted on their [Facebook](#) page.
- Port Angeles – Provided one formal training to acquaint the Port Angeles Fire Department with their new tracking method for IDDE using Survey123.

## GENERAL AWARENESS (S5.C.2.a.i)

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### General Awareness Through Puget Sound Starts Here

Puget Sound Starts Here (PSSH) is a regional effort to raise awareness about actions residents can take to reduce their impact and keep Puget Sound and the Salish Sea healthy (S5.C.2.a.i). Local

implementation of PSSH included a variety of outreach approaches, including the promotion of Puget Sound Starts Here Month in September.

While distribution of items took a break during the pandemic, jurisdictions are making a return to outreach events. Many jurisdictions distribute branded “swag” items with the Puget Sound Starts Here logo through outreach events, at front desk counters and other mechanisms.

Collectively, these efforts placed over 9,296 Puget Sound Starts Here-branded items in the hands of West Sound residents and visitors.



Jurisdiction	Coasters	Pens/ Pencils	Leash Bag Holders	Leash Bag Holder Refills	Bike Safety Lights	Other (Tote Bags, Paint Sticks, Stickers, etc.)	TOTAL Impressions
Bainbridge Island	1,340	0	240	0	0	450	2,030
Bremerton	10	20	20	0	0	0	1,290
Gig Harbor	0	0	10	0	0	0	10
Kitsap County	3,500	0	0	0	0	1,750	5,250
Port Angeles	0	5	425	20	95	143	688
Port Orchard	0	0	0	28	0	0	28
						<b>TOTAL IMPRESSIONS</b>	<b>9,296</b>

## PUGET SOUND STARTS HERE MONTH DIGITAL CAMPAIGN

The regional Puget Sound Starts Here Committee coordinated PSSH Month in September. The committee coordinated a digital marketing campaign and jurisdictions were invited to financially participate in the campaign. Bainbridge Island, Bremerton, Kitsap County, Port Angeles, Port Orchard, and Poulsbo invested in the campaign.

This year’s campaign focused on vehicle maintenance behaviors, Don’t Wait to Inflate for Puget Sound Starts Here Month. The digital campaign’s goals were to drive people to the PSSH [website landing page](#) and encourage them to learn more about proper tire pressure and the importance of maintaining proper tire pressure.



The campaign combined a digital video and digital display ads and were shared on Facebook, Instagram and YouTube.

The campaign’s audience were adults aged 18-64 in the Puget Sound region. The ads were run in English, Spanish, Korean and Vietnamese. A portion of the ad budget was allocated towards targeting overburdened communities using factors such as income, education, people of color and/or those who speak limited English.

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## Puget Sound Starts Here Theatre Advertising

Poulsbo continued their practice of running on-screen cinema ads featuring PSAs about stormwater best management practices. The ads focused on [car care](#). The ads were run on eight screens at Regal Poulsbo Cinemas for three months. The ad was run at least two times prior to each feature film on every screen throughout the month, with number of impressions each month depending on how many ads were in the cycle. Theatergoers could expect to see the ad within six minutes or less before the start of each movie, and if they were there earlier, could view those ads every six minutes in rotation.

## STEWARDSHIP (S5.C.2.a.iii)

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### CREATIVE WAYS TO ENGAGE

Each jurisdiction provided a variety of ways for residents to participate in activities and events.

- Bainbridge Island participated in [Sustainable Bainbridge's](#) annual Beach Cleanup event on September 30.
- Bremerton provided advertisement, guidance and supplies for the [Sinclair Inlet Cleanup](#) on September 30.
- Bremerton visited 4<sup>th</sup> and 5<sup>th</sup> graders at Kitsap Lake Elementary School where students were allowed to ask the team questions about stormwater, the water cycle, pollution, and pollution prevention.
- Gig Harbor partnered with [Harbor Wildwatch](#) to develop stormwater curriculum for school-age children.
- Port Angeles utilized their partnership with the [Streamkeepers of Clallam County](#) and their water quality monitoring program which uses trained volunteers to collect field data in Tumwater, Peabody, Valley, White, Ennis, and Dry Creeks.
- Port Orchard hosted a booth at the Port Orchard Farmer's Market.



Port Angeles attends sampling event with Streamkeepers of Clallam County

## MAXIMIZING OUR REACH THROUGH PARTNERSHIPS

Kitsap staff continues to represent the County and WSSOG as partners in the larger regional efforts of STORM and Puget Sound Starts Here. In 2023, Kitsap staff provided input at STORM’s quarterly meetings, within workgroups, and at the 2023 STORM Symposium. Significant accomplishments of the STORM group are summarized in Appendix A).

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### WORK GROUPS

Kitsap staff participated in several work groups under STORM’s umbrella in 2023 on issues of regional significance, including the Business Inspection Group (BIG). Kitsap staff also participate in work groups such as the Natural Yard Care and Pet Waste, which periodically meet as needed.



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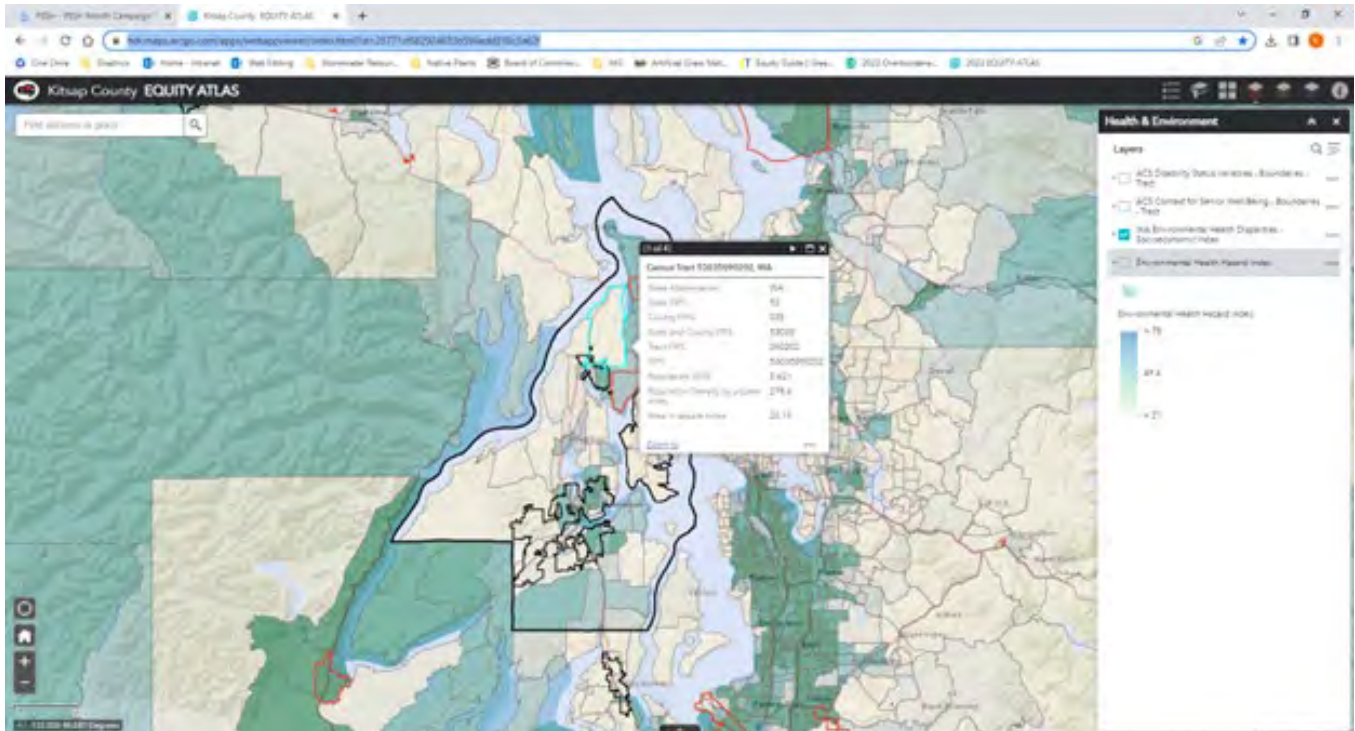
## STORM STEERING COMMITTEE & PUGET SOUND STARTS HERE COMMITTEE

Kitsap County continues to represent the WSSOG partnership as a member of the STORM steering committee. This committee meets twice a month on tasks that guide the regional STORM group. Notable projects by the STORM and PSSH Steering Committees in 2023 included working with the Washington Stormwater Center to create a work plan for a new statewide E&O Coordinator position, planning and facilitating virtual quarterly meetings and the annual Symposium and coordinating a regional PSSH Month digital advertising campaign. The PSSH committee also hired a consultant under a National Estuary Program (NEP) grant to begin development of a social marketing campaign to encourage the proper inflation of car tires to potentially reduce the impacts of 6PPD. Work on this grant began in late 2022 and will continue through 2023.

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## GROSS GRANT

In July 2021, Kitsap County was awarded a \$42K Municipal Grant of Regional or Statewide Significance (GROSS) from the Department of Ecology. The grant is intended to support the WSSOG's efforts in providing overburdened communities meaningful opportunities for public involvement and participation. Two of the three deliverables of the grant were achieved in 2022, with the third one completed in 2023.



In 2021, the County created a web-based story map designed to guide the County and partner agencies toward meaningful, inclusive, and equitable outreach. This tool is comprised of 23 demographic, socioeconomic and health/environment metrics (or indicators) from Federal, State, and private data sources and allows for community exploration down to a neighborhood level or census tract. Through the GROSS grant, Kitsap County updated the map in 2022 with the latest available data sources and enhanced usability with minor adjustments to the layout. The new tool also included the development of an Equity Atlas, which allows users to explore multiple data layers within one single map. WSSOG stormwater infrastructure data was included to provide jurisdictions with additional tools for decision-making.

The second deliverable of the GROSS grant was to coordinate a regional online training for WSSOG and STORM members on community engagement strategies to overburdened communities. Kitsap County contracted with Greenprint Partners to provide a virtual day long training on the topic of “centering community.” A total of 34 participants received tools and resources to help them assess their current engagement practices and a framework for determining where to focus equity efforts in the future. The training was based on the [Equity Guide for Green Stormwater Infrastructure Practitioners](#), which was published in 2022.

In 2023, the third deliverable of the GROSS grant, an outreach assessment with sixteen tangible recommendations, was completed. The WSSOG completed the first recommendation, committing to a set of guiding principles and values for outreach and engagement, to help guide decision making processes (e.g. choosing audiences and new focus areas for campaigns).

## PLANNING FOR 2024

### OVERVIEW

All WSSOG members renewed their inter-local agreements effective from 2023 through 2025. The WSSOG will continue to coordinate and sustain existing efforts. Additionally, the group will coordinate on new initiatives when appropriate, such as coordinating business inspection materials for Source Control Programs. The WSSOG 2024 work plan is provided in Appendix B.

In 2024, WSSOG will continue to work towards evaluating and reporting on the Natural Yard Care campaign and incorporating recommendations from that evaluation into future work. The Permit deadline to report on the campaign is March 31, 2024.

## APPENDIX A: STORM 2023 ANNUAL REPORT



## STORMWATER OUTREACH FOR REGIONAL MUNICIPALITIES

# 2023 ANNUAL REPORT

STORM Celebrates its 15th year as a collaborative!

STORM is...

- An efficient model of **smart government** with cities and counties working together on engagement.
- Improving the effectiveness of jurisdictions of any size by **sharing resources and messaging**.
- Working together to reach audiences, build skills, and **improve equity practices**.
- Using **social marketing approaches** to deliver and evaluate clean water action programs.
- Fostering jurisdiction and nonprofit teams that tackle grant projects totaling over **\$5 million to date**.
- A **supportive collaborative** of folks sharing their skills and passion.
- An example of **civic engagement** that reaches local government, nonprofits, communities, educators, students and volunteers.
- Making a difference in awareness and environmental engagement to **improve outcomes for the Puget Sound Watershed!**

Everyone brings something to the STORM group and adds to our communities. Thank you!

- The STORM Steering Committee

### About STORM

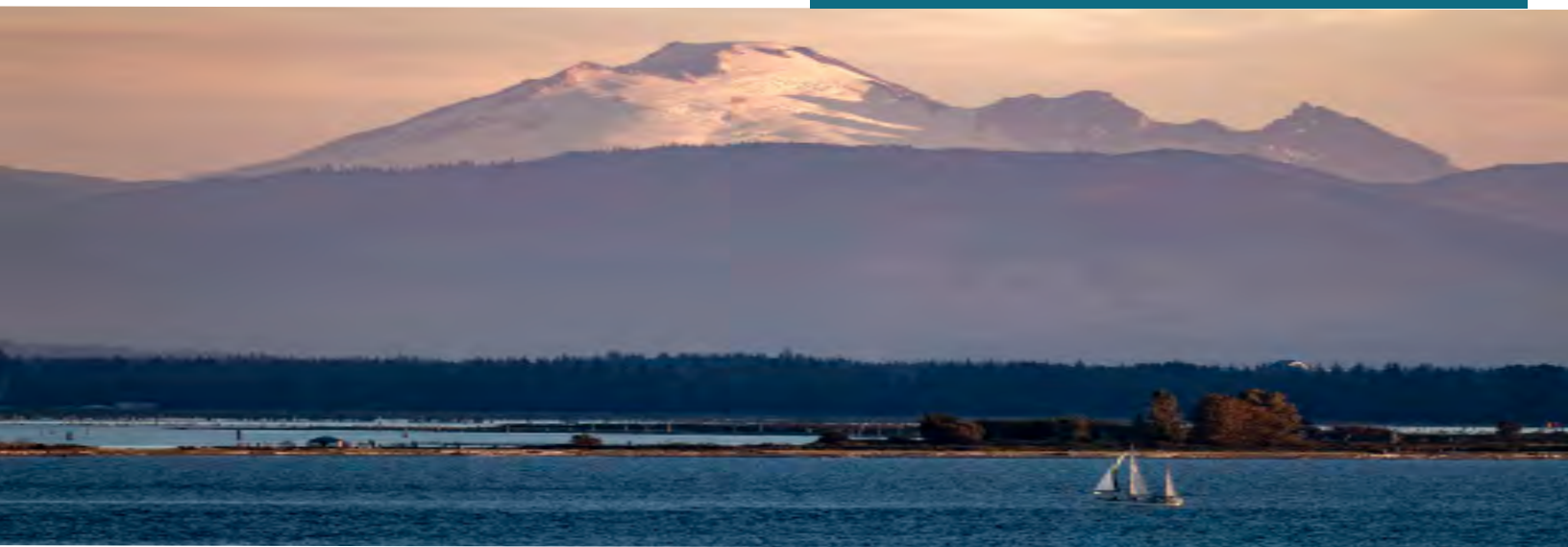
STORM is a coalition of city and county governments working together to improve water quality in our lakes, rivers, streams, and Puget Sound by meeting education and outreach requirements from the federal Clean Water Act and the WA Water Pollution Control Act.

**STORM's Vision:** People living and working in our communities take actions that protect water quality within the Puget Sound Basin.

**STORM's Mission:** Work together with regional partners to address polluted runoff and stormwater impacts by advancing broad-scale education & outreach and behavior change initiatives.

If your municipality would like to join STORM, or receive our updates, send your request to Anne Melrose, Statewide Municipal Stormwater E&O Coordinator,  
[anne.melrose@wsu.edu](mailto:anne.melrose@wsu.edu).

Check out the STORM Resource Reservoir at [pugetsoundstormgroup.org](http://pugetsoundstormgroup.org).



# 2023 | STORM by the Numbers

205 attendees at STORM events



700

steering committee hours dedicated to STORM

1349

downloads from the Resource Reservoir



## A New Face on the Steering Committee

Rebecca Bolettieri, Stormwater Education and Outreach Coordinator Kitsap County

Rebecca (Becca) Bolettieri (she/her), is the newly appointed Stormwater Education and Outreach Coordinator for Kitsap County's Stormwater Division.



Becca brings a decade of experience in marketing, communications, and creative writing, honed at the Art Institute of Chicago. Originally from Georgia, she has been recognized for her work in video projects, digital campaigns, and creative writing initiatives.

With a commitment to Diversity, Equity, and Inclusion (DEI) advocacy, Becca aligns with Kitsap County's values, focusing on amplifying the voices of underprivileged communities. As a recent transplant to the area, she is eager to contribute her skills and embraces the opportunity to learn and grow in her role. Becca aspires to bridge DEI advocacy with community engagement, contributing to a more inclusive and sustainable future in Kitsap County.

In her spare time, she enjoys spending time with her dog, Quinn, working on creative writing projects, and taking in the beauty of her new home. Becca is thrilled to be included in the STORM Steering Committee and can be reached at [rbolettieri@kitsap.gov](mailto:rbolettieri@kitsap.gov).



# 2023 STORM Symposium - Reunited and it felt so good!

It was wonderful to meet in-person once again for the 2023 Annual STORM Symposium! Over 60 colleagues came together to network, learn, share ideas, and inspire each other. The symposium offered an amazing line up of guest speakers. There were networking opportunities and a peer-to-peer tabling outreach show and tell. Thanks to the participating jurisdictions for sharing your fantastic work!

We kicked off the day with *Jessica Branom-Zwick, Cascadia Consulting*. She shared her tips and resources for evaluating NPDES behavior change campaigns. Showing us how to plan a program evaluation from beginning to end. *Ellen Kuwana, Kuwana Consulting*, shared best practices for plain language, inclusive language, and science communications. *Elyssa Kerr, Beavers Northwest* rounded off the morning. Sharing her passion for and knowledge of beaver behavior. We learned about the amazing habitats and eco-system services that beavers create. And the benefits of using effective beaver management devices.

In the afternoon we welcomed *scientist and community activist, Emily Pinkney*. She shared how intersectional environmentalism brings underserved communities into decision making processes. Removing racial barriers and centering the voices of those most affected by environmental impacts. *Lori Kothe, Kocreate & Poogooder*, explained how to use a social media calendar. She showed us how social media campaigns can increase engagement and move audiences. We ended the day with inspiring closing remarks from *Peggy Campbell and Cammy Mills*.

Thanks to King County for the incredible snack spread and STORM's 15th anniversary cupcakes! Although it was a trek for some, it was worth the drive. Kudos to everyone that carpooled!



# 2023 Trainings and Professional Development

In 2023 we had over 200 STORMers join our combined quarterly events. The May quarterly gave us our first opportunity to meet in-person since 2019. It was amazing!

Quarterly events throughout the year focused on providing networking opportunities, skill shares, and trainings covering a variety of topics. Thank you to all our presenters and to King County for their continued financial support for STORM trainings!



## Thank you 2023 Quarterly Presenters!

- Using images for Outreach - Kimberly Pleger.
- 6PPD-q - Understanding the Tire Wear Particle Pollution Problem through Regional Collaboration - Eli Mackiewicz.
- Translation Service in the Field and Beyond - Heidi Zarghami.
- NPDES Permit Updates, Abbey Stockwell.
- Kirland Stormwater Awareness and Attitude & IDDE Postcard Study - Aaron Hussmann.
- Green Stormwater Infrastructure Tool Kit - Alison Schweitzer.
- Puget Sound Starts Here - Don't Wait to Inflate - Julie Burke.
- Plain Talk Communications - Mary Kay Clunies-Ross.

## Skill Shares Make Information Sticky



Learning bite-size skills, and then getting a chance to chew on them with actual practice, improves how well the information sticks with us. This is why several Steering Committee members offered Skill Share presentations at 2023 Quarterly Meetings including: Low Tech Photo Editing (Laurie Devereaux), Plain Talk (Katherine Straus), Learn A Little Bit About Bitly (Aaron Hussmann), and Intercept Surveys (Laurie Devereaux, Susan McCleary, & Aaron Hussmann).

Did you apply any of these snack-size skills to your work? Do you have a skill you may be willing share with STORM members at an upcoming Quarterly? Are there topics you hope someone else might share? Reach out to a Steering Committee member and let us know!

## 2023 STORM Work Groups

STORM work groups are created on an ad hoc basis and facilitated by STORM members. They are member-driven and self-directed. The formation and focus of work groups often aligns with new permit requirements, initiatives of the STORM Steering Committee or from requests by STORM members.

Work group participation is voluntary and based on the interest of individual members. These groups tend to be task-oriented and may have end dates. Work group members determine their structure and function, meeting frequency, work plans and decision-making.

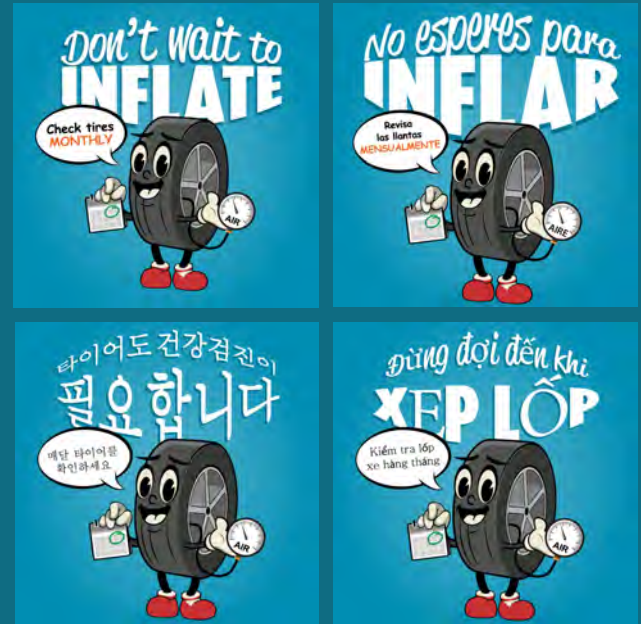
### Pet Waste Work Group

The pet waste work group is currently comprised of 19 members representing 18 jurisdictions. The group met twice in 2023, starting in August. The group identified several goals for the group including to share lessons learned from various programs, to seek funding to update foundational research used by many of the programs, and to identify opportunities to save money by doing bulk orders together. The group will continue to meet in 2024. Contact Cammy Mills, [cmills@kitsap.gov](mailto:cmills@kitsap.gov), to join.

### Adopt-a-Drain (AAD)

The Adopt-a-Drain program made great progress in 2023. 16 Puget Sound jurisdictions have joined the AAD coalition. In two years, more than 1,400 Puget Sound individuals, families, and businesses have adopted more than 2,400 catch basins. In 2023, these volunteers reported that they had prevented more than 7,500 pounds of sediment, leaves, twigs, garbage, and other debris from clogging and falling into the MS4. We hope more of our neighbors will join in 2024, and are looking to expand the Washington AAD program to SW Washington and Eastern Washington. For more information, contact Anne Dettelbach at [adettelbach@redmond.gov](mailto:adettelbach@redmond.gov).

## Puget Sound Starts Here



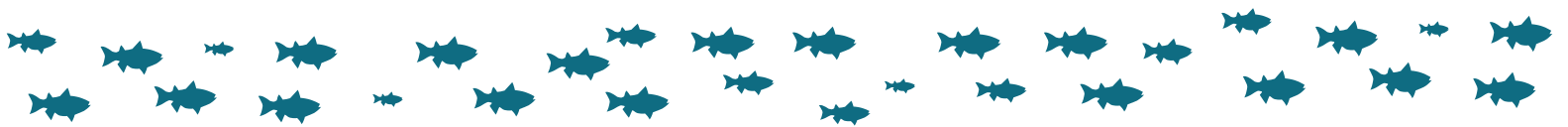
PSSH Month went into high drive with the completion of a two-month digital ad campaign focused on raising awareness around proper tire care to reduce tire wear dust.

Jurisdictions contributed \$64,440 to the Puget Sound Starts Here “Don’t Wait to Inflate” regional awareness campaign, that collectively reached over 8.4 million total media impressions in four languages.

This year’s regional media campaign:

- Delivered almost 64K website clicks through the paid media campaign to the [DontWaitToInflate.org](https://DontWaitToInflate.org) website for tire care-specific information.
- Saw over 44K users produce 52K engaged website sessions (page views) with a 94.42% engagement rate; meaning website users went to the website and actively engaged with the tire care content.

Collectively, we were able to provide far more reach and key media performances across the region - which only increases the reach in our jurisdiction, too - than we could get doing something on our own.



# Unlocking Behavior Change with STORM

Getting people to change their behavior isn't easy! Whether it's practicing natural lawn care, fixing car leaks, picking up pet waste, or closing dumpsters, it takes more than a brochure or social media post to get positive results.

So how do you convince someone to change their behavior? In the realm of behavior change, a one-size-fits-all approach is rarely effective. Messages that resonate with one group may not resonate with another. You need to build your program around factors that will motivate your priority audience while removing their barriers to action.

Social marketing campaigns are complex, requiring skill, time, and money to implement. We have to put our assumptions aside and dig into quantitative and qualitative research. Unlocking how your audience thinks, feels, and acts...where they hang out, how they get information and who they trust. Armed with this information you can develop the right tools, and the results can be rewarding.

How do STORMers embark on their behavior change journey? They gain skills and learn through STORM sponsored trainings. They network and collaborate with other STORM members. And, they use the Resource Reservoir to research past campaigns to learn what worked and what didn't. This is the advantage of being an active member of STORM.

## STORM Steering Committee



Rebecca Bolettieri  
Kitsap County



Laurie Devereaux  
City of Bellevue



Aaron Hussmann  
City of Kirkland



Bill Malatinsky  
City of Seattle



Susan McCleary  
City of Olympia



Mary Rabourn  
King County



Anne Melrose  
Washington Stormwater Center

Thank you all STORMers for a fantastic 2023!

## APPENDIX B: WSSOG 2023 WORK PLAN

# WSSOG 2023 Work Plan

Objectives from Exhibit “A” -  
West Sound Stormwater Outreach Group Scope of Work & Budget for 2023-2025

## **Sustain successful efforts with pet waste outreach (Objective 2)**

- Continue Pet Waste outreach (2.2)
  - Continue to implement Mutt Mitt E&O plan
  - Sustain Mutt Mitt program
  - Participate in the regional STORM Pet Waste workgroup as appropriate

## **Continue social marketing campaign development (Objective 3, 6)**

- Continue Natural Yard Care campaign implementation (3.1)
  - Continue expansion of the Natural Yard Care campaign to all jurisdictions within WSSOG. Program to include three workshops in partnership with the WSU Master Gardeners in spring 2023 and a product discount
  - Coordinate efforts with WSU Master Gardeners on webinar topics, and dates
  - Coordinate follow up email outreach to be done by Master Gardeners including logistics, talking points, etc.
- With a consultant, identify metrics to evaluate success of the natural yard care campaign; begin developing a report on the changes in understanding and adoption of the targeted behaviors. This work will be done in preparation for the permit evaluation deadline of March 31, 2024 (3.2, 3.3)
- Monitor the progress of other jurisdictions’ behavior change campaigns and adapt elements as appropriate (6.4)
- Participate in regional STORM natural yard care work group as appropriate (6.4)

## **Collaborate on joint outreach for the business inspection program (Objective 4)**

- Develop a jointly branded rack card for all jurisdictions to use (4.1)

## **Collaborate on mutually beneficial outreach opportunities – these activities may be optional and vary by jurisdiction (Objective 5, 6)**

- Continue to implement spills hotline outreach opportunities, including but not limited to (5.2):
  - Distribution of paint sticks, when feasible
  - Promotion of the SeeClickFix application and spills reporting phone number in social media, print or digital
- Continue to participate in *Puget Sound Starts Here* outreach (6.3)
  - Promote PSSH Month

- Distribute PSSH-branded merchandise, including but not limited to coasters and pet waste bag holders, when feasible
  - Participate in STORM-sponsored regional ad buys and/or place local ads
- Using the GROSS grant, hire a consultant to evaluate priority outreach programs agreed upon by WSSOG, and identify shared strategies to increase participation of underserved communities (5.3)
- Provide lessons for school aged children, for those jurisdictions that offer youth education (5.2)
- Pilot field monitoring programs with high school and elementary students if in-person schooling resume (5.2)
- Advertise via a variety of channels as appropriate: digital, print, or other media (6.3)
- Consider partnerships on stewardship opportunities as appropriate (5.2)

### **Strengthen coalition and represent WSSOG on regional efforts (Objective 6 and 7)**

- Participate on the STORM Steering Committee and PSSH committee (6.1)
- Participate in STORM's regional workgroups as appropriate (6.4)
- Provide STORM and PSSH support and attend Quarterly meetings (6.1)
- Promote capacity building as needed (6.2)
- Provide annual summary of activities, track and maintain records, and report out on programs as appropriate (7)

## APPENDIX C: PUGET SOUND STARTS HERE PROCLAMATION



CITY OF  
BAINBRIDGE ISLAND

PROCLAMATION

**A PROCLAMATION** by the City Council of the City of Bainbridge Island, Washington, declaring September 2023, as "Puget Sound Starts Here Month."

**WHEREAS**, we resolve to protect Puget Sound and its tributaries which are the source of our community's well-being, health, economy, and quality of life; and

**WHEREAS**, we acknowledge that we are on the land of the Coast Salish People of the Water, who have stewarded this land from time immemorial; and

**WHEREAS**, a healthy and vibrant Puget Sound defines our Northwest and Island culture, as do our indigenous people's stories, our tribal treaty responsibilities, and our shared legacy for future generations; and

**WHEREAS**, the health of Puget Sound is declining, and creatures and plants great and small, from our bull kelp forests and salmon to our orcas and shellfish, are at risk from the human impacts of stormwater runoff, loss of natural habitats, and a changing climate; and

**WHEREAS**, we all have the power to protect our Puget Sound treasure by working together to discover and take clean water actions through the Puget Sound Starts Here Campaign; and

**WHEREAS**, in the month of September, the City of Bainbridge Island will join other governing bodies, organizations and community groups to strengthen stewardship of our shared watershed and encourage all to take action to improve the health of Puget Sound.

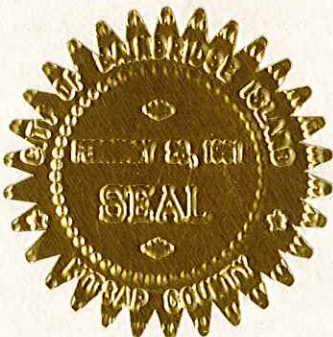
**NOW, THEREFORE**, I, Brenda Fantroy-Johnson, Mayor of City of Bainbridge Island, on behalf of the City Council, do hereby proclaim September 2023, as

"PUGET SOUND STARTS HERE MONTH"

in the City of Bainbridge Island and urge residents to support clean water and healthy habitat by joining us in this special observance to discover how to make a difference and be part of the solution!

SIGNED, this 12th day of September 2023.

  
Brenda Fantroy-Johnson, Mayor



## APPENDIX D: WSSOG 2023 NATURAL YARD CARE REPORT



12/1/2023

# WSSOG NATURAL YARD CARE SOCIAL MARKETING PROGRAM

FINAL REPORT 2023



Prepared by: Cammy Mills

KITSAP COUNTY PUBLIC WORKS – STORMWATER DIVISION

# 1 TABLE OF CONTENTS

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2	Overview and Summary .....	2
2.1	Background.....	2
2.2	2023 Overview.....	2
2.3	Comparisons between 2022 and 2023 campaigns.....	4
2.4	2023 Campaign Results By the Numbers .....	5
3	2023 Campaign.....	5
3.1	Master Gardner Webinar .....	5
3.1.1	Attendance and Participation .....	1
3.1.2	Publicity.....	2
3.1.3	Audience .....	2
3.1.4	Satisfaction.....	2
3.1.5	Use of lawn care products prior to webinar .....	3
3.1.6	Questions and concerns about healthy lawn care.....	3
3.1.7	Impact on intended behavior.....	4
3.1.8	Self-Efficacy in Lawn Care .....	5
3.1.9	Follow-up steps.....	6
3.2	Master Gardener Tabling Event .....	6
3.3	Retail Partnership and Partner Discount.....	6
3.4	Outreach Mechanisms .....	7
3.4.1	Postcard .....	7
3.4.2	County Website.....	9
3.4.3	Digital Campaign .....	9
3.5	Post-Campaign Evaluation Results .....	14
3.6	Recommendations.....	16
4	Appendix A – Campaign History.....	17
5	Appendix B – 2022 Campaign.....	23

## 2 OVERVIEW AND SUMMARY

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### 2.1 BACKGROUND

The West Sound Stormwater Outreach Group, or WSSOG, is a multijurisdictional partnership between Kitsap County and the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The group works together to improve water quality by reducing pollutants in stormwater runoff, which are a major source of pollution to local waterways and the Puget Sound. The following report details results and findings from the second-year implementation of the Natural Yard Care campaign.

This program satisfies the current Western Washington Phase II Municipal Stormwater NPDES permit to affect behavior change (S5.C.2). Planning for the program began in 2018, and the pilot occurred in 2021. In 2022, the campaign was expanded to all the WSSOG-member jurisdictions and 2023 continued implementation throughout all WSSOG jurisdictions. The following activities were conducted through the multi-year effort:

- **Social Marketing Sessions/Campaign Planning** - The WSSOG conducted five social marketing planning sessions to define key project elements, including the campaign's focus on getting residents to reduce the use of chemical fertilizers on their lawns.
- **Initial Audience Research** - Research was conducted to better understand the priority audience's perceived barriers, benefits, and motivators in relation to the desired behavior.
- **Creative Development and Testing** - Based on research findings, creative concepts were developed then tested among the priority audience.
- **COVID-19 Pivot to Research** - Due to COVID-19, the 2020 pilot was delayed to 2021. While the pilot was delayed, additional research was conducted to further refine planned campaign tactics and messaging.
- **Pilot Campaign in Poulsbo** –A pilot was conducted in Poulsbo during peak fertilizer season in spring 2021, and included webinars hosted by WSU Kitsap County Extension Master Gardeners; an organic fertilizer discount offered through a partnership with a local retailer; and campaign communications including a Facebook ad campaign, a postcard, and government delivery channels such as e-newsletters, organic social media, and utility bill messaging.
- **Campaign Expansion** – In 2022 and 2023, the campaign was expanded to include all WSSOG jurisdictions. Natural lawn and yard care webinars were hosted by WSU Kitsap County Extension Master Gardeners; an organic fertilizer discount was offered at local nurseries locations; and campaign communications included a postcard mailer, Facebook ad campaign and local government delivery channels.

### 2.2 2023 OVERVIEW

In Spring 2023, Kitsap County Public Works in partnership with the West Sound Stormwater Outreach Group (WSSOG) conducted the Natural Yard Care campaign, building on the success of previous campaigns in 2021 and 2022. The campaign aimed to promote natural lawn care practices through a series of webinars, Facebook advertising, and coupon incentives. Here are the key highlights of the campaign:

**Participation:**

- Three webinars, titled "Growing a Healthier Lawn for your Kids and Pets," were presented by a Master Gardener from WSU Extension.
- 103 people registered for the webinars, with 29% (30 participants) attending.
- Most attendees stayed for the entire 20-minute presentation and participated in the Q&A session.

**Campaign Promotion:**

- The campaign strategies included offering coupons for organic lawn fertilizer and hosting webinars with Master Gardeners.
- Facebook advertising was a significant part of the campaign, reaching 94,144 people with 6,691 link clicks.
- The Facebook campaign achieved a cost-efficient average cost per link click (CPC) of \$0.75, outperforming industry averages.

**Publicity:**

- Half of the webinar attendees learned about the event through Facebook ads, and a quarter through Kitsap County's email newsletter.
- 79% of those who registered were in the priority audience with households having children under 18 and/or pets with yard access.

**Satisfaction:**

- All 16 webinar survey respondents found the webinar to meet or exceed their expectations, with a mean score of 8.2 on a 1-10 scale.
- 71% of respondents were likely to recommend the webinar to others.

**Use of Lawn Care Products:**

- Most webinar survey respondents had used non-organic chemicals on their lawns, but a quarter had used natural or organic fertilizers.

**Impact on Intended Behavior:**

- 52% of respondents indicated they were planning to switch from weed and feed-type products to natural/organic lawn products after the webinar.
- Self-efficacy in lawn care varied, with some concerns related to controlling weeds without toxic chemicals, cost, and family buy-in.

**Retail Store Outreach and Coupon Redemption Results:**

- Six stores participated in the coupon promotion, resulting in 68 coupon redemptions.
- Coupons were received through digital ads, mailed postcards, Master Gardening events, and in-store.

- Some stores reported differences in fertilizer sales during the spring season.

#### **Ongoing Behavior:**

- Nearly half of the webinar attendees were interested in using the \$25 off coupon for natural lawn fertilizer.
- Four people signed up for a follow-up email exchange with a Master Gardener for additional support.

#### **Future Opportunities:**

- Retail stores expressed interest in hosting future Master Gardener events to provide on-the-spot education during fertilizer purchases.

## **2.3 COMPARISONS BETWEEN 2022 AND 2023 CAMPAIGNS**

#### **Workshop Attendance:**

- In 2022, there were four webinars with a total of 318 registrants and 139 attendees. The average attendance per webinar was approximately 35 attendees. 44% of registrants attended a webinar.
- In 2023, there were three webinars with 103 registrants, and 30 attendees. The average attendance per webinar was approximately 10 attendees. 29% of registrants attended a webinar.

#### **Reaching the Priority Audience\*:**

- In 2022, 65% of webinar attendees had kids or pets at home, and 18% of registrants indicated they used "weed & feed" products on their lawns. 46% of registrants indicated they did not use any products at all.
- In 2023, 79% of those who registered for the webinar were in the priority audience with households having children under 18 and/or pets with yard access, and 31% (5 of 15 respondents) of registrants reported using weed and feed prior to the webinar.

\* In 2023, questions about current use of lawn products were asked in a post-webinar survey whereas in 2022, these questions were asked in the webinar registration, leading to large differences in the response rate to these questions.

#### **Intention to Change Behavior:**

- In 2022, 48% of attendees in the Lawn Alternatives webinar and 60% in the Nature Friendly Gardening for Beginners webinar reported they were "very likely" or "likely" to switch to organic fertilizer.
- In 2023, 52% of respondents indicated they were planning to switch from weed and feed-type products to natural/organic lawn products after the webinar.

#### **Intention to Use Coupon**

- In both the Lawn Alternatives and the Nature Friendly Gardening for Beginners webinar, 55% of respondents said they were "very likely" or "likely" to use the coupon.
- In 2023 Nearly half of the webinar attendees were interested in using the \$25 off coupon for natural lawn fertilizer.

### **Coupon Redemption:**

- In 2022, the campaign offered a coupon for natural or organic lawn fertilizer, and a total of 70 coupons were redeemed at participating stores.
- In 2023, six stores participated in the coupon promotion, resulting in 68 coupon redemptions.

### **Retail Store Outreach and Coupon Redemption:**

- In 2022, the campaign had four retailers and a total of five locations participating in the coupon promotion, resulting in 70 coupon redemptions.
- In 2023, six stores participated in the coupon promotion, resulting in 68 coupon redemptions.

Overall, the 2023 campaign had a slightly lower attendance at the webinars compared to the 2022 campaign, but it showed a higher level of satisfaction among participants and a similar or slightly higher intention to change behavior. The coupon redemption numbers were similar between the two years. Both campaigns showed success in reaching their target audience.

## **2.4 2023 CAMPAIGN RESULTS BY THE NUMBERS**

- |  |  |
|--|--|
| • 94,144 people reached on Facebook  | • 30 webinar attendees                                   |
| • 14,350 direct mail impressions   | • 68 coupons redeemed in-store                           |
| • 2,890 link clicks on Facebook webinar ad, and 3,801 link clicks for Facebook coupon ad | • 1 Tabling event with Master Gardeners                  |
| • 103 webinar registrations  | • Continued successful partnership with Master Gardeners |

## **3 2023 CAMPAIGN**

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In 2023, the WSSOG continued the strategy implemented the previous year, with slight modifications. Because the WSSOG began an effort to evaluate the impact of the campaign in 2023, the decision was made to continue the strategy that had been implemented previously (the full evaluation will be complete in 2024). The content of the webinars was shifted to focus more directly on eliminating the use of weed in the feed with the goal of attracting more current weed and feed users. A tabling event with Master Gardeners was also added. In-store advertisements for the coupons were added at the request of retail partners. Changes were made to ads promoted on social media, based on how people responded to the previous ads.

### **3.1 MASTER GARDNER WEBINAR**

While attendance at webinars in the previous year were good, it was found that many attendees were already using organic fertilizer. Since this campaign is focused on encouraging people to adopt a new behavior, and because many were already doing the recommended behavior, the WSSOG wanted to focus more directly on those who might not already be engaged in the recommended behavior. To that end, instead of choosing two

topics with broad appeal as done the previous year, the WSSOG chose to focus the webinars specifically on natural lawn care.

WSSOG presented three webinars on natural lawn care in April and May of 2023, titled *Growing a Healthier Lawn for your Kids and Pets*. The webinars were presented by a Master Gardener affiliated with WSU Extension and consisted of a short (20 minute) PowerPoint presentation that outlined steps for improving lawn health through natural yard care.

People who signed up for one of the webinars were asked to complete a registration form that included a baseline question about their current attitudes and behavior when it comes to using natural/organic lawn products. Immediately after the webinar, those who attended received a follow-up survey, and in the fall of 2023, the same individuals were surveyed again to measure the extent to which the webinars resulted in behavior change - specifically, switching from weed and feed-type lawn products to organics. Just over half (53%, n=16) completed the immediate post-webinar survey. Results of the pre and post surveys will be discussed throughout section 3.1.1. Results from the fall follow up survey will be discussed in section 3.4.

### 3.1.1 Attendance and Participation

Webinar registrants and attendees came from all WSSOG jurisdictions or areas.

Zip	City or Area	# of Registrants	Zip	City or Area	# of Registrants
33480	West Palm Beach, FL	1	98363	Port Angeles	1
98110	Bainbridge Island	5	98365	Port Ludlow/Port Hadlock	1
98310	Bremerton/East Bremerton	7	98366	Port Orchard east of Hwy 16	9
98311	Bremerton/Silverdale	10	98367	Port Orchard west of Hwy 16	12
98312	Bremerton/West of 16	10	98370	Poulsbo	15
98329	Gig Harbor/Wauna	2	98380	Seabeck	1
98332	Gig Harbor/Purdy	6	98383	Silverdale	9
98335	Gig Harbor/Artondale	4	98386	Southworth	1
98337	Bremerton/Gorst	2	99311	Pasco (98311 typo?)	1
98346	Kingston	3	99366	Pasco (98366 typo?)	1
98359	Olalla	1			
<b>Total</b>		<b>102</b>			

Table 1 - Webinar registrants by zip code.

Webinar attendees also came from all WSSOG jurisdictions or areas.

Zip	City or Area	# of Attendees	Zip	City or Area	# of Attendees
98110	Bainbridge Island	1	98346	Kingston	1
98310	Bremerton	1	98363	Port Angeles	1
98311	Bremerton	6	98366	Port Orchard	2
98312	Bremerton	2	98367	Port Orchard	3
98332	Gig Harbor/Purdy	2	98370	Poulsbo	4
98335	Gig Harbor/Artondale	1	98383	Silverdale	5
98337	Gorst	1			
<b>Total</b>		<b>30</b>			

Table 2 - Zip codes of webinar attendees.

One hundred and three people registered, and 29% (n=30) attended a webinar, with an average of 10 people at each webinar. Nearly all participants stayed for the 20-minute presentation, and the majority stayed through the Q&A period as well.

### 3.1.2 Publicity

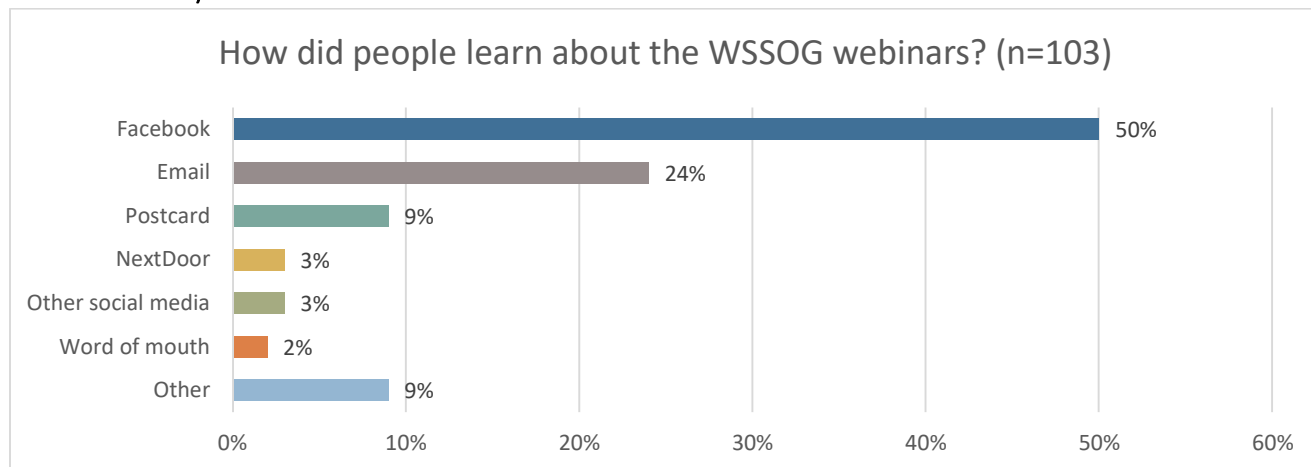


Figure 1 – How people learned about WSSOG webinars. (n=103)

As shown in Chart 1, half of the people who registered for a webinar heard about the event through the Facebook ads. Just under a quarter learned about them through the email newsletter sent out by Kitsap County, and 9% through the postcards mailed to area households.

### 3.1.3 Audience

Among people who registered for a webinar, 79% (n=81) were in the priority audience of households that have children under 18 and/or pets with access to the yard.

### 3.1.4 Satisfaction

All 16 respondents indicated the webinar met or exceeded their expectations, with a mean score of 8.2 on a scale of 1-10. None rated it below a six, and nearly a quarter (n=4) said it exceeded expectations.

When asked how likely they were to recommend the webinar to family, friends or coworkers, respondents gave it a mean score of 8.8 on a 1-10 scale, with 71% rating their likelihood of recommending a 9 or 10.

**"I greatly respected the speaker's approach to lawn health. I'm very very pleased that your program is spreading this information. Our earth needs it, so thank you!"**

(Webinar attendee)

### 3.1.5 Use of lawn care products prior to webinar

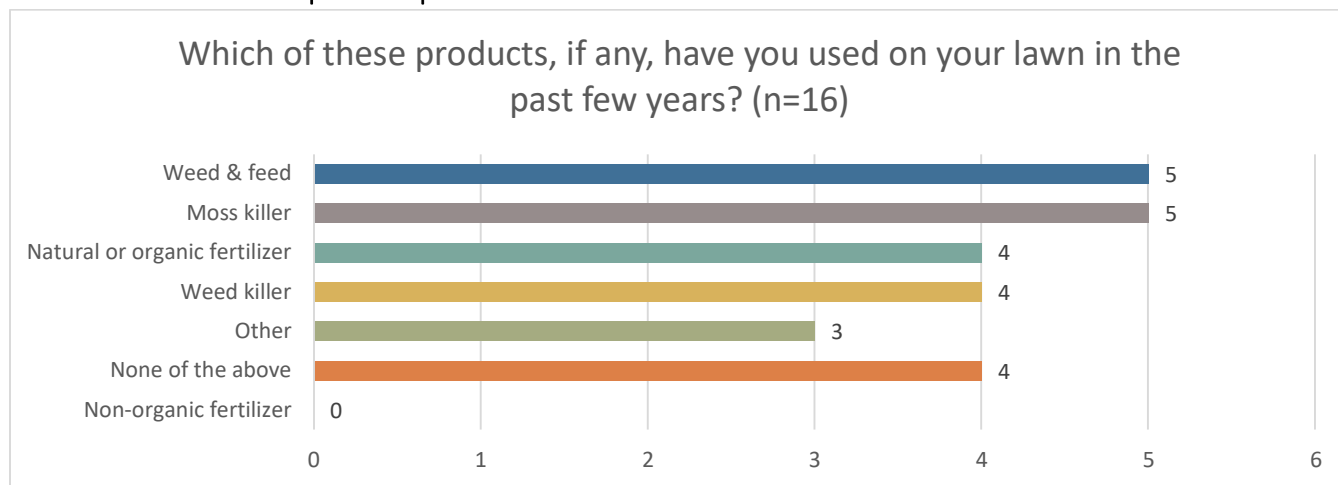


Figure 2 - Which lawn care products have people used in the past few years. (n=16)

As reflected in Chart 2, most respondents have used non-organic chemicals on their lawns within the past few years. A quarter (n=4) said they've used natural or organic fertilizer (one of these said they have also used weed and feed products, however) and a quarter have not used any lawn products. Three respondents said they've used other products on their lawn, including Tagro (two mentions) and Triazicide (an insecticide).

### 3.1.6 Questions and concerns about healthy lawn care

Prior to the webinar, registrants were asked to list any questions or concerns they had regarding natural lawn care. The most frequently raised topics included:

- How to control weeds without toxic chemicals
- How to control moss
- Lawn amendments or replacements
- How to handle wildlife

Many other topics were mentioned by small numbers (one to three people apiece). These included: tips on healthy brands to buy, whether organic labeling is reliable, how to repair a dog urine-damaged lawn, how to set up vermicomposting (worm composting), the best lawn mower blade length to discourage weeds, best lawn for "paw traffic," and questions from new homeowners looking for additional support/resources. E.g., "I'm a new homeowner and have no idea what I'm doing."

Question topics	% of questions	Sample quotes
<b>How to control weeds without chemicals</b>	34%	I use natural/organic lawn products, but I still have weeds! How can I get rid of weeds naturally?  Our neighborhood has issues with various weeds & invasive grasses, and we live near water (that) I don't want to pollute.
<b>How to control moss</b>	20%	Getting moss out and the type of lawn that grows well so moss doesn't take over where there is partial shade.  (Dealing with) moss and other "bad" kinds of grass.
<b>Lawn amendments &amp; replacements</b>	15%	How to deal with clay soil.  Thoughts about changing our lawn to clover in our area and climate?  Can you talk about wildflower meadows?
<b>How to handle wildlife (moles, voles &amp; insects mentioned)</b>	12%	How to get rid of moles! My yard is super moist and have a lot of moss.  How to get rid of pests on my apple tree and in apples.
<b>Other</b>	20%	Smaller numbers of people (1-2 apiece) listed many a variety of additional questions. (See narrative for topics.)

*Table 3 - Lawn care questions from webinar registrants.*

### 3.1.7 Impact on intended behavior

To assess the impact of the webinar on participants' intent to switch from weed and feed to natural/organic lawn products, the survey included a question aimed at measuring progress in peoples' willingness to make this shift.

Prior to the webinars, just under half (47%) of those who registered said they were "thinking about" or "planning on" making the switch from weed and feed-type products to natural/organic lawn products. Immediately after the webinar, the figure was 52%; however, respondents were much more likely to say they were "planning on" making the shift rather than thinking about it. Given the relatively small numbers of webinar participants (just half of whom completed the survey), it's impossible to say whether this reflects a statistically significant change.

In both pre and post surveys, roughly 30% said they don't use any products on their lawn, and another 15% said they only use natural/organic lawn products.

**After attending the workshop, respondents were less likely to say they were thinking about switching to natural/organic lawn products - and more likely to say they were planning to do so.**

In terms of using natural/organic products on your lawn, which of these best describes you?

	Not interested	Thinking about it	Planning on doing it soon	Sometimes use natural or organic products	Only use natural or organic products	NA (Don't use anything on the lawn)
<b>Pre-webinar survey</b>	0	24%	23%	7%	14%	33%
<b>Post-webinar survey</b>	0	11%	41%	7%	15%	26%

Table 4 - Readiness to switch to natural lawn care before and after workshop.

### 3.1.8 Self-Efficacy in Lawn Care

Participants rated their confidence in their own ability to create a healthy lawn using natural/organic products somewhat lower than their satisfaction with the webinar, with an average of 7.0 on a scale of 1-10. Nearly half indicated they were fairly confident (score of seven or higher) just over half rated their confidence a six or lower.

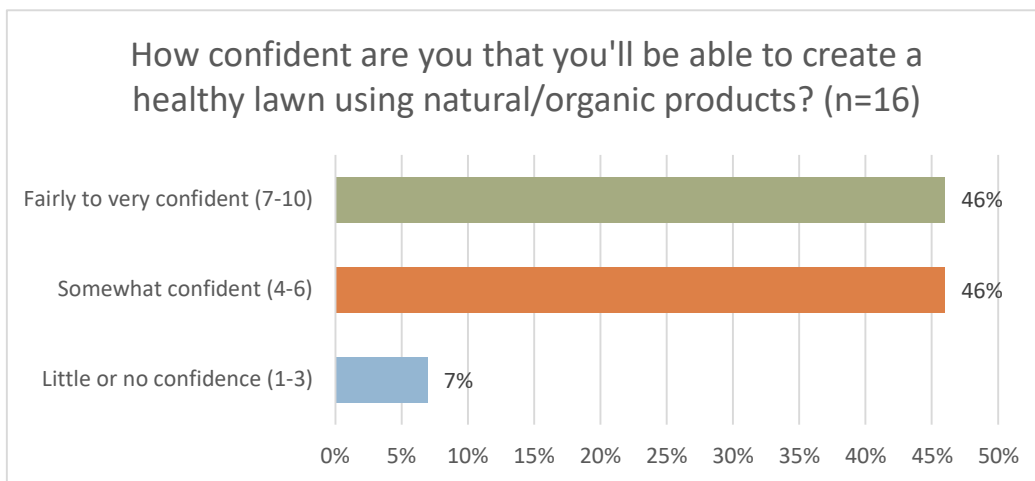


Figure 3 - Confidence of webinar attendees in using natural/organic lawn products. (n=16)

Among those who indicated they were *not* very confident, concerns included a) how to control weeds without toxic chemicals, b) the cost of natural/organic lawn products, and c) doubts about whether other household members would be on board.

### 3.1.9 Follow-up steps

Nearly half of the webinar attendees said they would “definitely” use the \$25 off coupon for natural lawn fertilizer given to participants; another half said they would “maybe” use the coupon.

Attendees were given the opportunity to sign up for a follow-up email exchange with a Master Gardener a few months after the workshop to address any lawn care questions they might run into. Four people signed up for this follow-up support.

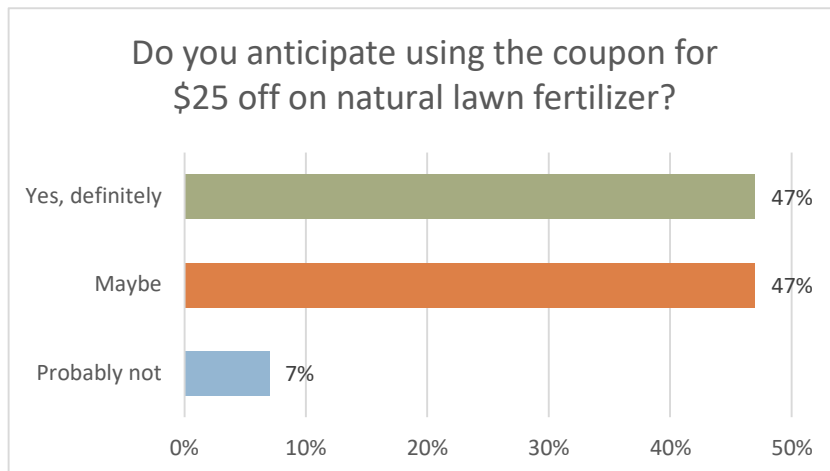


Figure 4 - Webinar attendees' intent to use fertilizer coupon.

## 3.2 MASTER GARDENER TABLING EVENT

One of the strategies originally identified in planning the Natural Yard Care campaign was to partner with Master Gardeners to hold tabling events at local nurseries. This element of the plan was scrapped due to Covid restrictions and replaced with webinars. Even once Covid restrictions were lifted, many Master Gardener volunteers were uncomfortable with in-person events. However, by 2023, there were enough Master Gardener volunteers who felt comfortable doing in-person outreach to try a tabling event.

One event was held on April 15<sup>th</sup> at Bremerton City Nursery. Master Gardeners were on hand to answer lawn care questions, and WSSOG members were present to distribute coupons for discounts on organic fertilizer (Master Gardeners could not distribute coupons). Master Gardeners had a sign-up sheet available for people who wanted a follow up to help them make the switch to organic fertilizer. The event was advertised through Master Gardeners, WSSOG partners, and Bremerton City Nursery.

Though there was a steady number of people approaching to ask a question, there were no sign ups for natural lawn care help, and WSSOG staff present observed few or no questions related to yard care. A total of five coupons were redeemed during the event, representing 7% of total coupon redemptions.

## 3.3 RETAIL PARTNERSHIP AND PARTNER DISCOUNT

This year, six stores opted to participate in the Natural Yard Care campaign. Through these retailers, West Sound residents could receive a 25% discount on select natural or organic fertilizer. Coupons were available digitally, through the direct mail postcard, at events, and one retailer chose to print out the coupons and make them available to customers.

Store	Digital (Phone/Printed)	Postcard	Master Gardener Event	Printed In-store	Total
Airport Garden Center (Port Angeles)	1	1	-	17	19
Bay Hay & Feed (Bainbridge Island)	-	8	-	-	8
Bremerton City Nursery (Bremerton)	4	14	5	-	23
Gig Harbor Ace Hardware (Gig Harbor)	10	-	-	-	10
Walrath Landscape Supply (Gig Harbor)	-	-	-	-	-
Vern's Organic Topsoil (Poulsbo)	5	3	-	-	8
<b>TOTAL</b>	<b>20</b>	<b>26</b>	<b>5</b>	<b>17</b>	<b>68</b>
Percent of Total	29%	38%	7%	25%	

Table 5 - Partner businesses and coupon redemptions.

The period for coupon redemptions was increased from eight weeks in 2022 to 11 weeks (between April 1 and June 18) in 2023. Despite the increased amount of time to redeem the coupon, the number of redemptions was not higher than in 2022. There were 68 redemptions in 2022 vs 70 in 2023.

Halfway through the campaign, Gig Harbor Ace Hardware requested an in-store flyer. The consultant team developed and provided this flyer for every retail partner to put in their stores as another touchpoint for customers to see messaging related to the campaign. Gig Harbor Ace Hardware reported that six of their 10 coupon redemptions happened after the flyer was put up in-store, indicating it may have assisted in driving several coupon redemptions.

Walrath Landscape did not have any coupons redeemed in their store. Store employees suggested that this could be due to the fact that they offer a unique brand of fertilizer that has not been popular with customers.

Retailers expressed interest in future Master Gardener events. Gig Harbor Ace Hardware, Bremerton City Nursery, Airport Garden Center and Bay Hay & Feed all reported interest in exploring the opportunity to host a Master Gardener event in the future. These events offer the opportunity for on-the-spot education when fertilizer purchases are top-of-mind.

### 3.4 OUTREACH MECHANISMS

#### 3.4.1 Postcard

To help facilitate the evaluation effort that was undertaken in 2023, the same mailing list was used for the postcard in 2022 and 2023. This was meant to make it easier for jurisdictions to identify a control neighborhood

that had not received the postcard against which results in the treatment neighborhoods could be measured. Full results from this portion of the evaluation will be available in 2024.

The full-color 6"x9" postcard was sent to 14,350 households throughout all the WSSOG jurisdictions. Each jurisdiction provided their own mailing list and set their own criteria. Allocation numbers were determined through the interlocal agreements and population percentages. The postcard conveyed the benefits of using safer products, encouraged residents to attend a webinar, and included the coupon. The postcard featured updated imagery and layout to match social media posts.



Image 1 - Postcard front.

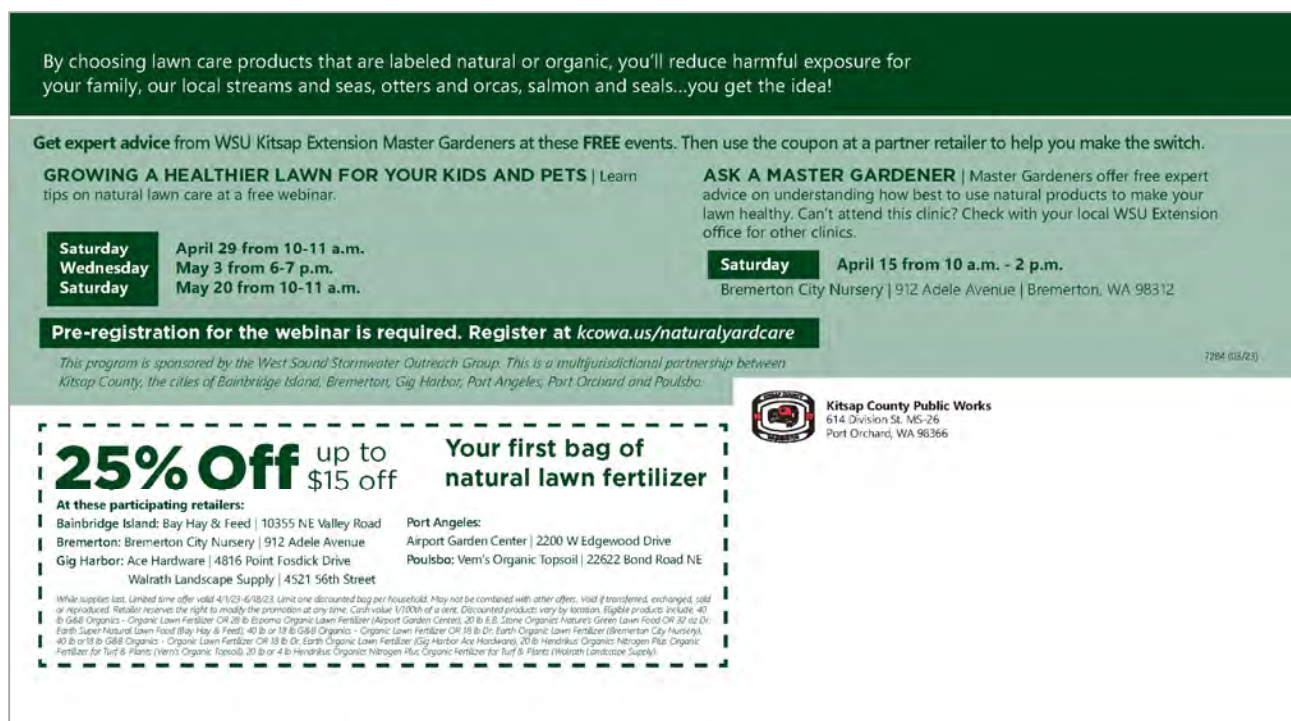


Image 2 - Postcard back.

### 3.4.2 County Website

One landing page was hosted on the Kitsap County [government website](https://www.kitsapcountypublicworks.org/), sharing information on the virtual events, the coupon, and more information about using only natural or organic lawn care products. An additional page served to promote just the webinars and registration. Both pages received strong traffic. The Natural Yard Care landing page ([kcowa.us/naturallyardcare](https://kcowa.us/naturallyardcare)) received a total of 5,213 unique visitors during the second quarter of the year, during which time the campaign was active.

### 3.4.3 Digital Campaign

The Natural Yard Care paid social campaign ran on Facebook again in 2023, following the success of the 2021 pilot and 2022 campaign. Facebook continues to be one of the most effective ways to reach the priority audience of Kitsap County residents, with 63.7% of Americans over the age 13 exposed to Facebook ads.

In the 2023 Natural Yard Care campaign, the Webinar Ad featured updated copy with a new visual, and the Coupon Ad featured a new visual with the same copy from the 2022 campaign.

#### 3.4.3.1 Results

The Facebook campaign reached a total of 94,144 people and received 6,691 link clicks—nearly double the clicks of the 2022 campaign, with only an 11% increase in ad budget. The average cost per link click (CPC) was \$0.75, which is more cost efficient than last year's average CPC of \$1.33. The average CPC across all industries on Facebook is \$1.72, meaning our campaign outperformed most other ads.

The Facebook campaign had a high frequency again this year, with people seeing the ads roughly 7 times on average. Research shows that people need to see most ads multiple times to recall them later. Below is a breakdown of how the ads performed separately.

Webinar Ad (April 12, 2023 to May 20, 2023)

- 2,890 link clicks
- Over 565,185 appearances on people's newsfeed
- 70,752 people reached\*
- \$0.78 cost per link click
- This ad received 10 comments, 94 reactions, 16 shares, and was saved 10 times by Facebook users
- On average, this ad was seen ~7 times by each person

Coupon Ad (April 5, 2023 to June 17, 2023)

- 3,801 link clicks
- Over 565,893 appearances on people's newsfeed
- 74,933 people reached (*51,541 people saw both ads resulting in 94,144 total people reached*)
- \$0.72 cost per link click
- This ad received 15 comments, 149 reactions, 20 shares, and was saved 6 times by Facebook users
- On average, this ad was seen ~7 times by each person

## Webinar Ad

**Kitsap County - Government**  
Published by Updog Colehour-Cohen · April 5 ·

Get your green thumb ready, because lawn care season is almost here! That's why we're bringing you 'Growing a Healthier Lawn for your Kids and Pets', a FREE webinar about natural lawn care. Catch one of our three dates and learn everything from weed control, soil health and organic fertilizing straight from the experts:

- 🌱 April 29th, 10am – 11am
- 🌱 May 3rd, 6pm – 7pm
- 🌱 May 20th, 10am – 11am



[KITSAPGOV.COM](https://www.kitsapgov.com)  
**JOIN OUR FREE WEBINAR**  
Get Lawn Advice from Master Gardeners

Sign up

Image 3 - Facebook webinar ad.

## Coupon Ad

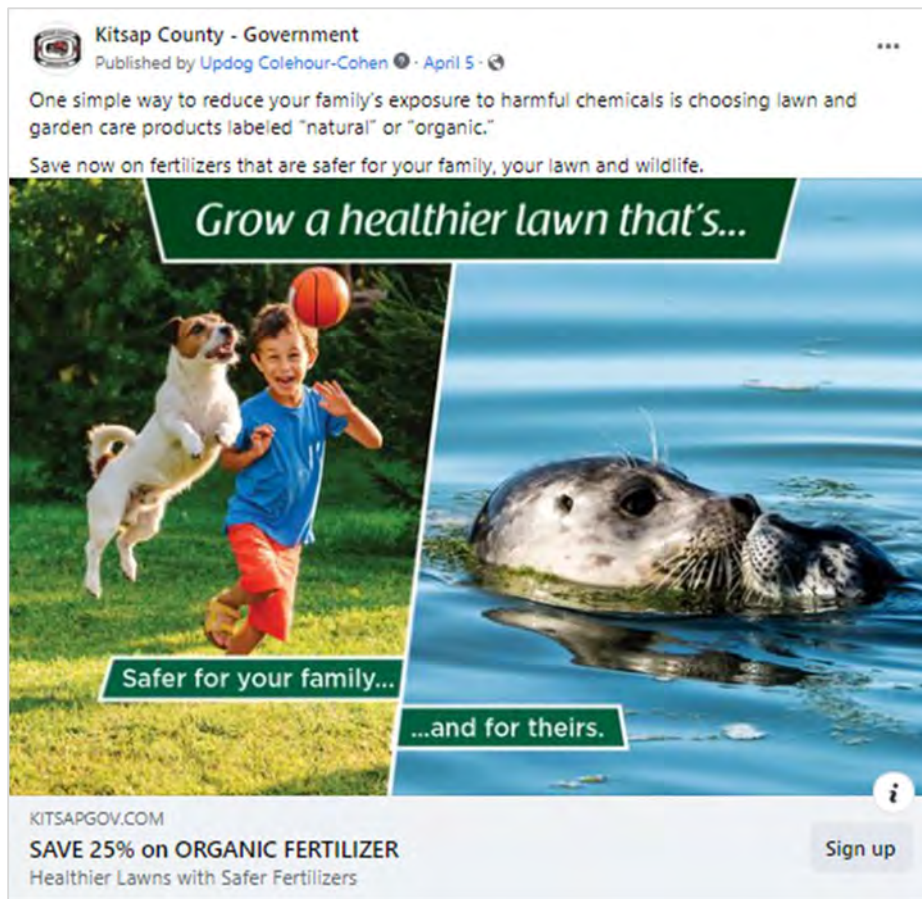


Image 4 - Facebook coupon ad.

### 3.4.3.2 2022 – 2023 Campaign Comparison

This year's ad campaign budget was \$5,000—an 11% increase over the 2022 campaign budget of \$4,500. The audience targeting was the same as last year, however the ad run time was extended by about 3 weeks. The 2023 campaign drove almost double the amount of link clicks as last year, resulting in a significantly more cost-efficient CPC. This improvement is likely due to the longer run time, extra budget, and the updated ad visuals/copy being more engaging. Similar to last year, the Coupon ad had a slightly stronger performance than the Webinar ad.

The audience age and gender demographics were similar to last year's results. The 65+ audience was the most engaged with the ads, and women clicked on the ads the most.

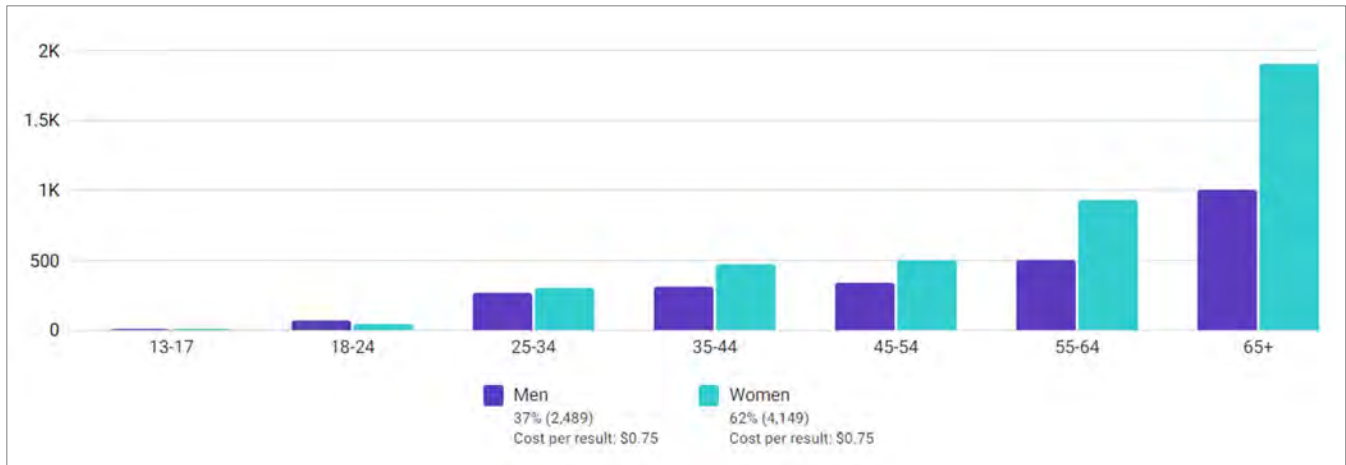


Figure 5 - Facebook advertising audience demographics.

The ads drove the most traffic to the website in mid-April through mid-May. In June, due to efficiencies in retailer outreach, the team was able to add \$500 to the \$4,500 ad budget. The coupon ad was extended for a week through June 17 for this extra \$500, and drove a high number of link clicks during those final days of the campaign. This spike is likely due to the \$500 running over a short run time of one week vs. the original \$4,500 spend running over 2.5 months.



Figure 6 - Facebook performance overview.

### 3.4.3.3 Recommendations for Further Evaluation and Next Steps

#### Facebook

- Continue to refresh the ad copy and visuals to keep the content relevant and engaging.
- A/B test the ads by running 2 versions of each ad with either the visual or messaging switched, to gain insight on what works best for the audience.

### 3.5 POST-CAMPAIGN EVALUATION RESULTS

Webinar registrants were sent a survey after the summer growing season had passed to assess their ability to implement changes they had learned about during the webinars. There were 12 total responses, 7 of which came from webinar attendees, and 5 from people who had registered but were unable to attend. Due to the small sample size, responses are not statistically significant and may not be representative of the entire population.

When asked why they attended the webinar, 3 of 5 respondents said they wanted to care for their lawn without the use of chemicals, 1 wanted to improve the health of their lawn, and 1 wanted to learn. This may indicate that these webinars did a better job than previous webinars of attracting people that wanted to discontinue use of weed and feed.

All respondents who had attended a webinar had already implemented at least one change to their lawncare practices. Respondents could select multiple changes. The most common was mowing higher. The goal of this campaign is to discourage use of weed and feed. It may be noteworthy that 60% said that they had stopped using weed and feed, even though the alternative behavior promoted by the campaign, using natural or organic fertilizer, was not reported by any respondents, however, the small sample size means that this may need further study. Two respondents said that there were additional changes they planned to make but had not yet been able to implement.

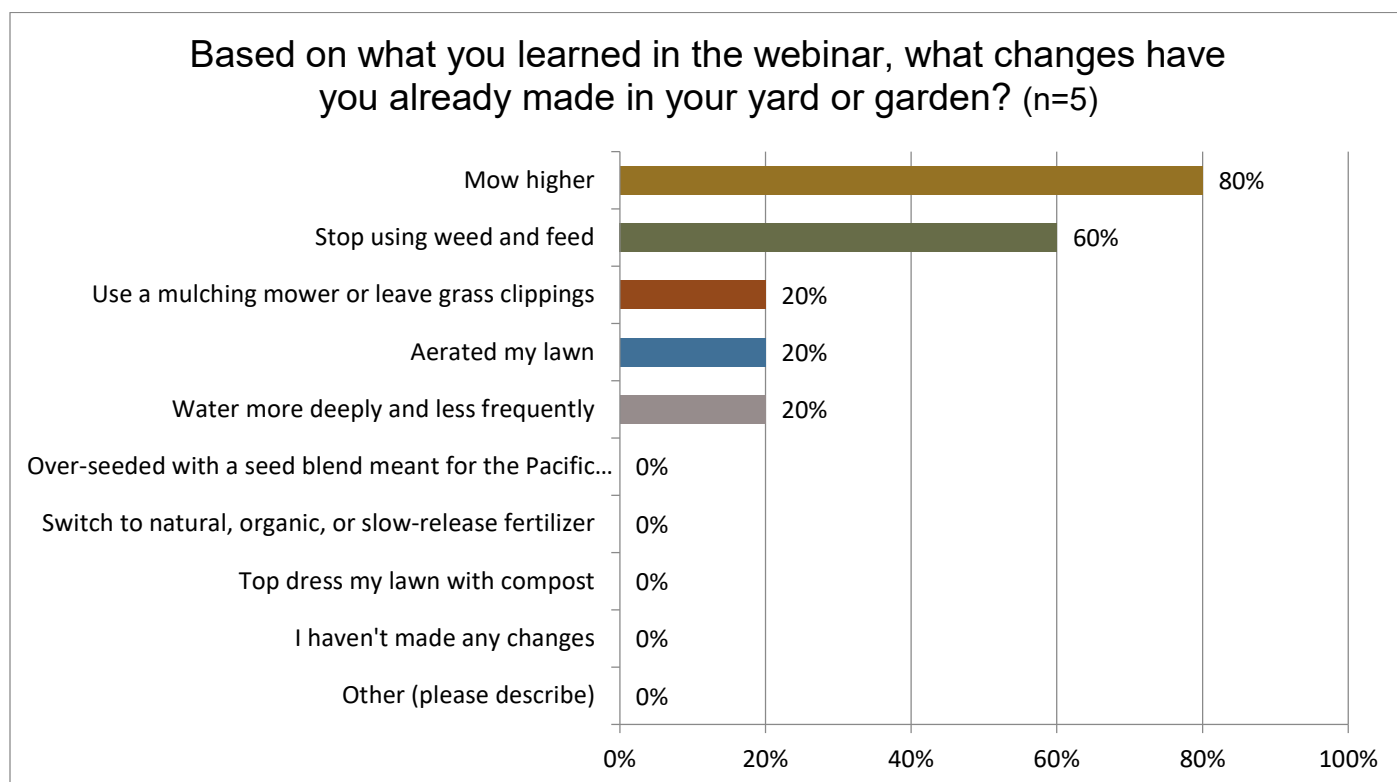


Figure 7 - Behavior changes of webinar attendees. (n=5)

All workshop registrants received an email with a link to the coupon for a discount on natural or organic fertilizer, regardless of whether they attended the workshop. None of the survey respondents reported using the coupon. When asked why they did not use it, most reported that they did not receive it, or did not remember receiving it. Of those who responded “other”, one said the location was not convenient, one didn’t get around to using it, and the last forgot about it.

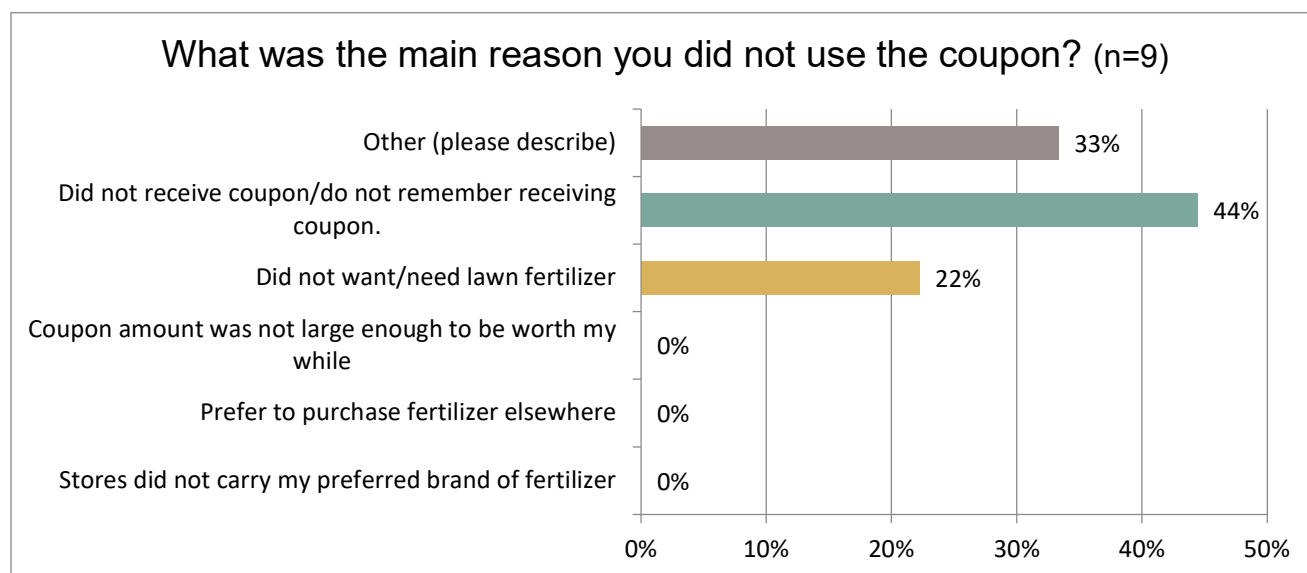


Figure 8 - Reasons for not using coupon. (n=9)

Respondents who did not attend were asked why they didn’t attend. With so few answers, there was no obvious trend as to why most people did not attend.

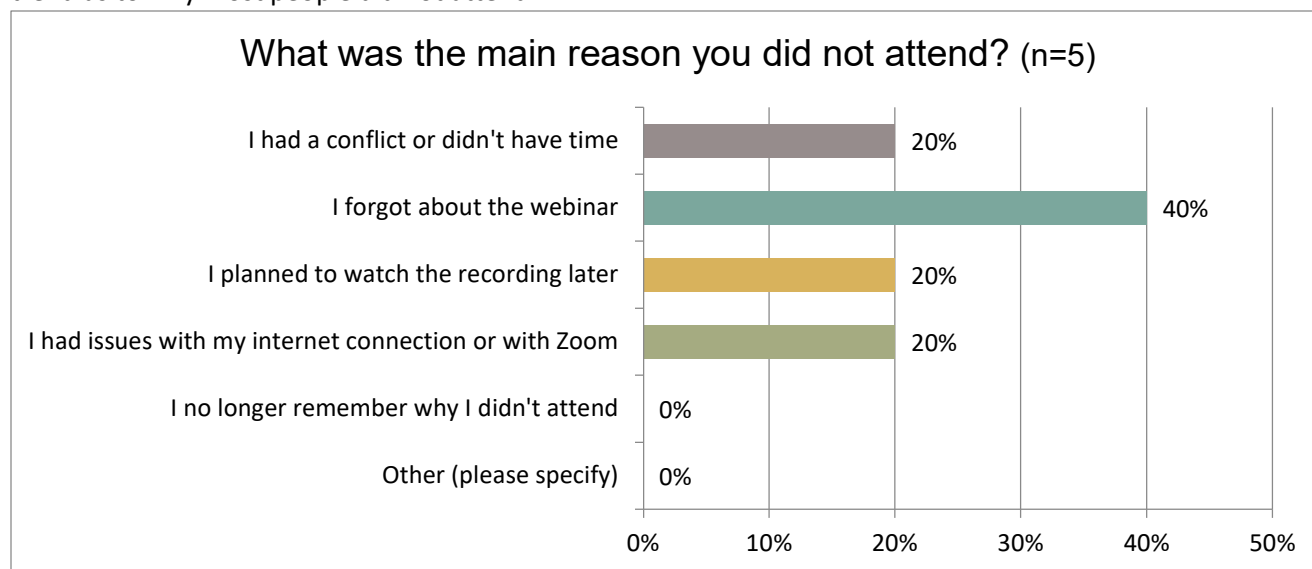


Figure 9 - Reasons registrants did not attend webinar. (n=5)

### 3.6 RECOMMENDATIONS

The WSSOG is working with a consultant to complete a thorough evaluation of the campaign's effectiveness. Results from that evaluation are anticipated in the first quarter of 2024. The timing of these evaluation results will not allow the recommendations to be implemented in the 2024 campaign. Therefore, recommendations for 2024 are based only on the results of the 2023 campaign. The recommendations are as follows:

- Work with Master Gardener Coordinator to identify ways to boost webinar attendance,
- Use common questions from 2023 webinar registrants to identify content for 2024 webinars and highlight that content in advertising,
- Continue social media advertising for both coupon and webinars,
- Consider A/B testing for social media ads,
- Identify new areas in each jurisdiction for postcard mailers,
- Expand tabling events at partner nurseries and garden stores, and
- Consider in-store advertising for webinars and coupons to boost webinar attendance and coupon use.

## 4 APPENDIX A – CAMPAIGN HISTORY

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### **Social Marketing Sessions (December 2018 - February 2019)**

Social marketing is a process that applies marketing principles and techniques to create, communicate, and deliver value to influence a priority audience's behaviors to benefit society. In line with social marketing best practices, the WSSOG participated in five social marketing planning sessions led by C+C Social Marketing Strategist Nancy Lee. Lee has over two decades of experience in social marketing, co-authoring 13 books on social marketing with Philip Kotler; teaching Introduction to Social Marketing at the University of Washington; and consulting with over 100 governmental agencies in Washington state.

Each of Lee's sessions included an overview and presentation of a social marketing tenet, and a corresponding workshop to design each plan element. The purpose of the campaign was defined as: To reduce pollutants in stormwater runoff by increasing the amount of safe products used in yard care and decreasing the amount of harmful products used in yard care. The five sessions were as follows:

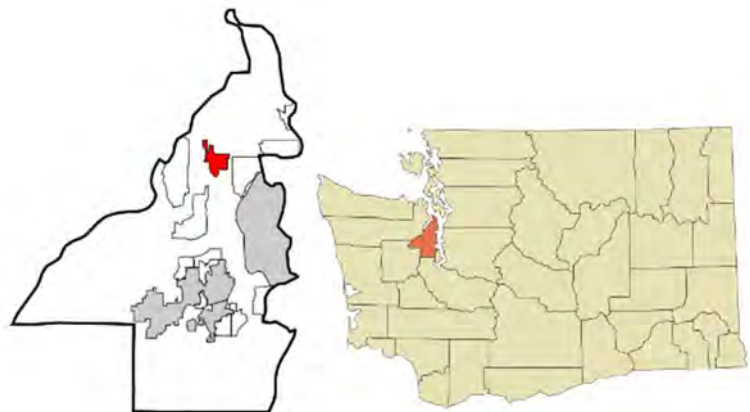
1. Background, Purpose, and Focus
2. Situation Analysis
3. Priority Audience
4. Desired Behavior Objectives & Goals
5. Priority Audience Barriers, Benefits, Motivators, Competition, and Influential Others

The result of the workshops was a complete social marketing plan, ready for pilot development and implementation. The following key elements were chosen:

**Campaign "Ask"** - To reduce pollutants in stormwater runoff, fertilize only with safer products, if you plan to fertilize your lawn.

**Campaign Audience** - Single family home or townhome residents with kids and/or pets who have "Do It Yourself" yards and are currently using harmful products.

**Pilot Area** - The WSSOG chose the city of Poulsbo for the pilot based on several factors including the availability of Master Gardener outreach channels, the city's mix of representative demographics, and its central location within the county. With roughly 4,126 households and a population of 10,602, Poulsbo makes up just 3.9% of the population - making it an ideal fit to pilot the campaign and build toward Kitsap County-wide implementation.



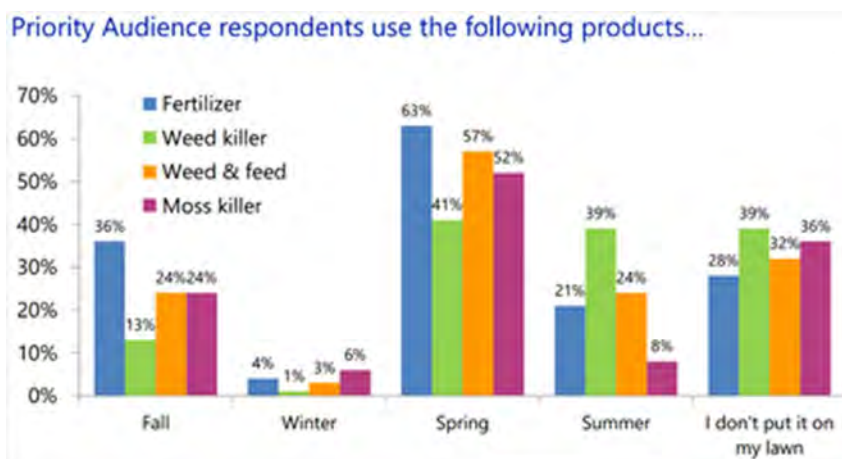
### **Initial Audience Research (December 2018)**

Between social marketing sessions four and five, the WSSOG and C+C worked with Hardwick Research to gain a better understanding of the priority audience. A survey was designed to identify the perceived barriers and benefits related to lawn care and fertilizer usage by Kitsap County residents. The priority audience was defined as those who:

- Live in Kitsap County, Poulsbo, Bremerton, Port Orchard, Gig Harbor, Bainbridge Island, or Port Angeles
- Own a single-family home, townhouse, or duplex
- Have grass on their property
- Maintain the grass themselves
- Have at least one child under 18 years of age living in their household OR have a pet that goes out in the yard
- Uses a fertilizer on the lawn

The survey was promoted through Facebook, government communication channels, and digital neighborhood groups such as Nextdoor. A total of 212 people responded to the survey, with 164 falling within the priority audience parameters. Some of the key high-level findings were:

- When asked “have you ever considered switching to ALL organic yard care products,” 56% of the priority audience indicated they have considered making the change.
- The top three concerns the priority audience had about using organics:
  - 50% believe organic products cost more
  - 27% do not think organic products would work as well
  - 35% are not sure where they would purchase organic products
- The priority audience said Master Gardeners are the spokespeople they believe most when it comes to using organic products. 43% believe Master Gardeners; 39% believe professional gardeners (groundskeepers, golf course managers, landscapers, etc.); 34% believe university researchers; 27% believe local nurseries or garden centers; Friends/neighbors, governments, celebrity gardeners, medical experts, major brands, veterinarians, and the internet all ranked below 17%



- 64% of priority audience respondents thought that free or discounted organic products or a list of what products to use would make them more likely to use organic products on their lawn.
- Spring is the peak season for participants who were putting chemical products on their lawns, followed by fall.

### **Creative Development and Testing (April - June 2019)**

Once the social marketing plan was developed, the WSSOG worked with C+C to develop campaign creative and determine the best combination of imagery and messaging to resonate with the priority audience. Message testing with the priority audience helped determine which combination of image and text would be most motivating to get them to switch from using harmful products to using safer ones. The survey was conducted using the online tool Ask Your Target Market. For this testing effort, C+C and the WSSOG developed four separate adcepts (pictured below).



Figure 1: Four adcepts used for testing

### **Respondents answered questions to capture the following information:**

- Open-ended (qualitative) questions regarding **understanding**
- Likert rating of each ad to determine success factors: **important, relevant, believable, motivating, engaging**
- Rank order from most motivating to least motivating
- Open-ended explanation of elements that contribute to most and least motivating
- Open-ended description of an ad that would be most motivating

### **Research Results:**

- The “Child & Puppy” creative performed the strongest overall, and performed strong enough that no changes to the image and message were needed
- The “Child & Puppy” and “Otter” adcepts both scored very well in comparison to the group.

- “Otter” performed well, especially among those who already have some knowledge about the issues associated with natural yard care – as the audience becomes more aware/educated, “Otter” could be the “next generation” key message.
- All the messages were well understood, including the nuances beyond organic is better than chemical fertilizers.
- Images with children were ranked as engaging and relevant.

With research finding the “Child & Puppy” adcept was the strongest, the WSSOG finalized the campaign creative (pictured below).



*Figure 2: Selected adcept for the campaign*

### **COVID-19 Delays Outreach, Pivot to Research (January - June 2020)**

Based on the results of social marketing sessions and research, in-person events with Master Gardeners at gardening supply retail stores were chosen as the main outreach tactic. Ahead of the spring fertilizing season, Master Gardeners would be on-hand to answer natural yard care questions from the priority audience, while organic fertilizer would be discounted and offered to store attendees.

Planning for the pilot program was well underway – a retailer was selected, and tabling dates were scheduled. Due to the impact of COVID-19, the WSSOG’s natural yard care pilot campaign was unexpectedly postponed from spring 2020 until spring 2021. With a need to restructure pilot tactics for the pandemic, the team utilized the remainder of 2020 to conduct additional market research on the priority audience. Results and analysis from the research would be used to better inform the execution of the 2021 pilot.

### **Further Research - Tactics and Messaging in the COVID Environment (June– August 2020)**

With the delay of the pilot campaign due to COVID-19, the WSSOG and C+C conducted additional surveying to refine the tactics within the campaign, such as interest in virtual versions of the events, and preferred

descriptions for virtual events. WSSOG also sought to narrow the pilot's Facebook ad strategy by testing which topics would drive the most engagement.

Respondents were recruited by placing two Facebook ads letting Kitsap residents know the WSSOG was seeking people who do their own yard care to participate in a paid research study. Residents who were interested clicked on a link that took them to a short survey to ensure they fit the target audience profile. If they did, they received information about how to participate.

This online research was conducted using the Revelation™ platform with 13 people – or the equivalent of two focus groups. Respondents spent about 1 hour over a 2-day period participating in the research and were compensated \$80 each for their opinions. Select key insights were provided below.

#### **Planned Pilot Insights:**

- The target audience is very receptive to online Master Gardener events because they are more convenient. Although a few respondents complained of “Zoom fatigue,” most respondents were excited about the idea of having lawn care education online, provided by Master Gardeners.
- Although cost is a significant barrier to purchase, the way a campaign expresses price reduction has potential to deter people from purchasing organic products.
- Keep focusing on kid / pet health and safety as a motivator. The majority of respondents are not connecting their lawn care practices to the health of the Puget Sound. However, a number of respondents were already concerned about the negative health implication of chemicals on their kids and pets.

#### **Facebook Ad Strategy Insights:**

- The Facebook ad that highlighted Master Gardener informational events was preferred over the Facebook ad that provided a coupon. The drivers were:
  - Respondents are eager to interact with Master Gardeners and believe they would learn useful information from them. Credibility is very high.
  - Those who said they would attend a Master Gardener event were motivated by the educational aspect. This also made some respondents believe that the ad wasn't just an advertising gimmick.
  - Respondents liked the idea of a coupon at the Master Gardener event, but that was not a significant driver for attendance.
  - Respondents would be more likely to click either ad if it was posted by a friend or trusted source.
  - Although some people loved the idea of coupons, many felt that coupons or discounted products, especially without a familiar brand name, signal lower quality products and/or products that have been sitting around and need to be sold.
  - The ads with coupons didn't promote a specific product, so respondents didn't feel confident that the coupon would be worthwhile.

- Additionally, when respondents found that they had to fill out a form to get a coupon mailed to them, they thought it wasn't worth the effort. Others were concerned that it would just get their name on a mailing list.

### **Pilot Activities (January – may 2021)**

The pilot was timed for spring 2021, based on survey findings showing that the majority of the priority audience fertilized their lawns in the spring.

### **Virtual Events with the Master Gardeners**

In spring 2021, the pandemic was still going strong, and the Master Gardeners were not doing in-person events. The project shifted from the original plan of tabling at lawn and garden retailers, to conducting natural yard care webinars. The events would cover the basics of natural yard care and would be led by a Master Gardener, with a WSSOG representative serving as the host. Based on the research, the events were titled “Natural Lawn Care with Master Gardeners: For Healthier Yards and Safer Families.” A total of three webinars were held in late March and early April.

### **Retail Partnership and Product Discount**

Valley Nursery in Poulsbo agreed to partner with the program. Residents would be able to purchase a 20 lb. bag of E.B. Stone Organic Lawn Food (pictured) with a 15% discount. The WSSOG would reimburse Valley Nursery for the cost of the discount. Valley Nursery also agreed to commit to stock organic fertilizer throughout the spring season (once the discount is over), an added benefit since other [similar programs](#) in the region have found that one barrier to these programs is that retailers may not keep organic product stocked throughout the popular spring fertilizing season.



### **Outreach Mechanisms**

WSSOG partnered with C+C on several outreach strategies to reach the priority audience. All the strategies focused on the pilot's selected city of Poulsbo. Strategies included a paid social campaign on Facebook. Facebook was identified for the paid social campaign for its widespread usage, flexibility, and scalability. A large attention-getting 6"x9" postcard was mailed to 2,933 residents in Poulsbo and virtual events were promoted through the City of Poulsbo's monthly e-newsletter and monthly utility bill insert. Kitsap County also hosted two web pages to serve as a central source of information about the campaign and the webinar.

## 5 APPENDIX B – 2022 CAMPAIGN

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In 2022, the WSSOG expanded the program to include all the jurisdictions – Kitsap County, Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The format of the program followed the same parameters as the pilot – virtual webinars hosted by Master Gardeners, a retail discount and similar outreach strategies. Using the results and lessons learned from the pilot campaign, the 2022 program was modified to include a larger product discount. Webinars were also expanded to include different topics.

### **Virtual Events with the Master Gardeners**

In 2022, two Master Gardeners volunteered to offer two different webinars. The topics selected were “Lawn Alternatives” and “Nature Friendly Gardening for Beginners.” Each topic was offered twice, for a total of four webinars.

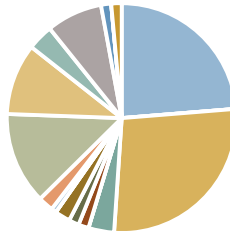
In total, 318 registered and 139 attended for an average of 35 attendees per webinar.

- 44% of people who registered attended a webinar
- 65% of people who attended one of the webinars had kids or pets at home
- Of the webinar dates and times, Saturday, April 16 at 10 a.m. was the most popular with 87 attendees.

Event Registration & Attendance				
Webinar Date	# Registered	# of Registrants with Pets or Kids at Home	# Attended	# of Attendees with Pets or Kids at Home
Lawn Alternatives, Saturday, April 16, 10 am	117	87	57	43
Lawn Alternatives, Friday, April 22 at Noon	79	47	37	17
Nature Friendly Gardening for Beginners, Saturday, April 23, 10 am	69	51	29	19
Nature Friendly Gardening for Beginners, Wednesday, April 27 at 6 pm	53	39	16	12
<b>TOTALS</b>	<b>318</b>	<b>224</b>	<b>139</b>	<b>91</b>

Attendees at the webinars were from all the WSSOG jurisdictions. The largest number of attendees reside in Bremerton (38 or 27%) followed by Bainbridge Island (33 or 24%).

## # of Participants



Bainbridge Island	Bangor	Belfair	Bremerton
Gig Harbor	Hansville	Indianola	Jefferson County
Keyport	Kingston	Manchester	Mason County
Olalla	Port Angeles	Port Orchard	Poulsbo
Seabeck	Silverdale	Southworth	Suquamish
Tacoma	Unidentified		

### Registrant Fertilizer Use

When asked, “What kind of fertilizer(s) do you use on your lawn currently?”

- 58 of the 318 registrants (18%) indicated that they use a “weed & feed” product on their lawn.
- 147 of the 318 registrants (46%) indicate they do not use any products.
- 13 of the registrants (4%) do not have a lawn.

While the program was successful in reaching the priority audience of people with kids or pets at home (65% of attendees), it saw limited success in reaching those who use “weed and feed” products.

One sub-group stands out from this question – almost half (46%) of the registrants indicate they do not use any products at all.

### Participant Engagement

The average time spent in each session was 52 minutes, with each webinar running between 45 minutes to one hour. This is a substantial amount of time to engage with the topic – much longer than a conversation an attendee might have in a retail store setting, and more in-depth than viewing an ad, postcard, or other communication.

43% of attendees took the post-event survey (60). A total of 14 respondents indicated they were interested in having a Master Gardener follow up with them.

### Registrant Questions

A total of 106 questions were submitted by registrants, with many people asked questions pertaining to a variety of lawn and garden topics. Many questions submitted pertained to the topic of lawns, as well as the

types of chemicals that could be used to treat lawns and common lawn problems. Moss, for example, was a recurring topic.

- “My lawn area is about 8000 square feet, which I find to be a little overwhelming. My big concern is water usage. I do not water during the summer, but the lawn suffers. **Moss** is a "problem" although I like moss well enough. If I were to seed areas with meadow type plants, can I do that over a drain field. I have a concern, unsupported by any data, that deep roots might be a problem. I'm also curious if there are any Bainbridge Island ordinances about planting meadow versus lawn. How do I keep the lawn barely alive without hurting the property value?”
- “I don't use any **chemicals** because I have a seasonal pond that I don't want getting toxic & I usually have a dog. I have an acre in the country, so it is mostly black berries & dandelions...not a lot of grass, but I have a hill that has to be mowed or the grass gets very long. I want to know what to do to take over the grass...wildflowers, ground covers, etc.? Do I need to cover/kill it first? I've tried planting some wildflowers, but the grass always takes over. Part of it has the drain field, too so it is thick. Also, how can I get rid of the blackberries?”
- “Interested in learning about alternative, low maintenance ground covers. **We don't water or fertilize the grass**; it sort of dies back in the summer, but we still mow it. I am wondering about alternatives that can be walked on.”
- “Are **organic lawn fertilizers safe** for use near the salt water of Puget Sound?”
- “How to **remove moss** from lawn. One lawn is over the septic field area. Also, how to eliminate moss growing on patio pavers and to remove green from driveway.”

## Post-Event Survey Results

60 respondents took the post-event survey (43%), which showed up on-screen immediately post-event and was also emailed to attendees.

In the Lawn Alternatives webinar, 48% of attendees reported they were “very likely” or “likely” to switch to organic fertilizer. In the Nature Friendly Gardening for Beginners webinar, 60% of attendees reported they were “very likely” or “likely” to switch to organic fertilizer.

Lawn Alternatives					
How likely are you to switch to using organic fertilizer?					
Very likely	Likely	Neither likely nor unlikely	Unlikely	Very unlikely	N/A I already use organic fertilizer
11	8	6	0	2	13
28%	20%	15%	0%	5%	33%

48%	Percent either "very likely" or "likely" to switch to organic				
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Nature Friendly Gardening for Beginners					
How likely are you to switch to using organic fertilizer?					
Very likely	Likely	Neither likely nor unlikely	Unlikely	Very unlikely	N/A I already use organic fertilizer
6	6	2	0	0	6
30%	30%	10%	0%	0%	30%
60%	Percent either "very likely" or "likely" to switch to organic				

In both the Lawn Alternatives and the Nature Friendly Gardening for Beginners webinar, 55% of respondents said they were “very likely” or “likely” to use the coupon.

- Very Likely -16
- Likely - 17
- Neither likely nor unlikely - 12
- Unlikely - 7
- Very unlikely - 8

#### **Retail Partnership and Product Discount**

With two-thirds of the priority audience saying free or discounted products were their top motivator to try the desired behavior, the WSSOG sought to again offer a discounted product. Organic lawn fertilizers range between approx. \$20-\$70 per bag or carton, so they are not a small, inexpensive “giveaway item”. Further, a small sample amount would not be a strong behavior-change incentive, since it would only cover a very small part of the lawn and would be used next to synthetic fertilizer, and organic fertilizer may take longer to get results. Due to these factors, the WSSOG sought a way to conduct an innovative partnership to provide free or discounted product as part of the pilot project.

In 2022, the WSSOG conducted robust outreach to solicit retailer participation. Ultimately, four retailers and a total of five locations across the West Sound participated in Kitsap’s Natural Yard Care coupon promotion, providing coverage across the entire WSSOG region. Through these retailers, customers could receive 25% off (or up to \$15 off) select natural or organic lawn fertilizer.



Each retailer identified an organic lawn fertilizer and the bag size. All products ranged in retail price from \$38.99 up to \$68.99. For example, Bremerton City Nursery provided two options – an 18-pound bag for \$38.99 or a 40-pound bag for \$68.99.

During the eight-week period the coupon was active (between April 1 and May 30), 70 total coupons were redeemed at participating stores:

- Airport Garden Center in Port Angeles redeemed **7 coupons**
- Bay Hay and Feed on Bainbridge Island redeemed **20 coupons**
- Bremerton City Nursery redeemed **35 coupons**
- Wilco in Bremerton redeemed **7 coupons**
- Wilco in Gig Harbor redeemed **1 coupon**

This year, retail stores reported a mix of physical coupon redemptions as well as digital coupon redemptions with customers showing the coupon on their phone from the website.

The program team received valuable insight from retail stores about spring sales overall for 2022, with many saying that poor weather in April and May kept customers out of their gardens and therefore out of the nursery/retail stores, causing a slower year overall for lawn fertilizer sales.

Key insights from retailers:

- Bay Hay and Feed reported that, “It was a cold spring so grass seed and fertilizer was not as good as previous years, we sold half of what we normally sell in April,” and in general, “Nursery sales are incredibly dependent on good weather...you cannot do much about that.”
- Bremerton City Nursery told us that, “This was the coldest, wettest Spring we have had in over 70 years (according to the weather experts!), so I would say our lawn fertilizer sales were slow.”
- Airport Garden Center said, “We are having an unusually busy June and July...I believe the weather [in April and May] was the culprit to our low overall spring sales this year.”

## Outreach Mechanisms

### Postcard Mailer

A large, attention-getting 6"x9" postcard was sent to 14,350 households throughout all the WSSOG jurisdictions. Each jurisdiction provided their own mailing list and set their own criteria. Allocation numbers were determined through the interlocal agreements and population percentages. The postcard conveyed the benefits of using safer products, encouraged residents to attend a webinar, and included the coupon.

Jurisdiction	Relative Population	Postcard # Allocated	# Actual
Unincorporated KC	59.20%	8880	8513
Bremerton	14.00%	2100	2071
Bainbridge Island	8.20%	1230	1230
Port Angeles	6.50%	975	1031
Port Orchard	4.80%	720	560
Poulsbo	3.70%	555	561
Gig Harbor	3.60%	540	565
<b>TOTAL</b>	<b>100%</b>	<b>15000</b>	<b>14531</b>



Figure 3: Front of Postcard



Figure 4 Back of postcard

## Government Delivery Channels and County Website

One landing page was hosted on the Kitsap County [government website](#), sharing information on the virtual events, the coupon, and more information about using only natural or organic lawn care products. An additional page served to promote just the webinars and registration. Both pages received strong traffic. The Natural Yard Care landing page ([kcowa.us/naturalyardcare](#)) received a total of 2,497 unique visitors during the campaign period spanning April 1, 2022, through May 31, 2022. The webinar registration page received a total of 121 unique visitors for a combined total of 2,618 unique visitors. This is double from the 2021 pilot number (with a total of 1,325 unique visitors from March 1, 2021, through April 30, 2021).

Kitsap County also sent out an email bulletin to a total of 14,207 recipients. The bulletin had 3,616 unique opens and 229 total clicks on the various hyperlinks included in the bulletin. The top link clicked was the webinar registration page with 61 total clicks.

## Digital Campaign

A paid social campaign was once again used to promote the virtual events and the campaign overall. With the success of the campaign's social ads in the 2021 pilot, and roughly two-thirds of U.S. adults (68%) reporting that they are Facebook users ([Pew](#)), Facebook was again utilized as the main advertising vehicle for the campaign based on its widespread usage, flexibility, scalability, and affordability.

The 2022 campaign utilized the same imagery as the 2021 pilot, with updated text to reflect the 2022 campaign events, coupon, and other parameters.

In total, the Facebook campaign reached 123,360 people and received 3,391 link clicks - a strong showing for the audience area in Kitsap County. The average cost per click (CPC) was \$1.36, which is in line with other campaigns running in Q1/Q2 2022.

The Facebook campaign also had a high frequency, with people seeing the ads roughly 4 times on average. Research shows that people need to see most ads multiple times to recall them later. Below is a breakdown of how the ads performed separately:

#### Webinar Ad (April 1, 2022, to April 26, 2022)

- 1,039 link clicks
- Over 274,951 appearances on people's newsfeed
- 71,520 people reached\*
- \$1.44 cost per click
- This ad received 6 comments, 96 reactions, 27 shares, and was saved 11 times by Facebook users
- On average, this ad was seen ~4 times by each person



#### General Campaign/Coupon Ad (April 1, 2022, to May 24, 2022)

- 2,352 link clicks
- Over 490,379 appearances on people's newsfeed
- 98,752 people reached\*
- \$1.28 cost per click
- This ad received 42 comments, 338 reactions, 69 shares, and was saved 23 times by Facebook users
- On average, this ad was seen ~5 times by each person



*\*46,912 people saw both ads leading to \*123,360 total people reached*

#### Ad Comparison While Both Ads Were Running (April 1, 2022 – April 26, 2022)

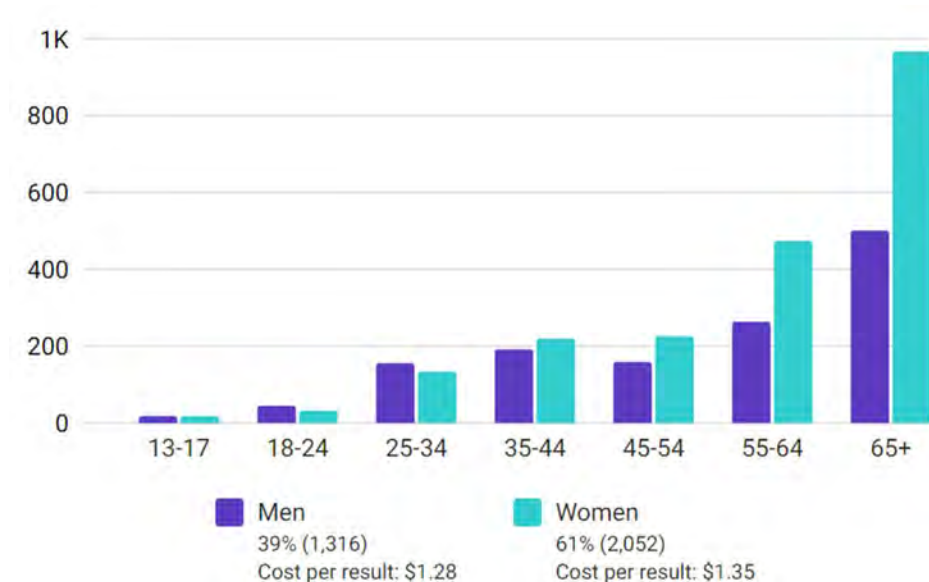
The webinar ad run time was a few weeks shorter than the general campaign/coupon ad since the campaign ended later than the last webinar. While both ads were running, the general campaign/coupon ad had a slightly stronger performance than the webinar ad.

- The coupon ad drove 757 link clicks, spending \$686.06 in this period, while the webinar ad drove 1,039 link clicks, spending its budget in its entirety of the allocated \$1,500.
- The coupon ad had higher post engagement indicating it was the more relevant ad for the target audience, garnering 62% of the engagement, 78.5% of the comments, and 57% of the post shares during this period.
- The webinar ad had a higher frequency, meaning the ad was shown more times to the same people than the coupon ad—being seen 4 times per person, compared to the coupon ad frequency of 5.

Both the general campaign/coupon and webinar ads performed well in Kitsap County, receiving an above average quality ranking for both ads, meaning the ad experience and post-ad experience were ranked highly

when competing with other ads targeting the same audience. The expanded geotargeting area (compared to the 2021 pilot in Poulsbo) proved to be a successful optimization, reaching over 123,000 people. With a wider audience, this year's campaign was able to reduce ad fatigue (versus the pilot), which helped maintain the audience's interest.

The audience skewed towards people ages 65+, who made up 43.5% of total link clicks. Within this age group, men delivered 500 link clicks while women delivered 967 link clicks.



### **Post-Campaign Evaluation Results**

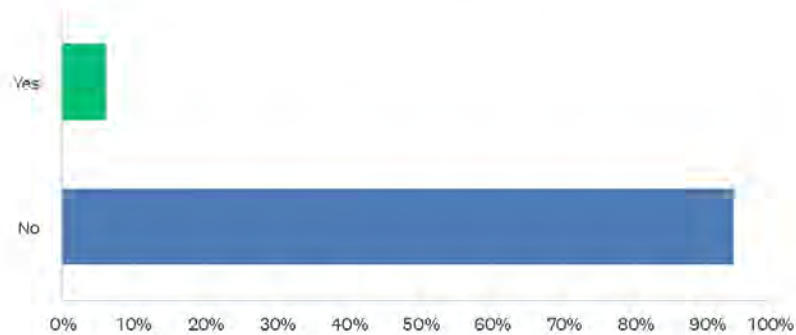
In September 2022, approximately three months after the campaign's conclusion and to coincide with the summer gardening season, a qualitative post survey was distributed to all registrants, regardless of whether they had attended a webinar or not. There was a total of 19 respondents, made up primarily of webinar attendees (Appendix A).

A total of 5 respondents indicated they have "stopped using weed and feed on existing lawn." All these respondents attended the "Lawn Care Alternatives" webinar.

The survey asked respondents if they redeemed the coupon for natural lawn fertilizer. Only one respondent affirmed they used the coupon.

Q19 Workshop registrants were given a link to a coupon for 25% off of natural lawn fertilizer. Did you redeem this coupon?(Image Description: Coupon for 25% off your first bag of natural lawn fertilizer. Up to \$15 off.)

Answered: 16 Skipped: 3

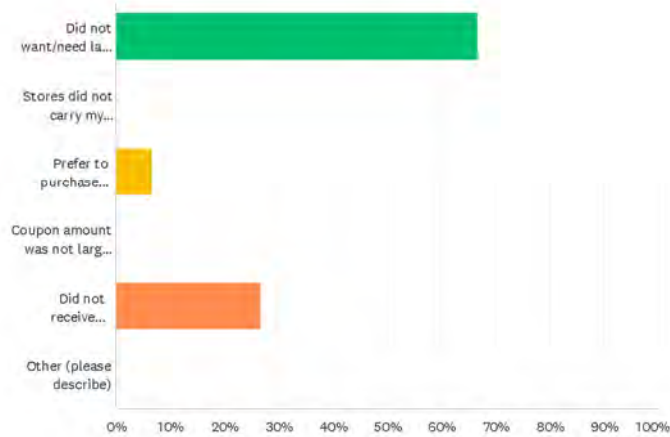


ANSWER CHOICES	RESPONSES	
Yes	6.25%	1
No	93.75%	15
TOTAL		16

For those that responded they did not redeem the coupon, over half (66.67%) indicated they did not need or want lawn fertilizer. Another 26.67% of respondents indicated they did not receive the coupon/or did not remember receiving the coupon. While each webinar briefly mentioned the coupons and the coupons were included in a follow-up email, the coupon does not appear to be drawing much attention from webinar registrants. The coupon may be more effective in its physical form, such as when mailed or handed out.

## Q20 What was the main reason you did not use the coupon?

Answered: 15 Skipped: 4

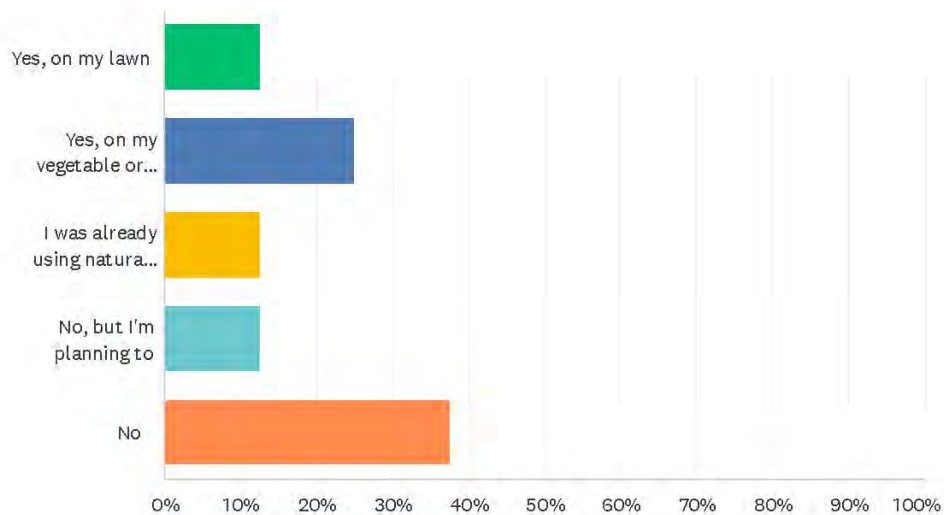


ANSWER CHOICES	RESPONSES	
Did not want/need lawn fertilizer	66.67%	10
Stores did not carry my preferred brand of fertilizer	0.00%	0
Prefer to purchase fertilizer elsewhere	6.67%	1
Coupon amount was not large enough to be worth my while	0.00%	0
Did not receive coupon/do not remember receiving coupon	26.67%	4
Other (please describe)	0.00%	0
TOTAL		15

Finally, the survey asked respondents to indicate if they tried using natural or organic fertilizer. There were mixed results with 12.5% indicating they had tried using natural or organic lawn fertilizer. 37.5% of respondents indicated they did not try using natural or organic fertilizer. However, we do not know what, if any, chemicals those respondents use.

## Q21 Did you try using natural or organic fertilizer?

Answered: 16 Skipped: 3



ANSWER CHOICES	RESPONSES	
Yes, on my lawn	12.50%	2
Yes, on my vegetable or flower garden	25.00%	4
I was already using natural or organic fertilizer prior signing up for the workshop	12.50%	2
No, but I'm planning to	12.50%	2
No	37.50%	6
TOTAL		16

## APPENDIX E: NATURAL YARD CARE CAMPAIGN EVALUATION REPORT

# Natural Yard Care Social Marketing Campaign Evaluation Report

Prepared for:

WSSOG

February 2024

Final report

Kathryn Owen Consulting LLC

# Table of contents

Executive summary	3-5
Background	
History of Natural Yard Care Social Marketing Campaign	6-7
2023 Campaign Elements & Outputs	7-8
Evaluation Methods	8-9
Findings	
Direct Mail Results	10-18
Social Media / Online Results	19-27
Respondent Comments About Their Lawn Care Practices	28-30
Webinar Results	31-35
Results from Retailer Interviews	36-38
Potential Impact on Nutrient Runoff	39-42
Conclusions and recommendations	
43-48	
Appendices	
Appendix A: Results broken down by jurisdiction	49-58
Appendix B: Verbatim comments on learning/resource needs	59-70
Appendix C: Instruments	71-77

WSSOG  
Natural Yard Care Social  
Marketing Campaign

Summative Evaluation

# Overview

## Project purpose & evaluation goals

Kitsap County contracted with Kathryn Owen Consulting LLC to conduct a summative evaluation of the Natural Yard Care Social Marketing Campaign carried out by the West Sound Stormwater Outreach Group (WSSOG), a multi-jurisdictional partnership between Kitsap County, the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The aim of this campaign was to help reduce nutrient runoff - a major source of pollution to local waterways and to Puget Sound as a whole.

The target behavior for the Natural Yard Care (NYC) campaign was to encourage homeowners to switch from weed-and-feed type products to natural or organic fertilizer.<sup>1</sup> The target audience was initially identified as households who a) have a lawn, b) maintain the lawn themselves, and c) have children or pets with access to the yard as part of the household.

This evaluation summarizes findings from the most recent year of this multiyear campaign, which began in 2018. The evaluation centered on exploring the campaign's impact on audience receptivity to the messages, intent to engage in the target behavior, and actual engagement in the target behavior. Towards this end, we surveyed 2481 households within WSSOG jurisdictions. We also conducted in-person and phone interviews with partners (i.e., nurseries and garden centers involved in distribution of a discount coupon for organic fertilizer).

## Evaluation findings

In spite of significant challenges posed by the COVID 19 pandemic, this campaign was able to produce a compelling ad campaign that spoke to the target audiences' interests and concerns and that many said would influence their behavior; to hold a series of webinars on natural lawn care that participants found valuable and that encouraged the target behavior; and to begin developing successful partnerships with local nurseries and other retailers. Key findings include:

- ❖ Roughly 20% of survey respondents have used weed and feed, moss killer, weed killer, or a nonorganic, slow-release fertilizer. Only 5%, however, identified themselves as *"not interested"* in using organic fertilizer.
- ❖ In all, 40% of the audience falls into the "willingness to change" category. They have already thought about doing the target behavior, have planned to start doing it, or have started doing it at least some of the time. Among those who are willing to engage in the target behavior, the challenge of controlling weeds and/or invasive plants was the most frequently mentioned barrier. Among the

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<sup>1</sup> The campaign used the phrase "natural/organic" in most of its marketing literature, which has been shortened to "organic" for readability, unless quoting campaign materials.

audience as a whole, the most prominent barriers were the perceptions that a) organics don't work as well as chemical fertilizer, and b) are too expensive. Respondents – whether from the direct mail or social media survey – were equally likely fall into the “willingness to change” category.

- ❖ One-third of survey respondents said they were not interested in using *any type* of fertilizer on their lawns, and there was significant interest in alternatives to grass lawns.
- ❖ Over a third of the **entire** audience said the NYC campaign ads were “*likely*” or “*very likely*” to influence their lawn care practices. Not counting those who were already using organic exclusively, 19% of the audience showed intent to adopt this new behavior. This translates to a potential 3,457 pounds or 1.72 tons of nutrient runoff diverted from local waterways; if extrapolated to the entire audience reached (not just survey respondents) the figure comes to 23,673 pounds or 11.8 tons.
- ❖ The aspect of the ad campaign the audience found particularly compelling was the focus on things they cared about: protecting marine life and Puget Sound; protecting their children, pets, and families; and protecting nature in general. People also liked the use of direct and compelling words like “*healthy*” and “*safe*,” and some appreciated the offers for fertilizer discounts and webinars. In addition, we found that households with and without children or pets were equally likely to find the ad campaign compelling.
- ❖ The three webinars on natural yard care offered by a Master Gardener were attended by 29 individuals, out of 103 registering. While they reached a fairly small audience, the webinars had a high satisfaction rate, and the majority of attendees said they were likely to recommend the webinars to others. Of the attendees surveyed six months later, the majority reported having taken one or more steps towards natural lawn care.
- ✚ All of the nurseries and garden centers were interested in participating in future campaigns. Retailers’ suggestions included changing the discount to a flat fee rather than a percentage, having discount coupons available on days when there is a workshop or demo on natural lawn care, and collecting additional info to find out whether the coupon is generating a) new customers for the retailers, and b) new users of organic fertilizers.

## Recommendations

- ✚ While there were people who *were not* interested in the target behavior because they don't agree that nonorganic fertilizers pose a hazard – to their households or to Puget Sound – this group was quite small. For this reason, we **recommend focusing future efforts on moving beyond awareness to skill building**. To address the needs of the audience most likely to engage in the target behavior, the campaign could offer follow-up activities that can help people learn how to treat areas of concern (weeds, invasive plants, moss) without using toxic chemicals. These are most likely to be successful if they feature one-on-one conversations, which are able to respond to individualized conditions (e.g., lawn size, slope, proximity to water) and can contextualize the behavior.
- ✚ If WSSOG wants to continue using a social marketing approach, we recommend revisiting the target behavior and **identifying a behavior that is non-divisible (doesn't contain multiple steps) and end-state**. That is, the behavior will produce the desired outcome for the audience without requiring additional action. If the desired outcome is caring for the lawn without chemicals, the current target works; we suspect, however, that the desired outcome among these households is for a lawn that looks good (weeds are under control, for instance).

✚ Continue and expand the use of social marketing tools, including social diffusion and norms, public commitment, and making the behavior convenient. If the campaign were to adopt a non-divisible and end-state behavior, some of these additional tools could be employed more effectively. For instance, if the campaign were to encourage the behavior of adjusting lawnmower height to crowd out weeds, households could make a public commitment and help establish norms by putting up a small yard sign. Or the behavior could be prompted through reminders placed in nurseries and garden centers and take-home stickers.

✚ Clarify the intent of the fertilizer discount. The discount coupon for 25% off organic fertilizer was provided as a way to reduce the barrier of cost for people interested in switching to organic. But because the coupon is for one-time use, it may not maintain the behavior beyond one application. If unfamiliarity with the products and where to find them were the main barrier, simply introducing people to the organic options through a coupon would be helpful. But with a product consumers buy repeatedly, the discount may be seen as having limited value. If WSSOG feels it would be helpful in convincing people of the benefits of organics, a cost comparison for customers showing organic and nonorganic costs over time could also be helpful.

In addition, because the participating nurseries focus on organic products already, it was unclear whether the discount coupons were encouraging first-time customers or first-time organic users – rather than people who already use organics and appreciate the discount. Our suggestion is to collect data during coupon redemption to find out the percentage of a) first time customers to that retailer, and b) first-time organic users, to find out whether the coupon is having the desired effect.

# Campaign background

Kitsap County contracted with Kathryn Owen Consulting LLC to conduct a summative evaluation of the Natural Yard Care Social Marketing Campaign carried out by the West Sound Stormwater Outreach Group (WSSOG), a multi-jurisdictional partnership between Kitsap County, the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The aim of this campaign was to help reduce nutrient runoff - a major source of pollution to local waterways and to Puget Sound as a whole.

The target behavior for the Natural Yard Care (NYC) campaign was to encourage homeowners to switch from weed-and-feed type products to natural or organic fertilizer.<sup>2</sup> And the target audience was identified as households who a) have a lawn, b) maintain the lawn themselves, and c) have children or pets as part of the household.

## Campaign history

From 2018-2022, WSSOG contracted with the communications and marketing firm C+C<sup>3</sup> to conduct social marketing training for the group, carry out audience research to inform the campaign, develop creative concepts, implement a pilot campaign in one jurisdiction (the City of Poulsbo) and then expand the campaign throughout the WSSOG jurisdictions. Comprehensive reports on the earlier stages of the campaign are available upon request, so won't be repeated in detail here. In brief, planned key campaign elements included:

- **Coupons offering a discount for organic fertilizer** which could be redeemed at one of six nurseries in Kitsap County, Port Angeles, and Gig Harbor. The coupons were a response to the finding in front-end research that cost was a major barrier to using organic fertilizer.
- **Outreach conducted presented by Master Gardeners**, volunteers with Washington State University's Extension program, at nurseries and garden supply stores. Audience research had found that this group was a trusted information source.
- **A variety of communication channels** were used to advertise the webinars and coupons including direct mail, social media, email and – in 2023 – an event held at one of the participating nurseries. A prominent feature of campaign communications was a series of ads (tested and refined after the pilot). (See p. 3)

With the start of the global COVID 19 pandemic entering the spring 2020 gardening season, the campaign was obliged to the initial plan for in-person outreach was tabled and the campaign was postponed until the following spring. Additional audience research was commissioned from C+C, in the form of an in-depth online survey completed by 13 respondents. This additional research informed the next iteration of the campaign, which substituted webinars presented by Master Gardeners instead of in-person outreach. Participants could sign up to receive a follow-up email from a Master Gardener a month or so after the webinar if they were interested in getting individual guidance.

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<sup>2</sup> The campaign used the phrase "natural/organic" in most of its marketing literature, shortened to "organic" for this report.

<sup>3</sup> <https://cplusc.com/>



## 2023 campaign elements and outputs

The same campaign elements listed above (with the substitution of webinars for in-person outreach) were implemented by C+C and WSSOG:

- **Social media campaign via Facebook**, featuring two ads. The first, advertising the NYC webinars, ran from April 12-May 20, 2023. (See image below, left.) The second, offering the discount coupon, ran from April 5-June 17. (See image below, right.) The Facebook campaign reached an estimated 94,144 people and received 6,691 link clicks in all; on average, each ad was seen seven times per person. The campaign ran for three weeks longer than in 2022, resulting in almost double the number of link clicks.



- A coupon for natural or organic fertilizer offering 25% off (or up to \$15 off) to be redeemed at one of the six retailers. The offer was active between April 1 and June 18, with 68 coupons redeemed.<sup>4</sup>
- A postcard featuring the same content as the Facebook ads was mailed to 14,347 households across the WSSOG jurisdictions.
- Three webinars on natural yard care were offered between April 29-May 20 with the advertised title, *“Growing a Healthier Lawn for your kids and Pets.”*<sup>5</sup> Each consisted of a short (20 minute) PowerPoint presentation followed by a question/answer period.

## Evaluation methods

We used a mixed-methods approach to assess the effectiveness and impact of the campaign that included the following:



Online surveys publicized by WSSOG members through various communication channels, each jurisdiction’s Facebook, Instagram, Twitter sites, NextDoor in target communities and GovDelivery.<sup>6</sup> (See example on next page.) The online survey was active for three weeks, starting July 5. Results were compared to baseline data collected in December 2018 during initial audience research.



Postcards were mailed out to target audiences in each jurisdiction advertising the campaign, as described above, at the end of March. In early June, a follow-up letter was sent inviting the recipients to participate in an online survey. At the same time, a mailing was sent to a control group of households meeting similar characteristics (same zip code, majority single family households) by five of the seven jurisdictions.



People who registered to attend one of the three webinars were asked to answer a few questions about their lawn care practices as a pre-survey. Another survey was conducted of webinar attendees immediately after the webinar, and a follow-up survey was sent out six months later to explore any lasting impact.



The six participating nurseries were asked to participate in a brief interview about their experience with the campaign. Four of the six participated.

<sup>4</sup> The previous year, a similar number of coupons (70) were redeemed at participating retailers.

<sup>5</sup> The webinars took place on two Saturday mornings (April 29 and May 20) and Wednesday, May 3<sup>rd</sup> in the evening.

<sup>6</sup> That is, email lists of people who have signed up to receive County updates and alerts.

## Evaluation roles

- Data on social media reach, and coupon redemptions, was gathered and reported by C+C.
- Pre-post webinar surveys were conducted by Kitsap County Public Works Dept., with input into survey design and analysis conducted by Kathryn Owen Consulting.
- Online surveys (direct mail follow-up and social media surveys) and nursery interviews were conducted and data analyzed by Kathryn Owen Consulting.

To encourage participation in the online surveys, incentives were offered. Respondents could choose to provide their email to enter a drawing to win one of 10 Amazon gift cards in the amount of \$100.

To gain additional insight into the impact of the campaign, we used a control group design for the survey of postcard recipients, in which all but two of the WSSOG jurisdictions sent the survey invite to a) households who had received the postcard, and b) households who had not, but reflected the same general characteristics (e.g., same zip codes, focus on single family households). One jurisdiction (Gig Harbor), however, decided to use their campaign budget to send additional postcards rather than on a control group mailing.

All surveys yielded both quantitative and qualitative data. Quantitative data including frequencies and between-group comparisons were analyzed through SPSS software. To check for differences between samples, significance was set at  $p = 0.05$ .<sup>7</sup>

Qualitative data (responses to open-ended questions) were coded based upon emergent themes. Themes were identified by two evaluators working separately, and the coding frameworks were compared for degree of interrater reliability.<sup>8</sup>

Finally, we used the Transtheoretical Model of Change (also known as Stages of Change Model) to analyze audience readiness to engage in the targeted behavior.<sup>9</sup>

Kitsap County  
Stormwater News

Does your home have a lawn? We want to hear from you.

Take a brief [survey](#) and enter into a drawing for an Amazon gift card.

Does your home have a lawn? If so, we'd love to hear from you. Take a brief survey at [surveymonkey.com/r/9TYJT82](https://surveymonkey.com/r/9TYJT82)

The West Sound Stormwater Outreach Group wants to make sure our programs meet the needs of our community, and we can't do that without your feedback. The survey takes less than five minutes and in return, we'll enter you in a drawing to win a \$100 Amazon gift card.

The [survey](#) will only be available until July 17 so be sure to complete it soon. Thanks for sharing your thoughts with us!

**About This Project**

The West Sound Stormwater Outreach Group (otherwise called WSSOG) is a multijurisdictional partnership between Kitsap County, the cities of Bainbridge Island, Bremerton, Gig Harbor, Port Angeles, Port Orchard and Poulsbo. These agencies work together on improving water quality by reducing pollutants in stormwater runoff, which are a major source of pollution to local waterways and Puget Sound. This survey is being jointly coordinated by WSSOG.

<sup>7</sup> A significance level of 0.05 indicates that the risk of concluding a difference exists when there is no actual difference is 5%.

<sup>8</sup> Interrater reliability (IRR) refers to the consistency in which two or more people apply the same coding framework to qualitative data, like answers to open-ended questions.

<sup>9</sup> A brief overview can be found at <https://sphweb.bumc.bu.edu/otlt/mph/modules/sb/behavioralchangetheories/behavioralchangetheories6.html>

# Findings

## Part 1. Direct mail survey results

Note: Because survey questions were modified slightly between the direct mail and social media surveys, we analyzed and present the results separately, with one exception. (See

### In this section:

- ✚ Survey response rates
- ✚ Characteristics of sample
- ✚ Current and intended engagement in target behavior
- ✚ Self-reported likelihood that campaign will influence behavior
- ✚ Perceived barriers to organic fertilizer

### Response rates

Postcards featuring the NYC campaign messages and offers (e.g., webinars and fertilizer discount) were sent out to 14,347 households at the end of March 2023. When contacted again at the start of June, 10% (n=1408) responded to the request to take a follow-up survey.<sup>10</sup> As reflected below, the response rate was highest in Poulsbo, where a quarter responded. Eighty-five percent (n=1202) were in the treatment group (had received the survey) and 15% (n=205) in the control group (had not).

Table 1. Response rates by jurisdiction

Jurisdiction	# of postcards sent	# of responses	Response rate	Includes control group
Bainbridge Island	1226	206	17%	Yes
Bremerton	2052	276	13%	Yes
Gig Harbor	521	23	4%	No
Port Angeles	1029	106	10%	Yes
Port Orchard	542	77	14%	Yes
Poulsbo	511	115	23%	Yes
Unincorporated Kitsap County	8466	581	7%	Yes

<sup>10</sup> This response rate reflects a 3% margin of error at a 95% confidence level. That is, if everyone who received the direct mail survey request had responded (14,347 people) results are 95% likely to lie within 3% plus or minus.

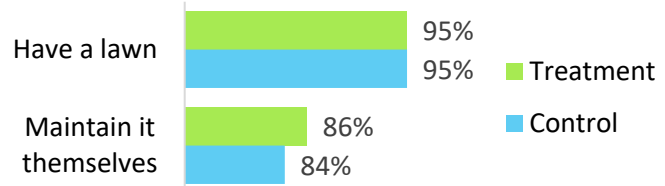
## Sample characteristics

### Lawn ownership & maintenance

Of those responding to the survey, 95% have a yard with grass at home, and 87-88% maintain the lawn themselves. Treatment and control groups were nearly identical in this respect.

The percentage of households with a lawn varied little by jurisdiction, with nearly all falling between 95-98% of lawn owners. The exception was Gig Harbor, where 82% of respondents owned a home with a lawn.

Chart 1. Nearly all households have a lawn & most maintain it themselves  
(n=1408)



### Between-group comparisons

- Treatment and control groups were equally likely to own a lawn, with treatment group members slightly more likely to maintain it themselves.
- Lawn ownership and maintenance varied little by jurisdiction except for Gig Harbor, where 82% of households had a lawn and just 40% maintained it themselves.

### Lawn size

Among those who have a grassy lawn in their yard, the mean or average lawn size for the entire sample was 6865 square feet. Not surprisingly, there was a significant difference in lawn size between those who maintained their own lawn vs. those using a lawn company; the mean lawn size for the latter was twice as large.

The rest of the results apply only to those who meet the criteria of having a lawn and maintaining it themselves.

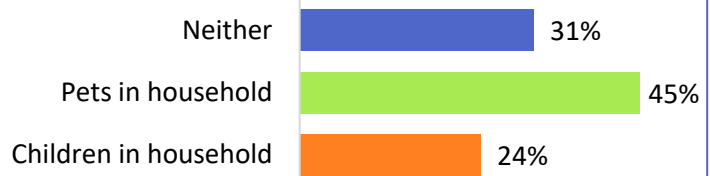
## Household composition

Front-end research for the campaign identified households that included children and/or pets as the target audience for the campaign. Sixty-nine percent of respondents fell into this category.



Twenty-seven percent of respondents have children under 18 living in the household. (This compares to 26% in the most recent census data for Kitsap County.<sup>11</sup>)

Chart 2. 69% of respondents have children under 18 and/or pets with access to their yard (n=1137)



Over half of all respondents have pets who have access to their yard. (This compares to an estimated 63% of Washington state households with pets according to the latest figures.<sup>12</sup>)

### Between-group comparisons

- The treatment and control groups were identical in percentage of households with children under 18.
- The control group was somewhat more likely to have pets at home.
- Households in Port Angeles were the most likely to have children and/or pets at home; households in Gig Harbor were the least likely to do so.

## Including households without pets or children in the analysis

We have included households without children or pets in the analysis, as we found that this audience is equally likely to have been receptive to and influenced by the ad campaign, and to show willingness to using organic fertilizer rather than weed and feed-type products. We will, however, report observed differences *between* households with and without children/pets.

## Lawn size

- **For the purposes of the report**, we have classified lawns as small ( < 1500 square feet), **medium(1500-8000 square feet) and large (8000)**. Those with large lawns were somewhat more likely to use a lawn care company than those with medium or small lawns.

<sup>11</sup> [https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53\\_050XX00US53035&tid=ACSDP5Y2022.DP02](https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53_050XX00US53035&tid=ACSDP5Y2022.DP02)

<sup>12</sup> <https://worldpopulationreview.com/state-rankings/pet-ownership-statistics-by-state>

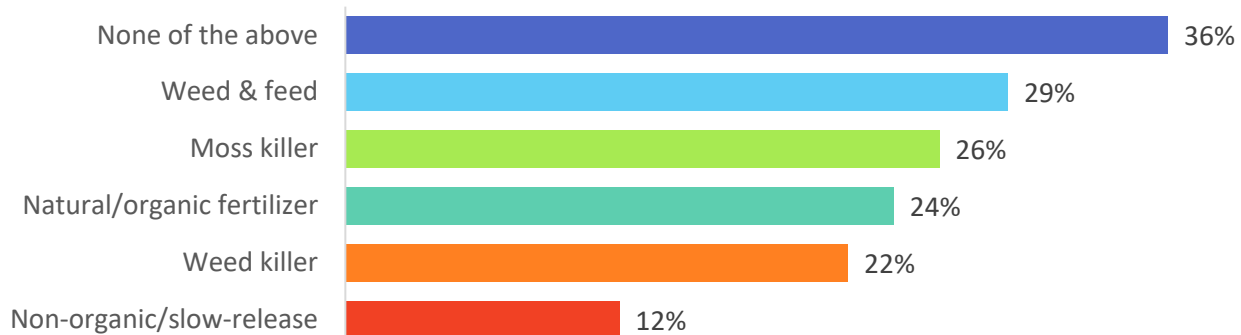
## Current and intended participation in target behavior

Respondents were asked to indicate which, if any, products they have used on their lawn over the past few years. As reflected below, the most frequent response was “none of the above.” Of those who *have* used lawn products, 16% have used natural/organic.

Respondents were also asked to list any other products they used on their lawn. Five percent listed other products. Lime and vinegar were both mentioned by a quarter of respondents, and between 5-10% apiece used baking soda, pesticides, and iron.<sup>13</sup>

- ❖ Lime (28%)                      Vinegar (26%)
- ❖ Pesticides (7%)              Baking soda (7%)              Iron (4%)

Chart 3. Many do not use any products on their lawns. If they had, they were slightly more likely to have used weed & feed than other products. (n=1137)



### Between-group comparisons

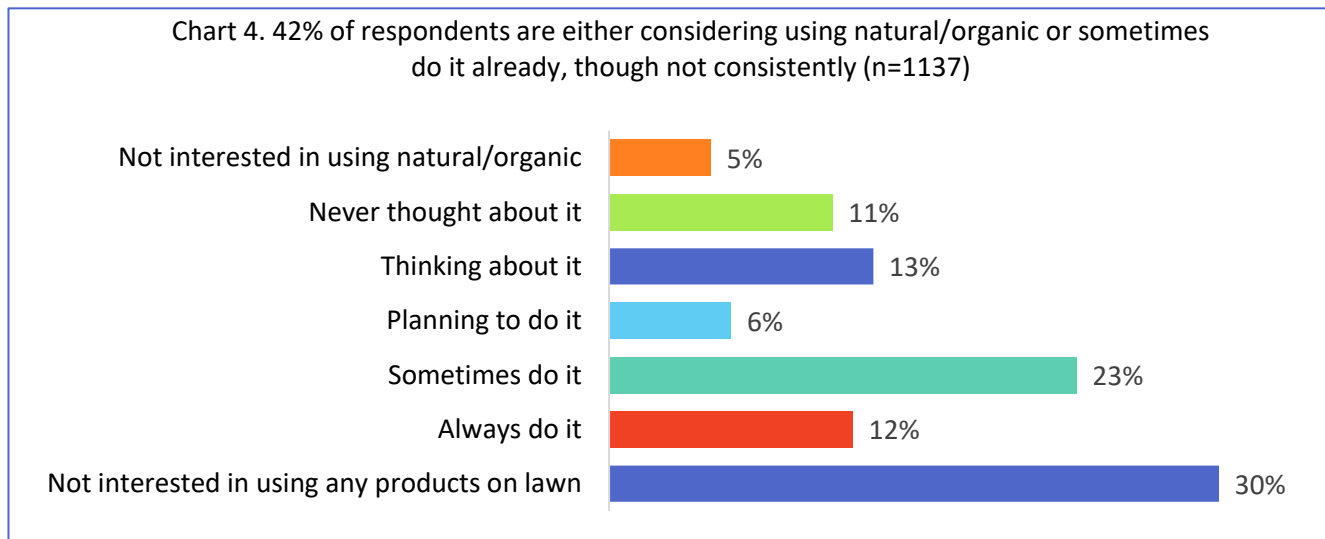
- Households with children were significantly more likely to say they used natural/organic fertilizer than those without ( $p = 0.05$ ).
- Households with pets were significantly less likely to have used moss killer, weed & feed; they were more likely to say they didn't use any products on their lawn ( $p=0.03$ ).
- The treatment and control groups did not differ significantly in use of lawn products.

<sup>13</sup> Other products were mentioned 1-2 people apiece, including corn gluten, chicken manure, and Epsom salts.

## Current behavior in regard to organic fertilizer

Respondents were asked to indicate their current behavior and attitudes towards using organic lawn fertilizer by selecting from a list of options ranging from “I’m not interested in using natural/organic” to “I only use organics.” They also had the option of marking if they weren’t interested in using any products on their lawn.

Few were in the “not interested in this behavior” bucket (5%). For another 30%, the action wasn’t relevant (they weren’t interested in using lawn products).



## Comments on willingness to change

Respondents could make additional comments in response to this question, and 10% did. Of these, the most frequent topics were:

- Comments on [what prevents them from using organic fertilizer](#), with concerns about effectiveness, availability and cost cited. E.g., “I would love to (use organic) but my household can’t afford it with how much more it is. They also don’t kill the weeds as well as non-organic.”
- Comments about [wanting to reduce or remove their lawn](#). E.g., “I don’t like the grass. Do as little with it as possible. Want lawn alternative.”
- Comments [describing how or when they use nonorganic](#). Nearly all who raised this topic were in the “sometimes use organic” group, who described the conditions under which they have used nonorganics. E.g., “I spot treated a small area with Ferti Lome weed-free zone when we first moved in but otherwise don’t use nonorganic products in the yard.”

## Treatment & control

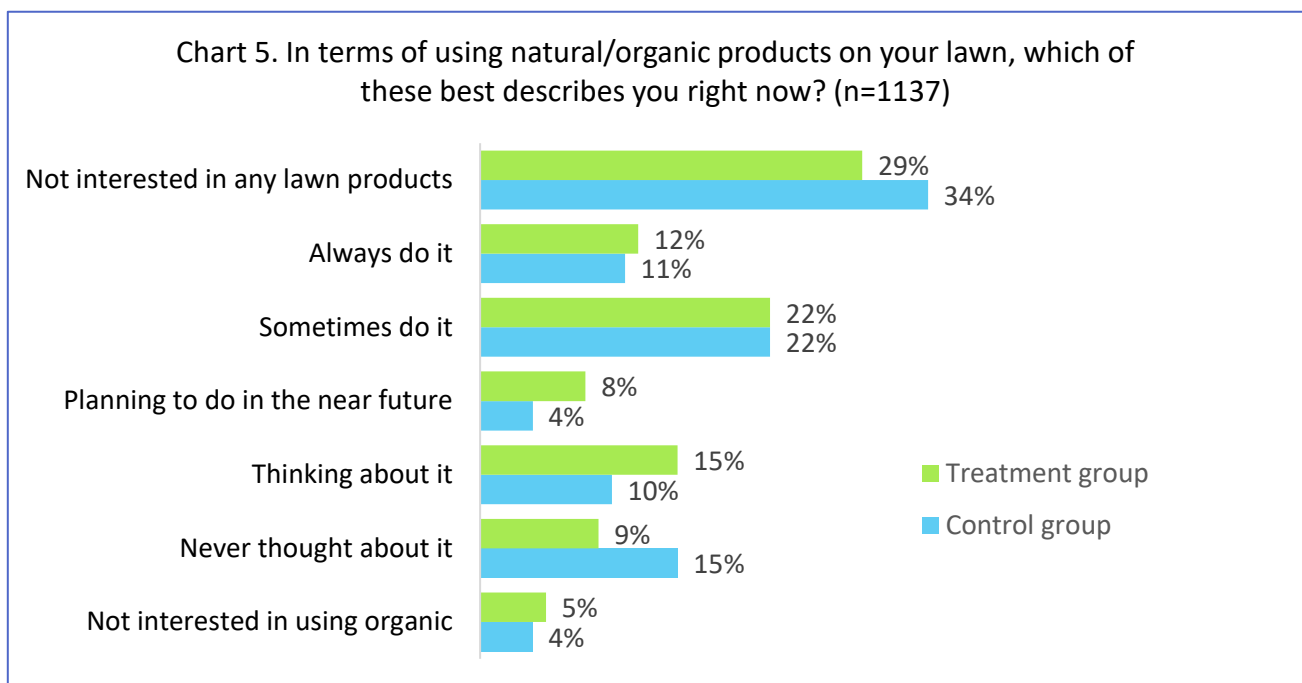
We were interested in whether receiving the campaign postcard a couple of months prior would result in people being more likely to say they were thinking about, planning, or starting to do the target behavior of switching from weed and feed to natural/organic fertilizer.

As reflected below:

- 43% of the treatment group fall into the “willingness to change” category; that is, thinking about it, planning to do it in the near future, or did it some of the time already.
- 36% of the control group indicate willingness to change, representing a statistically significant difference between treatment and control.
- The treatment group was also less likely to say they had “never thought about it” before.

### Difference between those who did and didn’t recall receiving the postcard

This potential relationship – between receiving the postcard and being open to change – was likely mediated, however, by whether or not the person received the postcard. And in fact, when we compared postcard recipients who recalled receiving it with those who did not, the first group was significantly more likely to fall into either the “*thinking about it*” or “*planning to do it in the near future*” categories ( $p = <.001$ ). It may be that those who noticed the postcard were encouraged to consider using organic because of the postcard; on the other hand, it may be that those who noticed the postcard were people who were already interested in the topic, so more likely to take notice.



### Other between-group comparisons in willingness to change

- There were no significant differences on this measure based on whether the household included children under 18.
- Households with pets were significantly more likely to say they a) *weren't interested in using any lawn products* ( $p = 0.03$ ) or b) *always use organic* ( $p = <.001$ ).
- Bainbridge Island households were the most likely to say they *always use organic*. In terms of being open to adopting the behavior (*thinking about it, planning to do it or sometimes doing it already*) respondents from Unincorporated Kitsap County, Port Orchard, Poulsbo and Bremerton were somewhat more likely to fall into this category than those from Port Angeles and Gig Harbor.
- There were no significant differences based on whether the household had a small, medium, or large lawn.

### Recall of Natural Yard Care postcard

Members of the treatment group were asked whether they remembered getting the postcard in the mail in the past couple of months. (An image of the postcard was included to jog peoples' memories.)

Over a quarter remembered receiving. Forty-two percent didn't, the remaining 30% weren't sure. There were no significant differences in recall rates by jurisdiction.

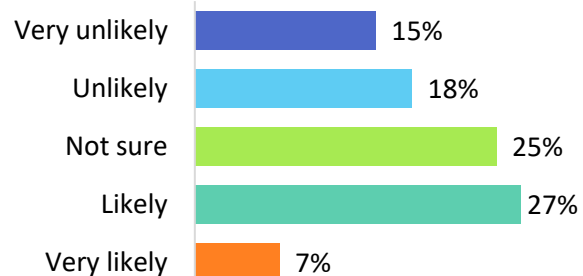
Of the 28% who remembered seeing the postcard (n=269):

- ❖ 49% said they had read it
- ❖ 37% had skimmed it
- ❖ 12% had either used the coupon (4%) or planned to (8%)
- ❖ 3% had signed up for a webinar
- ❖ 9% hadn't done any of the above (they had tossed it or set it aside and lost it)

Chart 6. Over a quarter recalled receiving the campaign postcard (n=966)



Chart 7. 34% say the campaign ad is likely to change their lawn care practices (n=1137)

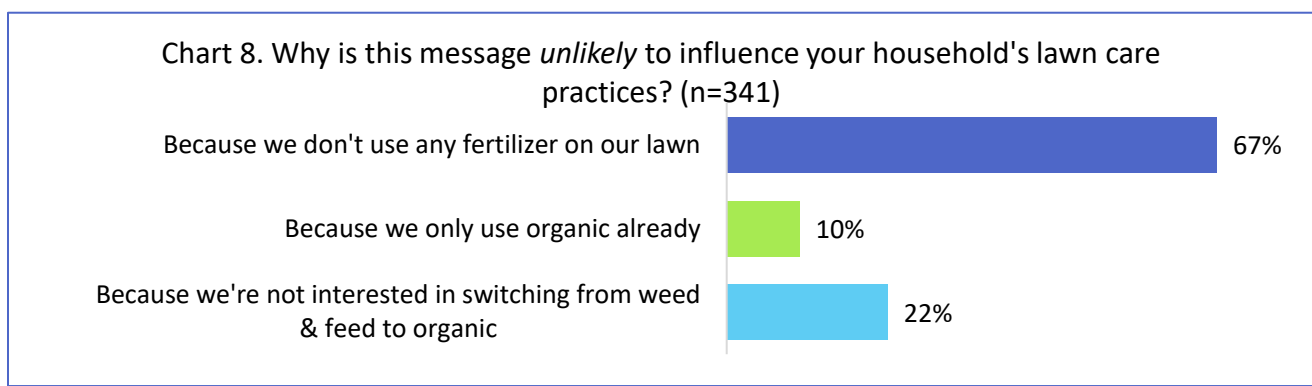


Twenty-six people made additional comments about the postcards. Of those who did, most (31%) said they had wanted to use the coupon or attend a register but had missed the deadline; tossed it because they thought it was junk mail (27%), didn't need it because they don't fertilize their lawn or had already used fertilizer that spring (19%). The remainder gave other responses (< 5% apiece); e.g., *"Brought it work and someone picked it up from the 'free' table."*

### Likelihood ad will influence lawn care practices

Both treatment and control groups were shown images of the two postcards, and asked to rate how likely it was that they would influence their lawn care practices.

- 34% said it was either "likely" or "very likely" to change their lawn care practices.
- Of those who said it was "unlikely" or "very unlikely" to influence them, the main reason given was that they didn't use fertilizer of any kind on the lawn.



### Comments on the ad's influence on their behavior

Respondents could list additional reasons they didn't think the ad would influence their behavior; 18% did so. Of these:

- 29% commented on the ad itself. Most of these said they ignored or disliked ads or wouldn't change their behavior because of an ad. Five percent of these said they didn't find the ad interesting.
- 14% said it was unlikely to influence them because they use nonorganic rarely or only when 'necessary'
- 13% raised concerns about organics, such as price, effectiveness or convenience
- 10% said they didn't feel nonorganic fertilizers were a problem
- 5% said it was because they don't have control over the decision (i.e., another household member or their HOA guidelines prevented them from using organic)
- 5% gave "leave me alone/none of your business" responses
- The remainder gave other responses, none mentioned by more than a few people apiece.

### Influence of postcard on willingness to change

As mentioned above, we compared postcard recall with willingness to take part in the target behavior. We explored this further by comparing those who recalled receiving the postcard AND had taken any action (read it, skimmed it, signed up for a webinar, used or planned to use the coupon) vs. those who had taken no action. Since only 9% said they tossed it without looking at it, the numbers aren't large enough to determine significance. But the results suggest, not surprisingly, that people who read the postcard were

more likely to be using organics already – and people who weren’t interested in using lawn products were the most likely to have ignored it.

## Barriers to organic fertilizers

Finally, we asked those who said that the campaign ad would not influence their behavior were asked to identify their main issues with organic fertilizer, offering a list of potential reasons. Nearly a quarter cited the increased cost of organics; other reasons were cited by 15-17% apiece, including concerns about effectiveness of organics and the belief the products they used weren’t harmful. The remainder gave other reasons, described below.

### Additional barriers

Just over a quarter gave additional reasons, including (in order of frequency):

- I don’t use chemical products often (E.g., *“Only use it sparingly.”*)
- I use them per instructions (E.g., *“I use per directions. Pesticide safety was my career at one point.”*)
- I’m using up a supply. (E.g., *“We have a bunch on hand still.”*)
- I don’t have control over the decision (These respondents cited somebody else in the household who made the lawn care decisions or HOA rules. E.g., *“Wife is set in her ways.”*)
- We’re just used to what we’ve been doing. (E.g., *“I’m happy with the results of what I’m using.”*)

Chart 9. Interest in behavior by whether they read the postcard (n=966)

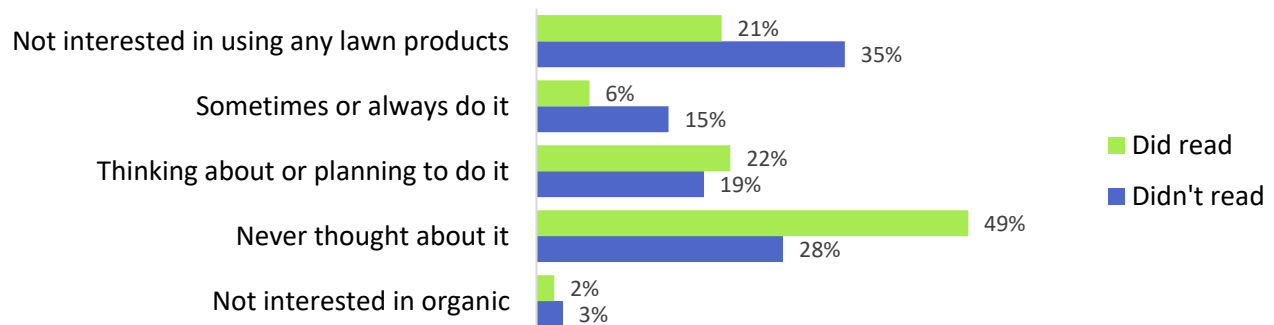
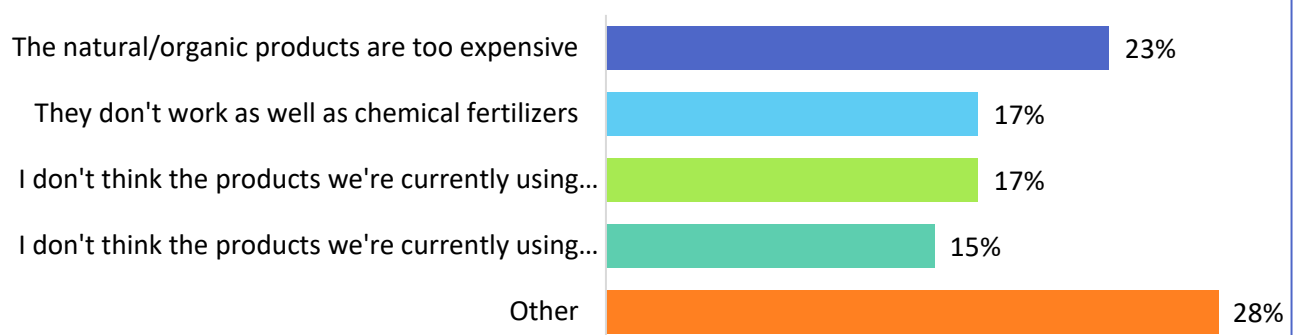


Chart 10. Primary reasons given for not planning to switch to organic fertilizer (n=250)



# Findings

## Part 2. Social media / online results

### In this section:

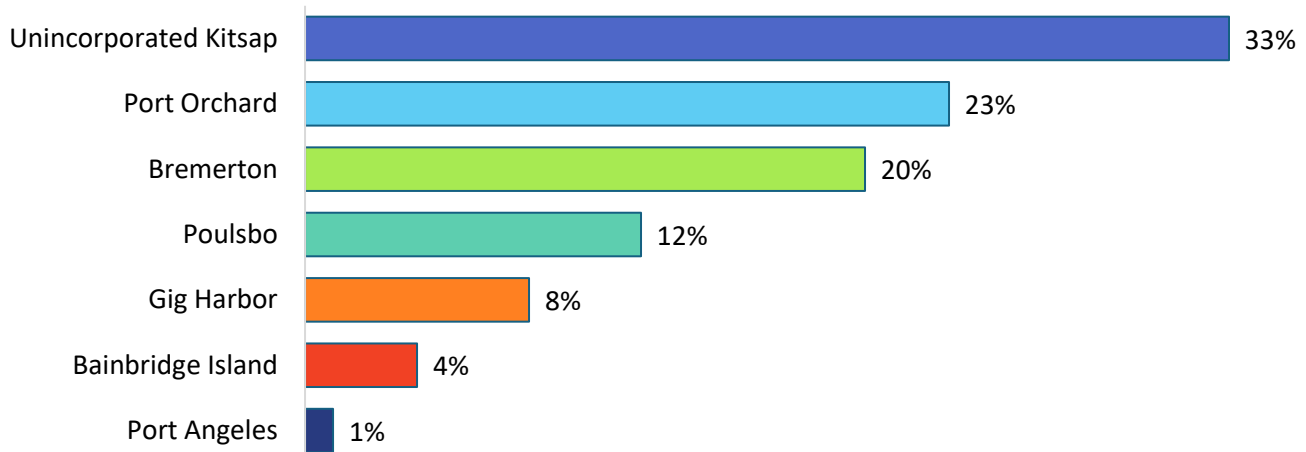
- ✚ Survey response rates
- ✚ Characteristics of sample
- ✚ Current and intended engagement in target behavior
- ✚ Self-reported likelihood that campaign will influence behavior
- ✚ Perceived barriers to using organic fertilizer
- ✚ Questions and comments from both direct mail and online survey respondents

### Response rates

The Natural Yard Care social media ads ran on Facebook in April-June 2023. Data provided by C+C indicates that 94,144 people were reached through the two ads, with 6,691 link clicks. After eliminating spam responses and zip codes outside of the target area, there were 994 valid responses.<sup>14</sup>

As reflected below, the largest number of respondents came from Unincorporated Kitsap County, followed by Port Orchard and Bremerton, the county's two largest cities.

Chart 11. Respondents by location (n=994)



<sup>14</sup> The survey gathered 12,000 responses in all, but the vast majority of these were eliminated as “survey bots,” or computer programs designed to automatically complete online surveys.

### Between-group comparisons

- In all jurisdictions but one, upwards of 95% had a yard with grass at their home; 88% of Port Orchard households did so.
- In roughly 90% or above of households with lawns, the respondent said they maintained their own lawn. The exception is Gig Harbor, where 78% maintained their own lawn.
- As with the direct mail survey, households who use a lawn care company were more likely to have a large lawn (over 8,000 square feet).
- Households in Gig Harbor were the least likely to have either pets or children at home.

## Sample characteristics

### Lawn ownership & maintenance

Of those responding to the survey, 98% have a yard with grass at home, and 90% of these maintain the lawn themselves.

The average lawn size was quite a bit larger than the direct mail sample: 18,527 square feet compared to 6875 square feet. This may be because a greater percentage of respondents to the online survey came from Unincorporated Kitsap County, which has lower housing density than more urban areas like Bremerton.<sup>15</sup>

### Household composition<sup>16</sup>



Of those who meet the criteria of having a yard and maintaining it themselves, 96% live in a single-family home.<sup>17</sup> One quarter have children under 18 living at home. (This compares to 26% in the most recent census data for Kitsap County.<sup>18</sup>



53% have pets who access their yard. (This compares to an estimated 63% of Washington state households with pets according to the latest figures.<sup>19</sup>)

Chart 12. 98% have a yard with grass (n=994)



Chart 13. 90% maintain their own lawn (n=994)



<sup>15</sup> The chart at right uses the same breakdown for lawn sizes as used in the direct mail, which split lawn size equally into the same three categories.

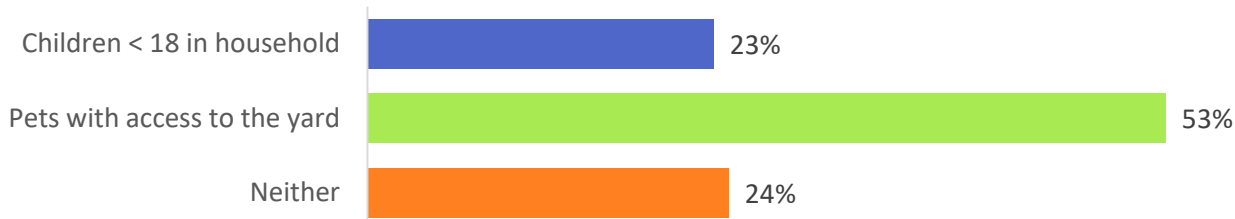
<sup>16</sup> Respondents to the online survey were reluctant to answer the question about their household members, resulting in a smaller n or sample size.

<sup>17</sup> An additional 3% live in a townhome or duplex, and 1% in a multi-unit condo or apartment.

<sup>18</sup> [https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53\\_050XX00US53035&tid=ACSDP5Y2022.DP02](https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53_050XX00US53035&tid=ACSDP5Y2022.DP02)

<sup>19</sup> <https://worldpopulationreview.com/state-rankings/pet-ownership-statistics-by-state>

Chart 14. Three-quarters of respondents have children and/or pets in the household (n=290)



### Sample for remaining findings

As with the findings from the direct mail campaign, we have compared those with and without children and pets for each survey topic but have included households with neither in the study sample.

### Current and intended participation in target behavior

For this survey, the list of products was broken down further to compare results with those gathered in the 2018-2019 online survey. As indicated below, most respondents said they had not used use any of the product types listed. Of those that did, they were most likely to have used fertilizer, with roughly equal percentages having used organic fertilizer vs. nonorganic (chemical/non-organic or slow release/non-organic).

Table 2. Use of lawn care products within past few years (n=849)

Type	Fertilizer	Weed killer	Weed & feed	Moss killer
Chemical/non-organic	10%	13%	17%	14%
Organic	16%	5%	5%	5%
Slow release/non-organic	7%	7%	3%	5%
Don't know what type	6%	8%	4%	7%
Don't use on my lawn	61%	67%	71%	69%

Respondents were also asked to list any other products they used on their lawn; 4% did so, listing:

- ❖ Lime (20%)
- ❖ Vinegar (27%)
- ❖ Pesticides (13%)
- ❖ Manure (13%)
- ❖ Other products (27%; each mentioned by 1-2 people apiece, including corn gluten, baking soda, Epsom salts and iron)

#### Between-group comparisons

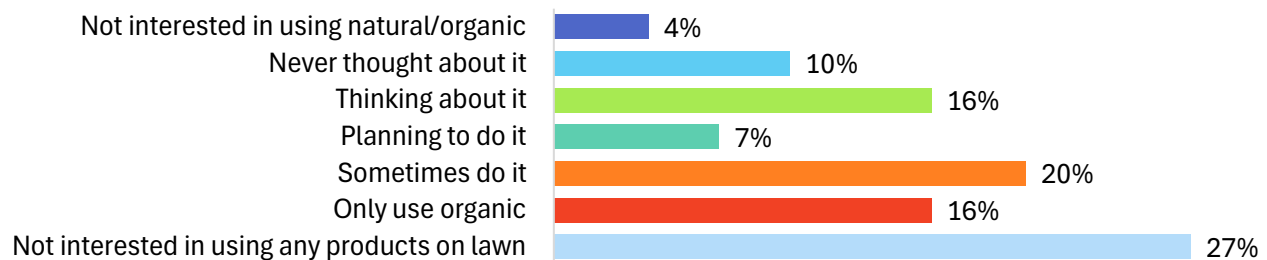
- Households with children were significantly more likely to say they used natural/organic fertilizer than those without ( $p = 0.05$ ).
- Households with pets were significantly more likely to say they didn't use any products on their lawn ( $p = <.001$ ).

## Current and intended participation in target behavior

Respondents were asked to indicate their current behavior and attitudes towards using organic lawn fertilizer by selecting from a list of options ranging from “I’m not interested” to “I only use organics.” Similar to findings from the direct mail survey, the most common response was “not interested in using any products on my lawn.” Twenty percent said they “sometimes use natural/organic” and 16% that they “only use organic.”

In all, 43% could be considered as falling into the “open to change” category, including a) people who are thinking about or planning to use organic lawn fertilizer in the future, or sometimes – but not always – use organic, indicating room for growth.

Chart 15. In terms of using natural/organic products on your lawn, which of these best describes you? (n=849)



## Comments on willingness to change

Respondents could make additional comments in response to this question; 7% did so. The most common “other” responses, in order of frequency, were:

- Comments about barriers to using organic fertilizer, with concerns about effectiveness, availability and cost cited. E.g., “My big box store doesn’t carry it;” “If there was an organic that worked well against moss, I’d use it.”
- Comments describing how or when they use nonorganic. Nearly everyone who fell into this category had said they “sometimes” used organic fertilizer. E.g., “Minimal usage (of chemical);” “I would prefer to not use products but do when I need to.”
- Comments about wanting to remove/reduce the lawn. E.g., “I would like to get rid of my grass lawn because it is costly and wasteful;” “I’m actually thinking about replacing my lawn with more eco-friendly ground cover.”
- Motivations for using organics – or nothing. E.g., “I have elderly dogs who enjoy eating grass and dirt in the yard. I don’t want to use any lawn products that might make them sick;” “We are a wildlife and native plant friendly property and grown edible/food stuffs on our lot.”

## Recall and impact of Natural Yard Care ads

A quarter of respondents recalled seeing one of the ads on social media; another 14% weren’t sure, and the majority (61%) did not recall seeing them. Among those who did remember seeing the ads (n=218), 14% had acted as a result, either using the coupon for a discount on organic fertilizer or signing up for one of the natural lawn care webinars. (Three percent did both.)

Chart 16. Within the past couple of months, do you remember seeing either of these ads on social media? (n=849)

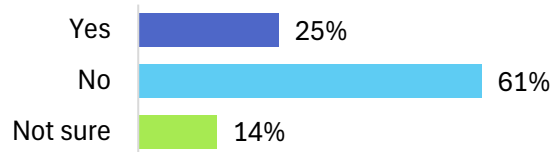
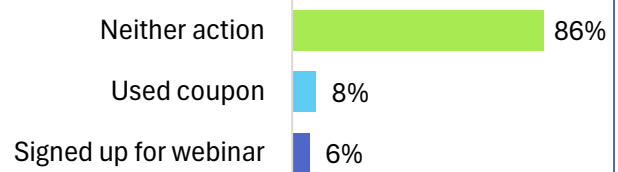


Chart 17. After seeing the ad(s), did you take either of these actions? (n=212)

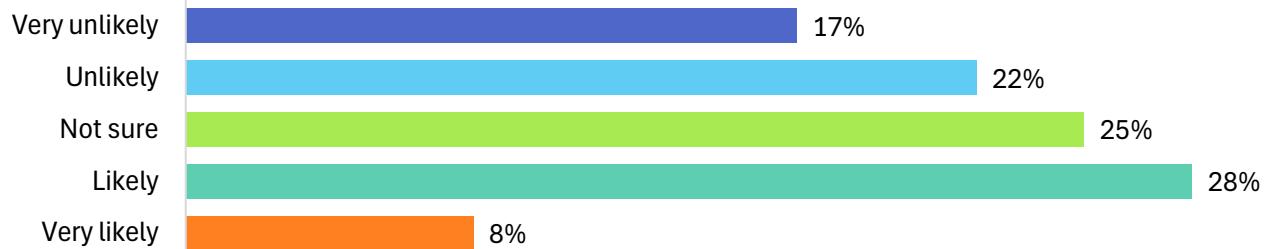


### Likelihood ad will influence lawn care

Whether or not they had seen the original ads on Facebook or elsewhere, respondents were asked to take a look at them again and indicate how likely it was that the ad would influence their lawn care practices.

Thirty-six percent described it as either “*likely*” or “*very likely*.”

Chart 18. Looking at the ads now, how likely is it that this messaging will influence your lawn care practices? (n=849)



## Positive influence of ads on intended behavior

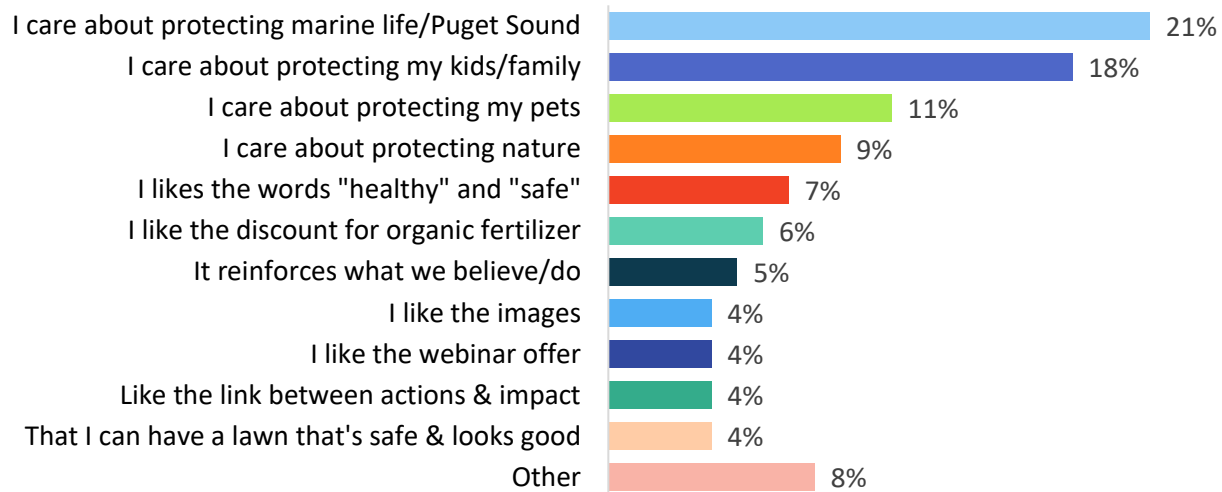
Respondents who said the ads were likely to influence them were asked to describe *what it was* about the ads they felt would influence their household's lawn care practices. As reflected below, over half said the ads focused on what they care about: protecting marine life and Puget Sound, protecting their children and family, protecting their pets, and protecting nature in general. For example:

*Family - I know that toxics might harm my pets (and one day kids), so I would prefer to avoid them if I can.*

*We don't have children or outdoor pets that live with us but the picture of the seals influences me as I worry about the wildlife.*

*The thought of making the waters surrounding Kitsap safer for animals and people.  
Showing the animals in the sound affected by poisons applied to our lawns.*

Chart 19. What is about the messaging that will influence your household's lawn care practices? (n=305)



### Other aspects of the ads that people appreciated included:

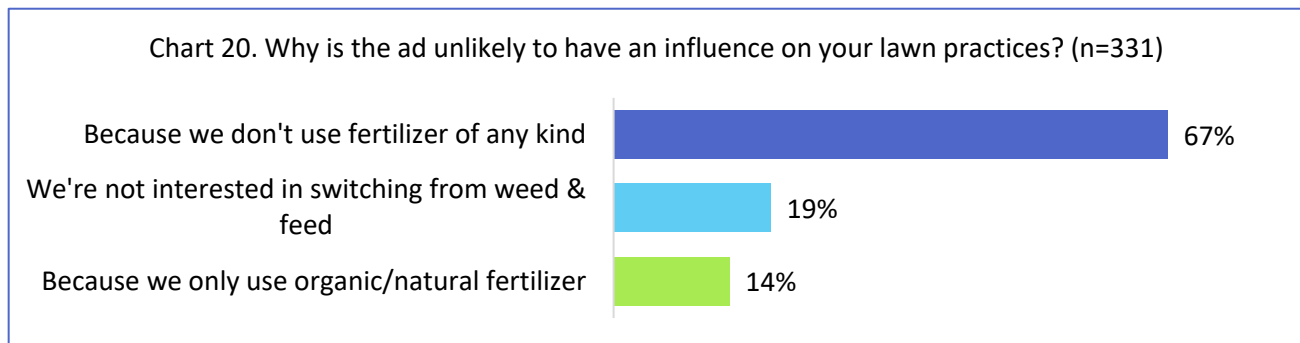
- Use of powerful words such as "healthy" and "safe"
- The coupon for discounted fertilizer
- Reinforcement for their own beliefs/actions. E.g., *"The messaging reminds me that we are doing the right thing by not using weed & feed on our lawn."*
- The images used in the ads – in particular, the image of the seal pup and mother, which was most often singled out as compelling. E.g., *"The heartfelt images: mom and baby seals and the families. Also good wording...tugs at the heartstrings."* A few respondents also mentioned other images. E.g., *"I appreciate the representation in the photo because she looks like me!"*
- The webinar offer. E.g., *"I like the idea of a free webinar. I don't know a lot about lawn care and a webinar tailored to my area/climate/soil/grass types would be very helpful."*
- The connection between the actions we take and their impact. E.g., *"It's my responsibility to ensure that my yard is a safe place to play and so that Puget Sound remains that way as well;"* *"Seeing the kids and wildlife with action words that say I affect their health."*

- The idea that they can have a lawn that is both safe *and* looks good. E.g., *“How (fertilizer) affects ground water, and that it actually will work and kills weeds (IMPORTANT).”*

Other “likes” mentioned by less than 4% apiece included the local focus (e.g., *“The seal being more specific to this area (versus) somewhere else (Spokane, for instance),”* the info provided (e.g., *“I just never realized there were organic lawn treatments”*), and the ads as a reminder (e.g., *“...reminds me I should talk to my husband about buying more organic products instead of chemical ones”*).

### Those who feel the ads are *unlikely* to impact their behavior

The respondents who said the ads were unlikely to impact their household’s lawn care practices (39%) were asked to indicate why. In response to a set of three reasons, the most frequent was because they did not use fertilizer of any kind on their lawn.



Respondents also had the option of listing any additional reasons they were unlikely to switch; 17% did so. The most common “other” reasons, in order of frequency, were:

- They dislike or ignore ads. E.g., *“I ignore ads for the most part;” “I would never switch because of an ad;” “It is not grabbing my attention.”*<sup>20</sup>
- Challenges with organics. E.g., *“The organic stuff doesn’t work as well or requires more use.”*
- We are planning to remove our lawn anyway.
- A lack of control over lawn care decisions. E.g., *“I live with my BF and do not purchase our lawn care items.”*
- Need more info. E.g., *“The message isn’t providing information about pet-safe products.”*
- Disagree with message. E.g., *“I’m not interested in opinions about my lawn care or lawn care products. I would skip right over that ad.”*
- Already agree with organic messaging. E.g., *“I’m a cancer survivor. I will never use chemicals around my house.”*

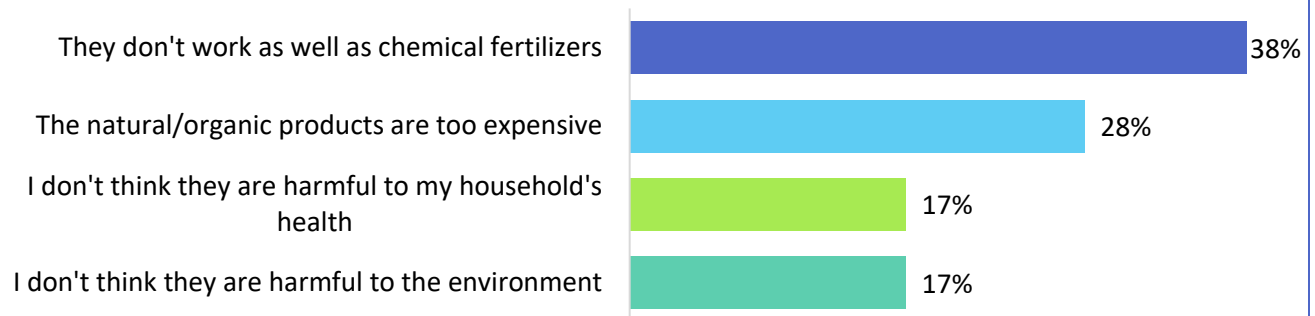
<sup>20</sup> Of comments focusing on the ads, nearly all cited one of the first two: I ignore ads/Ads don’t influence me.

## Barriers to using organic fertilizer

Finally, we asked those who said that the campaign ad would not influence their behavior because they were not interested were asked to identify their main concerns about organic fertilizer. From a list of reasons we provided, the most frequently selected was the concern that organics didn't work as well as chemical fertilizers, followed by the concern that organics are more expensive.

Respondents were again given the opportunity to write in any additional reasons that were important to them, but only two people did so.

Chart 21. Perceived barriers to organic lawn fertilizer (n=46)

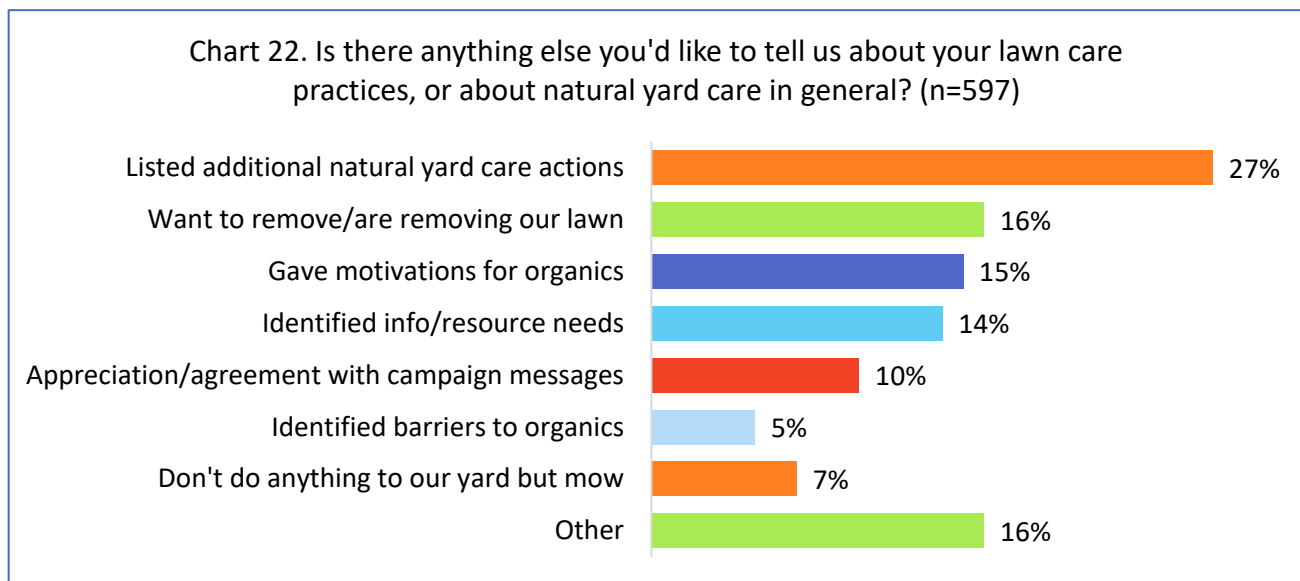


# Additional comments from both direct mail and online survey respondents

## Additional comments from survey respondents

Respondents to both the direct mail and online survey were asked, at the end of the survey, whether there was anything else they wanted to share about their lawn care practices – or about natural yard care in general.

Thirty-one percent of total survey respondents did so. In our experience, this is a high percentage of responses to an “Anything to add?” question. It’s also worth noting that nearly all were substantive and related to the topic.



## Response categories

As reflected above, the most common response was to cite additional lawn care practices they engaged in, aside from fertilizing. In order of frequency, practices that were mentioned included: leaving the lawn dormant and not watering in the summer, weeding by hand, using native plants, mulching, setting the lawn mower higher, seeding with clover, and using compost.

*Besides not using any products, we also mow to the maximum height of our mower and leave the clippings on the lawn.*

*I have, over the past four years, been building my soil by aerating and mulching.*

*Planning in bringing in soil amending compost to build the soil so fertilizer can be eliminated. We physically pull weeds. Only clover is too difficult. We leave that for the rabbits.*

The next most frequent response category was comments about wanting to reduce or replace their grass lawn:

*A workshop on how to tear up the grass and appropriately install native plants would be more useful to me. The grass is way too labor intensive, especially the older I get!*

*Would love to learn how to have a non-grass yard for the dogs to play in.*

*Please provide information to residents on plants that are a good alternative to grass, when planning to turn a lawn into a meadow. Thanks!*

Many respondents cited motivations for using organics, with equal numbers citing backyard wildlife (especially pollinators), healthy environments for people and pets, and concerns about local water quality from chemical runoff.

*I don't use any chemicals because I have honeybees. I think that using pollinators for an advert like this could also be very effective.*

*We love our pollinators and are happy to have a lawn with clover and some weeds if it helps the insect population.*

*It takes a lot more time and effort to create a healthy organic space with community HOAs. But I know I have a safe place for my grandkids, animals, and wildlife.*

Fourteen percent identified information and/or resources they would like. The most frequent topic within this category was the need for advice on dealing with weeds/invasive plants organically. Some also asked for materials to convince others (HOAs or neighbors), and for advice on how to know what “natural” or “organic” actually means when it comes to advertising products.

*I don't do much to my yard for actual lawn health, but I do treat for moles because that is an issue. I am concerned about what that does to the environment and streams from runoff. Still, I have to treat (it) because they are causing sinking around sewer drain lines, and other issues.*

*I'm nervous about using anything on my lawn since it seems like "natural" and "organic" are sometimes used for products that are really unsafe. I use a weed puller and let the lawn grow without any additives, but I do wish I knew a way to make it look better without risk.*

*We think natural lawn care (including chemical free weed management) is VERY important, but we live in an HOA that sprays roundup on every common surface. We need resources to share with the HOA board to convince them that there are better alternatives that will work.*

*I do not use spray weedkillers and wish to avoid toxins as much as possible. I pull weeds by hand but what an ongoing pain. Tips on keeping weeds at bay naturally are much appreciated!*

Ten percent gave comments of appreciation and agreement for the messaging in the ads.

*I appreciate that Kitsap County offers these types of resources for homeowners! They are not only good for homeowners but for our environment as well!*

*I'm already fish aware and focused so you're preaching to the choir.*

Seven percent of comments fell into the category of, “I don’t do anything to my yard but mow.” For example, “We are the only home in our cul de sac that receives baggies with landscapers’ business cards. I arrange them artistically.”

Only 5% made comments about barriers to using organics, likely because earlier questions had explored this topic already. The barrier mentioned most often by this 5% was the challenge of dealing with weeds/invasives without toxic chemicals. E.g., *“The natural yard care that I have tried does not kill weeds or moss and doesn’t keep grass as green. If something great exists I’d love to know about it;” “I don’t have kids, and I love how wildlife is safe to use my yard. Although I do mow, I have dandelions, daisies, clover, etc. instead of lush grass, mainly because I prefer to have frogs and deer. HOWEVER, lately I have gotten a bunch of Herb Robert and how do I get rid of it without products? It’s everywhere.”*

Other topics mentioned by multiple people (fewer than 5% apiece) included comments reflecting lack of agency (i.e., someone else makes the decisions), opinions about what the County/town should do,<sup>21</sup> and unrelated responses (2%), and negative comments, made by just 1%. E.g., *“How about the County take care of fixing the roads, and I take care of my lawn?”*

## Differences by jurisdiction

While comments did not vary greatly by jurisdiction, there were a few differences:

- Respondents from Bainbridge Island were the most likely to share additional NYC steps they have taken, and to make comments of agreement or appreciation for the campaign.
- Respondents from Gig Harbor and Port Orchard were the most likely to make comments reflecting lack of agency. I.e., referencing their HOA’s rules – or a housemate’s control – as barriers to taking action. (See p. 58 in the Appendix for a comprehensive breakdown by jurisdiction.)

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<sup>21</sup> Most of these were concerns about whether Kitsap County was spraying herbicides and/or pesticides along roadways, along with a few comments about jurisdiction-specific actions they’d like to see. E.g., *“We should have a rule in Gig Harbor that houses can’t require lawn. Would rather have low-water native landscaping.”*

# Findings

## Part 3. Webinar results

### In this section:

- ✚ Registration and attendance rates
- ✚ Publicity avenues
- ✚ Satisfaction with webinar and likelihood of recommending
- ✚ Current and intended engagement in target behavior
- ✚ Questions about natural lawn care
- ✚ Changes reported by participants since attending the webinar

### Background

Each of the three workshops was presented by a Master Gardener affiliated with Washington State University's Extension program. The PowerPoint presentation lasted 20 minutes, followed by a question-and-answer period, which ran from 15-30 minutes, depending on the session. Nearly all participants stayed through the PowerPoint and the majority stayed for the Q&A as well.

### Audience & publicity

One hundred and three people registered for one of the webinars, and 29% of these (n=30) attended, with an average of 10 per session.

Among people who registered for a webinar, 77% (n=77) were in the priority audience of households that have children under 18 and/or pets with access to the yard. Registrants lived in all seven WSSOG jurisdictions, with the largest percentage coming from Unincorporated Kitsap.

Facebook was by far the primary route through which people heard about the webinars. Another quarter learned about them through the email newsletter sent out through GovDelivery and 10% through the campaign postcard mailed to area households.

Chart 23. Workshop registrants came from all 7 jurisdictions (n=103)

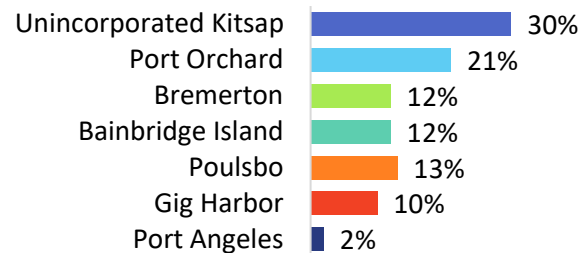
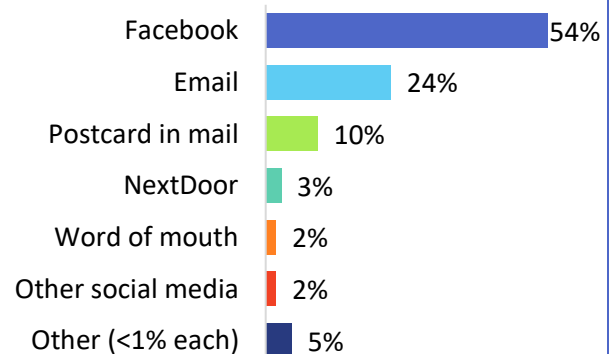


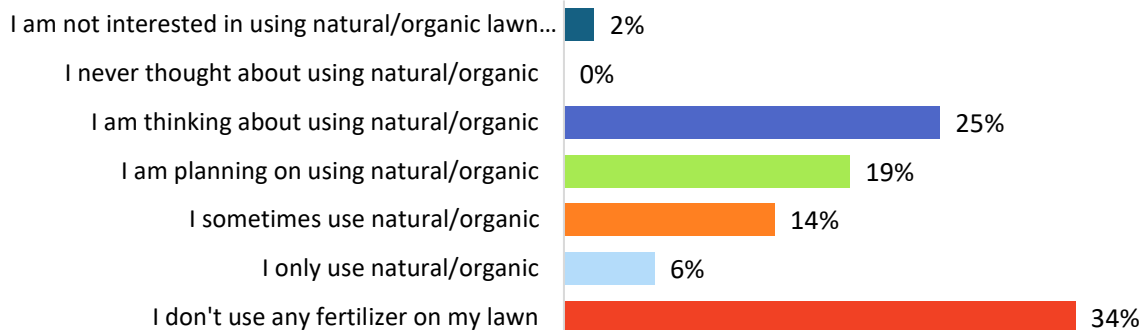
Chart 24. Over half heard about the events on Facebook (n=103)



## Current practice regarding target behavior

The largest percentage of registrants said they don't use any fertilizer on their lawn (organic or otherwise). Another 39% were considering using organic (thinking about it or planning to do so in the near future), and 20% used organic lawn products some or all of the time already.

Chart 25. Most registrants were either considering using natural/organic lawn care products, or did so some of the time already



## Participant questions about lawn care

Prior to the webinar, those who had registered were asked to write down any questions or concerns they had about natural lawn care. Forty-one percent wrote in questions, with the most frequent being ways to deal with weeds/invasive plants and pests naturally, how to control moss, info on organic products and alternatives to lawns.<sup>22</sup> For example:

*How do natural lawn products help existing lawns? Do they help reduce weeds?*

*How to get rid of sticker bushes and moss in my grass naturally/safely, as moss has taken over and I have a dog.*

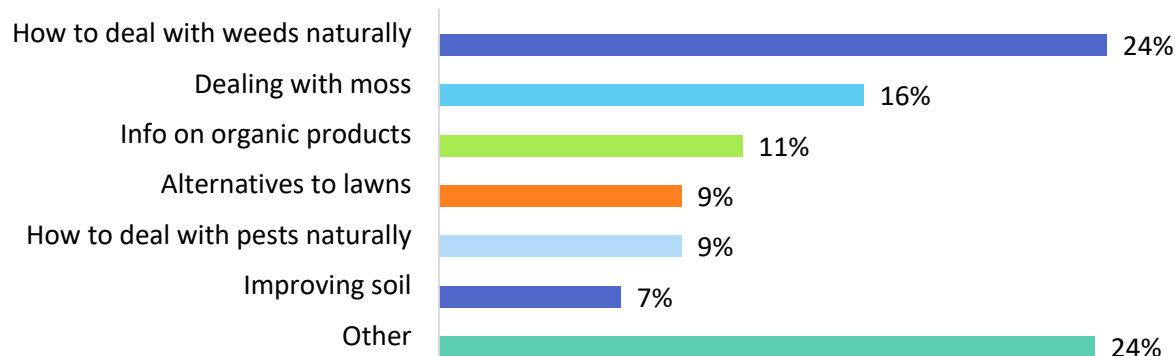
*Can you talk about short wildflower meadows?*

*What is a safe weed and feed product for lawns and growing fruit trees?*

*Our neighborhood has issues with various weeds and invasive grasses, and we live near water (so) I don't want to pollute.*

<sup>22</sup> Many other topics were mentioned by one or two people apiece, ranging from how to repair a dog urine-damaged lawn, the best lawn mower blade length to discourage weeds, best lawn for "paw traffic," and general questions asking for info or resources. E.g., "I'm a new homeowner and have no idea what I'm doing."

Chart 26. Over 40% identified topics they hoped to learn about at the webinars  
(n=41)



## Immediate post-webinar survey

### Satisfaction

Immediately after the webinar, respondents were asked to fill out an online survey about their experience. Sixteen people (55%) completed the survey.<sup>23</sup>

- 100% of attendees said the webinar met (75%) or exceeded (25%) expectations.
- When asked how likely they were to recommend the webinar to family, friends or coworkers, respondents gave it a mean score of 8.8 on a 1-10 scale (1 low, 10 high). The Net Promoter Score is 56%; scores above 50% are generally considered very good to excellent.<sup>24</sup>

Six of 16 respondents made comments at the end of the survey; all of these were positive. One person made a request: recommendations for the best tools for manually removing weeds. Sample quotes:

*It was very well run, jumped right in, information was very helpful, and I greatly respected the speaker's approach to lawn health. I'm very very pleased that your program is spreading this information. Our earth needs it so thank you!*

*This was great for me since I just moved to the PNW and this is a much different growing climate than where I moved from.*

*It was well done with the background support. The speaker's knowledge was supported by others which was nice. I was surprised (speaker) did not know about Tagro.*

<sup>23</sup> The survey was set to appear immediately after the webinar, but due to a logical glitch, not everyone saw the pop-up. So, some of these respondents took the survey immediately; others did so after an email request following the webinar.

<sup>24</sup> The Net Promoter Score (NPS) aims to measure the % of customers for a business or other organization who would be considered active promoters, based on their likelihood of recommending. See <https://www.bain.com/consulting-services/customer-strategy-and-marketing/net-promoter-score-system/>

### Target behavior

As reflected at right, most respondents have used non-organic chemicals on their lawns within the past few years. A quarter (n=4) have used natural or organic fertilizer; one of these had also used weed and feed. Three respondents had used other products including Tagro (two mentions) and Triazolid, an insecticide.

Table 3. Which of these products, if any, have you used on your lawn in the past few years?	Responses (n=16)
Weed & feed	5
Moss killer	5
Natural or organic fertilizer	4
Weed killer	4
None of the above	4
Nonorganic / slow release	0
Other products	3

### Impact on intended behavior

To assess the impact of the webinar on participants' intent to switch from weed and feed to natural/organic lawn products, the survey included a question aimed at measuring progress in peoples' willingness to make this shift.

#### Changes pre-post survey

Those who attended a webinar were compared to those who completed the survey soon afterwards.

While participants were more likely to say they were planning to do the target behavior after the webinar, they were also more likely to say they already used exclusively organic. Given the relatively small number of webinar participants (n=29, half of whom completed the post-survey), it's impossible to say whether this reflects a statistically significant change.

Table 4. In terms of using natural/organic fertilizer, which best describes you?	Pre (n=103)	Post (n=16)
Not interested	0	0
Never thought about it	0	0
Thinking about it	13%	21%
Planning on doing it soon	28%	33%
Sometimes do it	7%	7%
Always do it	14%	27%
Not interested in using any lawn products	31%	20%

### Self-Efficacy in Lawn Care

Participants were also asked to rate their confidence post-webinar in their ability to create a healthy lawn using natural/organic products.

- On a scale of 1-10 (1 being low, 10 being high) the mean confidence score was 7.0 with 15 responding.
- Seven of the 16 rated themselves as confident (7 or higher); another 7 were unsure or somewhat confident (5 or 6) and 1 as not confident (3).

Asked what would help boost their confidence, those who rated themselves a 6 or lower cited:

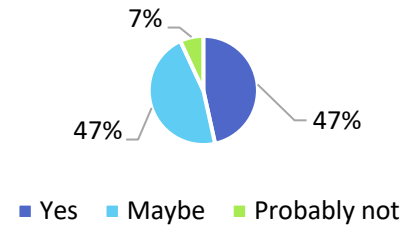
- Questions about whether they could control weeds without toxic chemicals. E.g., *"I like having a well-groomed lawn but I'm concerned about weed control, especially larger type weeds...ie: dandelion."*
- Concerns about cost. E.g., *"Not certain it will be effective without costing a lot more."*
- Doubts about whether other household members would be on board. E.g., *"Unsure if spouse will comply."*

## Intent to use coupon for organic fertilizer discount

Respondents who had attended a webinar were roughly split between those who said they intended to use the coupon for 25% off natural/organic fertilizer, and those who said they would “maybe” use it.

Attendees were given the opportunity to sign up for a follow-up email exchange with a Master Gardener a few months after the workshop to address any lawn care questions they might run into. Four people signed up for this follow-up support.

Chart 27. Do you plan to use the discount coupon?



## Six-month post follow-up survey

Six months after the webinar, a survey was sent to everyone who had registered. Twelve percent (n=12) responded; seven of the 12 had attended the webinar.<sup>25</sup> When asked what motivated them to attend, one person said they attended “just to learn a little, get some information.” The rest said they attended to learn how to take care of their lawn without toxic chemicals. For example:

*Wanted to find out about ways to keep the lawn nice without putting chemicals in the water.*

*Advice to take better care of my weeds and grass in an environmentally safe way.*

*To learn how to naturally take care of my yard without harsh chemicals.*

### Key Findings

Among those who registered but didn’t attend, the [primary reasons for missing the webinar](#) were: forgot to watch the webinar, had a time conflict, had issues with the internet or Zoom, or had planned to watch the recording later.

[None of the respondents had used the coupon](#) for 25% off natural/organic lawn fertilizer. The main reason given for not using the coupon was that they didn’t remember receiving the coupon, followed by “*Did not want/need lawn fertilizer.*”

In terms of [intent to do the target behavior](#), approximately 30% apiece said: “*never thought about it,*” “*am thinking about/planning to do it;*” and “*I sometimes/always use organic fertilizer.*”

When asked [what if any changes they had made since attending the webinar](#), five of the seven attendees had taken one or more steps:

- 4 had adjust their lawn mower higher
- 3 had stopped using weed and feed
- 1 apiece had used a mulching mower or left clippings; begun watering more deeply and less frequently; and had aerated their lawn.

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<sup>25</sup> One attendee was from Poulsbo, the rest from Unincorporated Kitsap County.

# Findings

## Part 4. Interviews with participating nurseries

### In this section:

- Coupon redemption numbers and locations
- Satisfaction with webinar and likelihood of recommending
- Nurseries' perspectives on logistics & impact of NYC campaign
- Suggestions for the future

### Background

Six retail establishments across the West Sound participated in the Natural Yard Care coupon promotion during the spring of 2023. The coupons offered a 25% discount (or up to \$15 off) on select natural or organic lawn fertilizer products. (See coupon below.)

Table 5. Participating nurseries	# coupons redeemed	Nursery location
Airport Garden Center	19	Port Angeles
Bay Hay & Feed	8	Bainbridge Island
Bremerton City Nursery	23	Bremerton
Gig Harbor Ace Hardware	10	Gig Harbor
Vern's Organic Topsoil	8	Poulsbo
Walrath Landscape Supply	0	Gig Harbor
Total coupons redeemed	68	

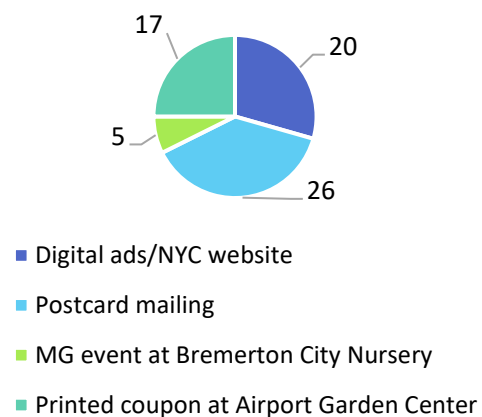
Coupons were active from April 1-June 18, 2023, and could be downloaded from the digital ads, NYC website or the NYC postcard sent by direct mail. In addition, one nursery (Airport Garden Center) printed out coupons and shared them with customers during their visit.

Info provided by communications and marketing firm C+C, who created the coupons and tracked redemptions, found that the printed coupon that Airport Garden Center staff handed out was responsible for almost as many redemptions as the digital campaign.<sup>26</sup>

### Interviews with nurseries

Four of the nurseries (Airport Garden Center, Bay Hay & Feed, Bremerton City Nursery & Walrath Landscape Supply) participated in short interviews (phone or in-person) following the campaign.

Chart 28. Source of coupons (n=68)



<sup>26</sup> C+C also noted that Gig Harbor Ace Hardware began using the same method (an in-store flyer) halfway through the campaign.

Because of the anomalies in recent years (the COVID pandemic and an unseasonably late spring in 2022), the nurseries noted the challenges of seeing distinct patterns in overall fertilizer sales over the past three-four years. However, three of the four reported that sales were strong during this most recent year. Airport Garden Center, for instance, was up 15% in fertilizer sales compared to 2022.

### Logistics of coupon redemption

All four retailers felt the coupon redemption process worked fine for their staff. Staff at Bay Hay and Feed suggested that having a specific dollar amount off (rather than a percentage) would make the process even simpler for both staff and customers; the other three nurseries agreed. But none felt the process was arduous. *“We’re pretty versed in coupons,”* says Betsy Matthews, co-owner of Airport Garden Center, *“and one of our trainings for new staff is coupons.”*

Matthews also shares that she made a log for staff to use listing what the coupon was for, customer’s first name (so there weren’t duplicate redemptions), and type of coupon – whether from the postcard, social media, in-store copies, etc. Next time around, says Matthews, she’s planning to add two questions to the log: 1) whether the customer is a first-time visitor, and 2) whether they’re a first-time organic fertilizer user, to see if the coupon promotion influenced these.

Another logistical challenge was that the product one company (Walrath Landscape Supply) ordered for the promotion was, says Jami Burke (soil consultant at Walrath), *“A very good product, but it’s more expensive than some and the instructions aren’t as clear as they could be. In the future, I’d get a brand where the instructions are less complicated.”*<sup>27</sup> While they are interested in participating in a coupon redemption again next year, she notes that they have a lot of product still on hand. She hadn’t been aware, she says, what the goal was for coupon redemptions, so in retrospect, she over-ordered.

As noted above, both Gig Harbor and Airport Garden Center ended up printing out coupons and handing them to customers. The other two were asked if this was something they’d consider in future. Els Heijne, manager at Bay Hay and Feed, noted that while they weren’t opposed to this, this approach wouldn’t enable WSSOG to measure the success of the digital/postcard campaigns.

### Impact on interest in organic fertilizer

We also explored whether the ad campaign and coupon generated any conversations with customers – such as first-time buyers - about using organic fertilizer, like how to apply it, how often, etc. All four of these nurseries highlight organic products as part of their regular practice, however; as a result, none recalled getting questions from people who seemed to be new organics users.

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<sup>27</sup> The product is from Hendrikus Organics. <https://www.hendrikusorganics.com/about-ushttps://www.hendrikusorganics.com/about-us>

Three of the retailers noted that they are known for their philosophy of using organics, so they don't get many questions from people wondering whether to buy organics. *"We're about organics,"* says Heijne at Bay Hay and Feed, *"and people know that."* Justin Dreary, one of the owners of Bremerton City Nursery, agrees. *"People wouldn't come asking about weed and feed vs. organic; they know we're organic."* Adds Betsy at Airport Garden Center, *"We've been training our customers to use organics for a long time, so it's probably 95% of our customers who buy them. We still have some that's not (organic) but they're all in the back and you have to ask for them specifically. We have some old farmers who don't want to switch."*

The fourth retailer – Walrath Landscape Supply – says they're known more for supplying soil, gravel and hardscape more than they are for fertilizer, although they are planning to build up the garden side of their business. Jami Burke also notes she wouldn't expect to get a lot of questions about organics in her area because, *"...there are a lot of lawn care companies in this area; many people use them and there are high expectations for lush, green lawns. It would require a lot of educational outreach to move people away from that, and I don't know whether this (WSSOG campaign) had much of that element."* Prior to working at Walrath, Jami explains, she was part of a team that conducted home visits with households in Olympia, WA, focused on switching to organics to improve stormwater. *"People don't necessarily know,"* she says, *"why to use organic, how to use it, what the issue with phosphorus is, etc. They really need one-on-one help and conversations to apply the knowledge to their own landscape."*

## Suggestions for future

All of the retailers interviewed are interested in participating in future coupon redemptions to promote natural yard care. Suggestions raised by the nurseries included:

- ❖ As mentioned earlier, considering a straight dollar off promotion rather than a percentage (i.e., \$15 off rather than 25% off). (Four mentions)
- ❖ Having a discount that is available on the day their nursery could hold an event highlighting organic lawn care. (Three mentions) Airport Garden Center for example, says they hold well-attended events focusing on fruit trees, Mason bees and other pollinators which would pair well with the organic message.
- ❖ Figuring out how to incentivize stores that are stocking weed and feed and other nonorganic products to participate in the promotion. As interviewees noted, big box stores are more likely to draw people who haven't yet decided to purchase organic, so would have a better chance of reaching people who haven't yet made the switch. (Two mentions)
- ❖ Adding two items to the coupon tracking sheet: whether the person is a first-time customer, and whether they're a first-time organic fertilizer user. (One mention)
- ❖ Conducting in-person outreach (as WSSOG had planned at the start of this campaign but jettisoned due to COVID 19). (One mention) As noted earlier, Jamie Burke from Walrath also suggested door-to-door visits, if possible, for educational conversations with households about natural yard care. (Burke also offered to serve as a resource for the campaign, because of her prior experience in door-to-door conversations about organic lawn care and her passion for the subject.)
- ❖ Providing nurseries with a ballpark estimate of how many coupons are likely to be redeemed based on performance to date, so nurseries make sure they have enough – but not too much.

# Findings

## Part 5. Calculation of potential campaign impact on nutrient pollution into local waterways

### Pre-post results from online surveys

In January of 2019, prior to the launch of the NYC social marketing campaign, data was collected on current lawn practices among Kitsap County households and perceived barriers to using organic fertilizers. The survey was made available on Facebook, NextDoor, GovDelivery, and in communication channels in Gig Harbor and Port Angeles.<sup>28</sup> Results were compared with the online survey we conducted in 2023.<sup>29</sup> The pre-post audiences were not paired but have the following characteristics in common: owning a home with a lawn, maintaining the lawn themselves, and living within the communities covered by these media channels.

As reflected below, respondents to the post-survey were slightly less likely to have used non-organic fertilizer or weed-and-feed within the past few years, though the differences fall short of statistical significance. It's important to note that:

- The figures for baseline include only households with children and pets; the post figures included all households who have a lawn and maintain it themselves. Because of the low percentage of respondents who provided household demographics there are not enough cases in each of the conditions to conduct a robust comparison of households with and without children and pets who also used these products.<sup>30</sup>
- The post survey was conducted about two months after the NYC ads ran. Since people were reporting on their behavior in recent years, we don't know whether they had used non-organic products in the two months *since* seeing the ad.
- Given the four-year gap between pre and post, there are factors aside from the NYC campaign that may have influenced peoples' attitudes and behaviors regarding the use of non-organic fertilizer and weed-and-feed. With consumers' increasing concern over the use of synthetic chemicals, for example, the organic fertilizer market has grown in recent years.<sup>31</sup>

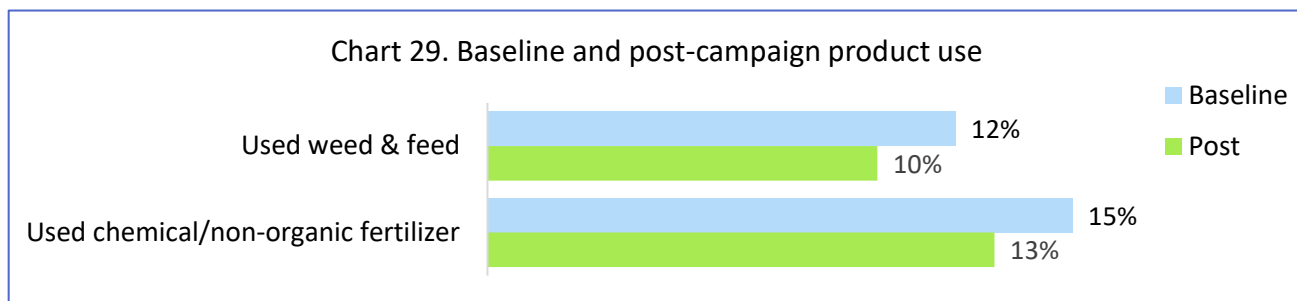
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<sup>28</sup> Hardwick Research (2019) *WSSOG Stormwater Runoff Survey*, Kitsap County.

<sup>29</sup> Households who responded to the Direct Mail survey were not included in this sample, since they received a different treatment (a postcard in the mail vs. seeing the messaging online).

<sup>30</sup> To respect respondents' privacy, we did not require them to answer the survey questions about their household members.

<sup>31</sup> One estimate suggests the organic fertilizer market grew at an 8% rate between 2018 and 2022; see <https://www.futuremarketinsights.com/reports/north-america-organic-fertilizers-market>



## Potential impact of campaign on fertilizer runoff

### Assumptions used in calculating potential impact

The WSSOG members noted at the start of this project that the technology does not exist that would enable behaviors encouraged by this campaign to be linked to observed water quality changes, given a) the many variables affecting water quality in a complex system such as Puget Sound, b) the widespread geographic scope of the campaign, and c) the relatively small scale of the campaign.

Lacking an independent measure that could provide insight into cause and effect, what we present below is an estimate of the amount of inorganic fertilizer that *would be prevented* from entering Puget Sound if this audience's intent to act were to lead to the desired behavior. The calculations are based on the following assumptions:

- ❖ We assumed an average usage of 2.85 pounds of fertilizer used per 1,000 square feet.<sup>32</sup> The calculations are based on a single application of fertilizer. (A survey conducted by Hardwick Research at the outset of this campaign found that most people using weed and feed-type products used them once a year or less; 31%, however, fertilize more than once a year.)
- ❖ We found estimates in the literature for degree of runoff (i.e., the percentage of fertilizer that typically runs off the property after it's applied) ranging from 2% to 64%. Degree of runoff varies dramatically; it is influenced by when it was applied (e.g., after a rainstorm), degree of saturation or soil compaction, type of fertilizer (slow or fast-release), steepness of slope, etc. For the purposes of getting a ballpark sense of the amount of inorganic fertilizer that may have been diverted from Puget Sound through this campaign, we used the figure of 20% based on Maciolek et al in a 2005 study of Boston Harbor,<sup>33</sup> cited by the World Resources Institute.<sup>34</sup>

It's worth underscoring that the figures below showing potential impact on Puget Sound are based not on independently observed behaviors, but on survey respondents' self-reported intent when it comes to using organic rather than inorganic fertilizer. Intent to act is one of the variables that predict whether we *will* act, but we can't know for sure how many followed through.

<sup>32</sup> Estimates vary depending upon the exact product; this estimate is drawn from the recommendation by Scott's (14.29-pound bag to cover 5,000 square feet). <https://www.homedepot.com/p/Scotts-Turf-Builder-14-29-lbs-5-000-sq-ft-Weed-and-Feed-Weed-Killer-Plus-Lawn-Fertilizer-25006A/205546050>

<sup>33</sup> Maciolek, N.J., R.J. Diaz, D.T. Dahlen, C.D. Hunt, and I.P. Williams. 2005. *2003 Boston Harbor Benthic Monitoring Report*. Boston: Massachusetts Water Resources Authority.

<sup>34</sup> Report on eutrophication and hypoxia around the globe, published by the World Resources Institute. See <https://www.wri.org/initiatives/eutrophication-and-hypoxia/references>

## Direct mail survey results on intended behavior change

The sample used for the calculations below is 1187, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 1187:

- 34% (401) said the NYC ads were “likely” or “very likely” to influence their own lawn care practices.
- Of these, 38% (n=152) said they were already using only organic fertilizer or weren’t using anything on their lawn.
- The other 62% (n=248) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, **17% of direct mail respondents** can be described as showing intent to adopt the new behavior.

Table 6. Potential impact based on respondents who say they are likely to use organic/fertilizer (and not currently doing so)

### DIRECT MAIL RESULTS

n	Total square feet of lawn among respondents	Total square feet / 1,000	1,417.51 x 2.85	4,039.91 x .20 (estimated runoff)
248	1,417,514 square feet	1,417.514	4,039.91 pounds	<b>807.98 pounds</b>

Table 7. If extrapolated to entire direct mail audience (n=14,350)

### DIRECT MAIL RESULTS

n	Average lawn size of respondents	Total square feet	Total square feet/1,000 sq.ft	16,743.73 x 2.85	47,717.55 x .20
2439	6,865	16,743,735.00	16,743.735	47,717.55 pounds	9,543.51 pounds = 4.77 tons

## B. Social media/online survey results on intended behavior change

The sample used for the calculations below is 875, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 875:

- 36% (315) said the NYC ads were “likely” or “very likely” to influence their own lawn care practices.
- Of these, 44% (n=135) said they were already using organic fertilizer exclusively or hadn’t used any products on their lawn.
- The other 56% (n=175) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, 20% of online respondents can be described as showing intent to change their behavior to using organic fertilizer.

Table 8. Potential impact based on respondents who say they are likely to use organic/fertilizer (and aren’t currently doing so)  
ONLINE RESPONSE

n	Total square feet of lawn among respondents	Total square feet/1,000 sq.ft	4,648.397 x 2.85	13,247.93 x .20
175	4,648,397	4,648.39	13,247.93 pounds	2,649.58 pounds or 1.32 tons

Table 9. If extrapolated to online audience as a whole  
ONLINE RESPONSE

n	Average lawn size	Total square feet	24,789,126/1,000 sq.ft	24,789.126 x 2.85	70,649.00 x .20
1338	18,527 sq. ft.	24,789,126	24,789.126	70,649.00 pounds	14,129.80 pounds or 7.06 tons

# Conclusions and Recommendations

The Natural Yard Care social marketing campaign conducted by WSSOG over the past few years has resulted in messaging that target audiences find compelling, and that a quarter believe will influence their behavior: switching from nonorganic lawn products to natural/organic ones. The campaign has also provided valuable lessons for WSSOG that can be applied to future efforts, and partnerships with local nurseries who are committed to encouraging organic products. It is especially noteworthy that the campaign began just a few months before the COVID pandemic, which made it impossible to carry out the initial campaign plan.

## Campaign Outputs

Through a combination of ads placed on social media, mailings to households, discount offers for reduced-price organic fertilizer, and webinars offered by a Master Gardener, 2023 campaign results include:

- ❖ Facebook ads that reached an estimated 94,144 people throughout Kitsap County, Gig Harbor and Port Angeles
- ❖ Another 14,347 reached through postcards replicating the Facebook ads sent to households in the same area
- ❖ Three webinars, attended by 29 people
- ❖ Discount coupons for organic fertilizer, redeemed by 68 people at one of five area nurseries

## Outcomes among survey respondents

In all, 2481 completed surveys; of these, 2093 were in the target audience of a) having a yard with grass, and b) maintaining the lawn themselves.

- ❖ After reviewing the NYC ads, 34% said the ads were likely or very likely to influence their lawn care practices. Not counting those who were using organic exclusively already, this translates to [19% of the audience showing intent to adopt the target behavior](#).
- ❖ The two main study samples (social media respondents and direct mail respondents) were very similar in terms of interest in the target behavior. For example, 42% of direct mail respondents indicated willingness to engage in the behavior,<sup>35</sup> compared to 43% of social media respondents. And 34% of the direct mail group said the NYC ad was “likely” or “very likely” to influence their lawn care behavior compared to 36% of the social media group.
- ❖ The aspect of the ad campaign the audience found particularly compelling was the focus on things they cared about: protecting marine life and Puget Sound; protecting their children, pets, and families; and protecting nature in general. People also liked the use of direct and compelling words like “healthy” and “safe,” and some appreciated the offers for fertilizer discounts and webinars.
- ❖ When asked about products they use on their lawns, the most frequent response was, “I don’t use any products at all.” Roughly 20% have used weed and feed, moss killer, weed killer, or a nonorganic, slow-release fertilizer.
- ❖ Very few people, however (approximately 5%) say they are *not* interested in using organic fertilizer. (Another third say they are not interested in using *any type* of fertilizer on their lawns.)

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<sup>35</sup> That is, saying they were either thinking of doing it, planning to do it in the near future, or already doing it some of the time.

- ❖ In all, 40% of the audience surveyed falls into the “willingness to change” category. They have already thought about doing the target behavior, have planned to start doing it, or have begun doing it at least some of the time.
- ❖ Among those who are willing to engage in the target behavior, the challenge of controlling weeds and/or invasive plants was a primary barrier. Among the audience as a whole, the most prominent barriers were a) the perception that organics don’t work as well as chemical fertilizer, and b) the organic products are too expensive.
- ❖ When given the opportunity to make general comments about their own lawn care practices or about natural yard care in general, the most frequent topics that emerged were:
  - Comments on NYC steps the respondent was taking aside from not using weed and feed-type products
  - Comments about wanting to reduce or remove their lawn
  - Comments about topics the respondent would like help with, including learning and/or resources
  - Comments about the perceived benefits of not using weed and feed-type products or other lawn chemicals
  - Comments of appreciation and/or agreement with WSSOG’s NYC campaign
- ❖ While comments did not vary greatly by jurisdiction, there were a few differences:
  - Respondents from Bainbridge Island were the most likely to share additional NYC steps they have taken, and to make comments of agreement or appreciation for the campaign.
  - Respondents from Gig Harbor and Port Orchard were the most likely to make comments reflecting lack of agency. I.e., referencing their HOA’s rules – or a housemate’s control – as barriers to taking action.

## Lessons learned

- The campaign messages of caring for children, pets, marine life, and Puget Sound were compelling to the audience as a whole – not only households with children and/or pets. Because the ad campaign featured an image of a seal pup and mother (the photo that the audience found most compelling), the campaign had broader appeal than may have been expected initially.
- Having a pet at home with access to the yard seems to alter respondents’ yard care behavior in a way that having children at home did not. Pet-owning households were more likely to say they didn’t use any lawn products, and more likely to use organic products than households with children – or households with neither children or pets. One explanation may be that pets are spending more time in the yard (year-round) than children, so raise more concerns about exposure.
- Because the participating nurseries focus on organic products already, it was unclear whether the discount coupons were encouraging first-time customers or first-time organic users – rather than regular organics customers who appreciate the discount. All of the nurseries we interviewed were interested in participating again in the future, and some made suggestions for strengthening the campaign.

- ❖ While the cost of organic products remains a perceived barrier for many, the **primary barrier among those who showed willingness to change was the challenge of treating weeds and invasive plants without toxic chemicals.**

## Recommendations

### Audience segmentation

The results of this study suggest that when it comes to willingness to engage in the target behavior, the audience can be segmented into four categories:



Group A = Not interested (33%) This subset includes:

- People who are not interested in using organic fertilizer on their lawns (5%)
- People who aren't interested in using fertilizer of any kind on their lawn (28%)<sup>36</sup>



Group B = Not on their radar at this point (10%). People who said they had “*never thought about*” using organic fertilizer.



Group C = Already doing the target behavior consistently (14%) These are people who said they only use organic fertilizers on their lawns AND haven't used any inorganic products (weed and feed, slow release/nonorganic, weed killer, etc.) for at least the past few years.



Group D = Open to change (43%). People who have used inorganic fertilizers in the past, express an intent to change their lawn care practices, and say they were influenced to do so through the NYC campaign.

These categories draw from the Transtheoretical Model,<sup>37</sup> which offers a model for how individuals move through six stages of change, from:

- Precontemplation (not interested/not thinking about it)
- Contemplation and preparation (thinking about it/planning to do it soon)
- Action (starting to do the behavior, or doing it some of the time)
- Maintenance (doing it consistently over time)

Viewed through this lens, Group D is the most likely to change their behavior. And for this group, the key task isn't necessarily to convince people to use organics; many of them understand and articulate the benefits of organics already. They do face barriers, and the data suggests that dealing with perceived challenges – in particular, controlling weeds, invasive plants (and for some people, moss) – organically and effectively is the primary one.

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<sup>36</sup> Includes people who also said they're planning to reduce or remove their lawn.

<sup>37</sup> The model was initially developed to understand and treat health-related behaviors but has been applied in multiple areas of human behavior. See, for example, Inman, R.A., Moreira, P.A., Faria, S., Araujo, M., Cunha, D., Pedras, S. and Correia Lopes, J. (2022) An application of the transtheoretical model to climate change prevention: Validation of the climate change stages of change questionnaire in middle school students and their schoolteachers, *Environmental Education Research*, 28:7, 1003-1022, DOI: [10.1080/13504622.2021.1998382](https://doi.org/10.1080/13504622.2021.1998382)

## We recommend:

- ✚ **Focus future behavior change efforts on Group D for maximum impact** through activities that offer guidance on organic methods for weed control and improving grass health. This approach can also help reinforce the behavior among those who already do the desired behavior (Group C) by addressing any ongoing challenges.

Because lawn care is very context-specific and requires development of knowledge and skills through practice, we suggest that activities aimed at this group should incorporate opportunities for one-on-one or small group conversation based on issues.

Such activities could include:

- As WSSOG had initially planned, workshops and other outreach events at local retailers offering hands-on demonstrations and advice on organic approaches to weed control and grass health.
- Exploring possibilities for peer-to-peer learning, which can be especially valuable for practicing new skills. For example, neighborhood tours could be offered where participants visit the yards of households who are already using organic fertilizer and are able to ask questions about the process. A surprising number of survey respondents offered information about natural yard care steps they're already taking, indicating a willingness to share their experience and knowledge.
- Downloadable webinars and/or materials focused on individual topics. Based on respondents' questions and comments, topics might include alternatives to lawns, dealing with moss, controlling weeds and nontoxic treatment of invasives, how to improve soil, how to strengthen lawn health through mulching and composting, etc. There are many examples of natural yard care info online already,<sup>38</sup> but they generally cover a range of topics without great depth.

- ✚ **Revisit the behavioral ask.** While the target behavior (don't use weed and feed-type lawn products) can be communicated in one sentence, the action is multifaceted. Assuming that most people have a reason for using products like weed and feed – controlling weeds or having a green lawn – they will need to come up with an alternative way to address these issues. Even if they make a clean switch to an organic fertilizer, front-end research for this project found that among those who used organic lawn products, nearly half said it took over a year before they felt confident that the lawn was going to look the way they wanted, and 38% said it took over two years.<sup>39</sup>

Social marketing researchers recommend that target behaviors be a) non-divisible, and b) end-state. Dr. Doug McKenzie-Mohr, environmental psychologist and author of Fostering Sustainable Behavior and multiple articles on social marketing, suggests determining whether a behavior is end-state by asking, *"Will engaging in this behavior produce the desired outcome, or will my audience need to do something else before the desired outcome is achieved?"* In the case of stopping the use of weed and feed-type lawn products it's worth considering whether the desired outcome for the audience is the lack of toxic chemicals in the yard alone, or a yard that doesn't use toxic chemicals AND that they are happy with.

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<sup>38</sup> For example, <https://tpchd.org/healthy-homes/dirt-alert-tacoma-smelter-plume/natural-yard-care/> and <https://www.seattle.gov/utilities/protecting-our-environment/sustainability-tips/pollution-prevention/yard-care>

<sup>39</sup> WSSOG Stormwater Runoff Survey, Kitsap County. Dec 2018-Jan 2019. Conducted by Hardwick Research.

Examples of non-divisible behaviors related to natural lawn care used by other campaigns include:

- ✚ A *Keeping Grass Off the Streets* campaign aimed at landscaping companies, which encouraged landscapers to blow clippings back into the yard rather than into the road.<sup>40</sup>
- ✚ The *Save the Crabs* campaign in the Chesapeake Bay region, which used a variety of tools (including peoples' love of soft-shelled crab) to encourage the habit of using lawn fertilizer in fall rather than spring.<sup>41</sup>
- ✚ A lawn care behavior change campaign in Southwest Florida that identified a list of behavioral targets for natural yard care, such as: cut grass at the highest setting on your lawn mower, and don't fertilize before it rains.<sup>42</sup>

## ✚ Make it a habit

The Stages of Change model provides a framework for understanding which segments of the audience are open to change. But behavior change efforts need more than the initial impetus. Recent research on habit formation suggests we are most likely to establish a habit if we have the opportunity to practice it repeatedly in a consistent context.<sup>43</sup> (For instance, buying the same fertilizer at the same nursery every time.) Habits develop when the action becomes automatic, so they don't require us to weigh the pros and cons of a behavior each time. This suggests it may be worth considering a behavior to target that people are likely to practice on a regular basis during the gardening season, so it has a better chance of becoming an automatic action.

## ✚ Use additional social marketing tools

The messages and images used in this campaign were quite effective; many indicated they found them compelling, and they reinforced peoples' feelings of care for marine life in Puget Sound as well as for children and pets. While increasing awareness and changing attitudes are worthwhile endeavors and can lay the basis for subsequent action, they aren't synonymous with social marketing, which relies on a combination of tools to encourage actual behavior change. And there is ample evidence that awareness alone does not necessarily lead to action, especially when the desired behavior has significant barriers.<sup>44</sup>

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<sup>40</sup> chrome-

extension://efaidnbmninnbpcjpcglclefindmkaj/https://cfpub.epa.gov/npstbx/files/Alachua%20County%20Environmental%20Protection%20Department%202012.pdf

<sup>41</sup> <https://www.thensmc.com/resources/showcase/save-the-crabs>

<sup>42</sup> chrome-

extension://efaidnbmninnbpcjpcglclefindmkaj/https://www.swfwmd.state.fl.us/sites/default/files/medias/documents/CrystalRiverPosttestReportv1f%20-%20FINAL%20REPORT.pdf

<sup>43</sup> For a discussion of habit formation research related to sustainability behaviors, see

<https://link.springer.com/article/10.1007/s13280-021-01619-6>

<sup>44</sup> Moser, S., & Kleinhüchelkotten, S. (2018). Good intents, but low impacts: diverging importance of motivational and socioeconomic determinants explaining pro-environmental behavior, energy use, and carbon footprint. *Environment and Behavior*, 50(6), 626-656.

The WSSOG campaign has already made use of social marketing approaches and tools, including front-end research to identify the audience and perceived barriers to action, offering an incentive, using trusted messengers (Master Gardeners), and creating effective messages with emotional weight. Additional social marketing tools that could be applied include:

- Social diffusion and setting norms, or engaging people through word-of-mouth and personal relationships with others who are taking the desired action and working with social norms (within neighborhoods or communities) to position the desired behavior as the norm.
- Convenience: Giving people simple tools or instructions to follow so that the action is relatively convenient.
- Commitment: When people make a public commitment, they are more likely to follow through with their behavior. Examples include pledges, which in the case of natural yard care campaigns could take the form of yard signs indicating that they have taken the desired action and are part of the campaign.
- Communications: While the materials developed for the WSSOG campaign are excellent, one additional piece that might be added to future materials is a statement referring to the impact of action. E.g., *“If 100 households did this behavior, we could keep up to x pounds of pollution from entering Puget Sound.”*

### Clarify the intent of the organic fertilizer discount component

The discount coupon for 25% off organic fertilizer was provided as a way to reduce the barrier of cost for people interested in switching to organic. But because the coupon is for one-time use, it may not maintain the behavior beyond that one application. If unfamiliarity with the products and where to find them were the main barrier, simply introducing people to the products through a coupon would be helpful. But with a product consumers buy repeatedly, the discount may be seen as having limited value. Our suggestions include:

- Begin collecting data through nurseries on first-time customers and first-time organic fertilizer users, to find out whether the coupon is having the desired effect.
- Consider providing consumers with a cost comparison between organic and nonorganic fertilizer used over time. Some respondents were unsure as to whether they needed to apply the same amount of organic fertilizer as nonorganic – or more – so weren’t sure what the cost would **amount** to over time.

### Continue and build on partnerships with retailers

As the retail partners for this year’s campaign indicated, most have a strong organic focus and tend not to draw people who are looking for products other than organics. These nurseries and garden centers do share a passion for natural yard care, and express interest in continuing to participate in the campaign and, in some cases, building upon their role. At the same time, a few of the nurseries questioned whether the campaign might try to include a retailer or two representing places that sell the greatest quantities of fertilizer (i.e., big box stores), to reach a broader audience and build interest in organics.

## APPENDIX A. MAIN FINDINGS BY JURISDICTION

### PART 1: DIRECT MAIL RESULTS

Note to readers: Very few households in Gig Harbor responded to the direct mail survey; in addition, this jurisdiction opted not to use a control group. As a result, the number of responses was very low (n=23), resulting in a high margin of sampling error for findings from that jurisdiction. Actual results could vary by as much as 20% plus or minus the totals presented.

Table 10. Survey response rate by jurisdiction: direct mail respondents

Jurisdiction	# of postcards sent	# of responses	Response rate	Includes control group
Bainbridge Island	1226	206	17%	Yes
Bremerton	2052	276	13%	Yes
Gig Harbor	521	23	4%	No
Port Angeles	1029	106	10%	Yes
Port Orchard	542	77	14%	Yes
Poulsbo	511	115	23%	Yes
Unincorporated Kitsap County	8466	581	7%	Yes

Chart 30. Percentage of respondents who have a yard with grass

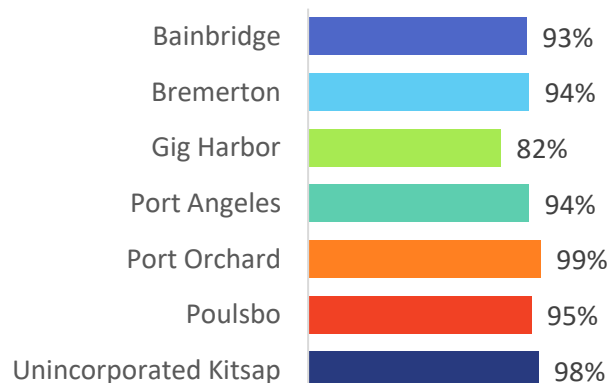


Chart 31. Percentage who maintain their lawn themselves

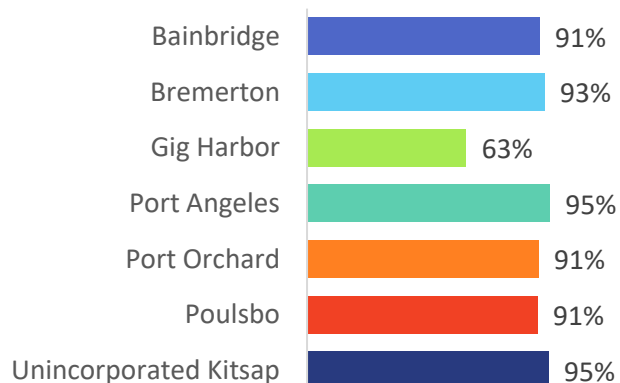


Chart 32. Which of these products, if any, have you used on your lawn in the past few years?

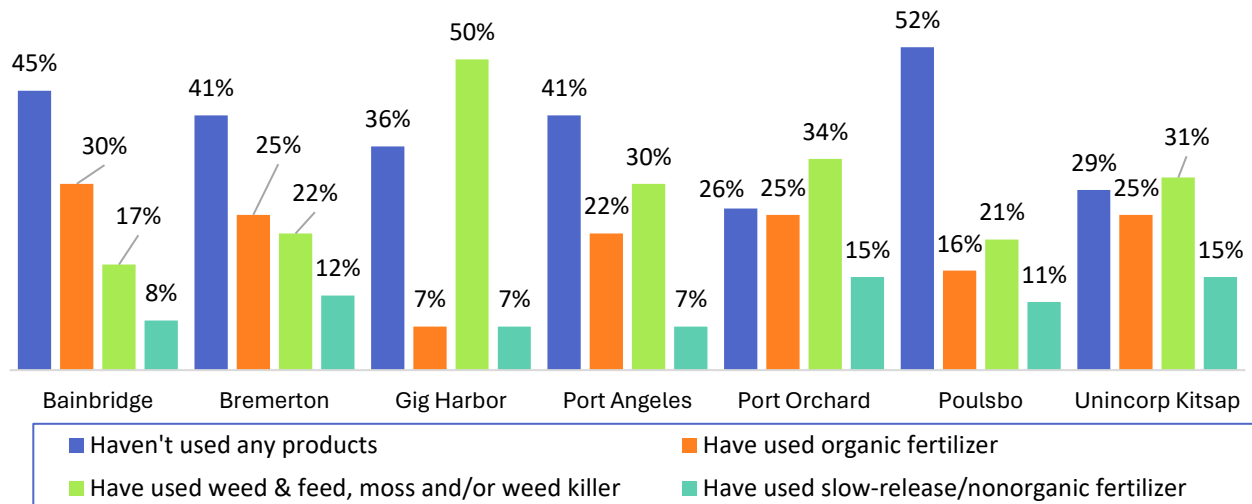


Chart 33. Percentage of respondents who remembered receiving the Natural Yard Care postcard in the mail

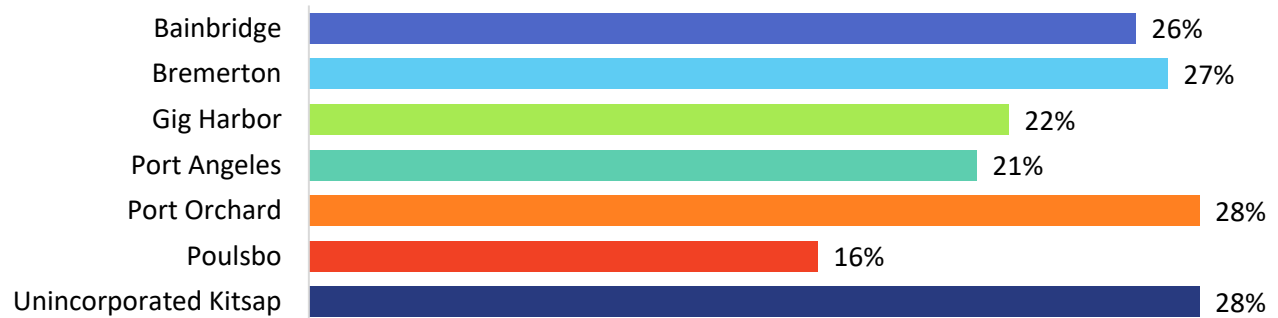
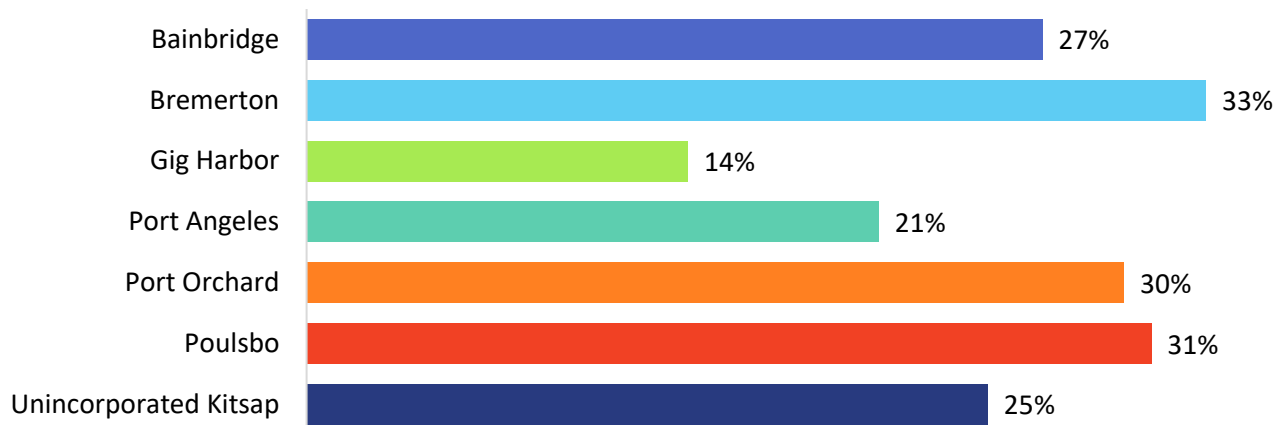


Chart 34. Percentage of respondents who said the Natural Yard Care postcard's messaging was "*likely*" or "*very likely*" to influence their lawn care practices



## PART 2: RESULTS FROM SOCIAL MEDIA SURVEYS

Chart 35. Respondents by location

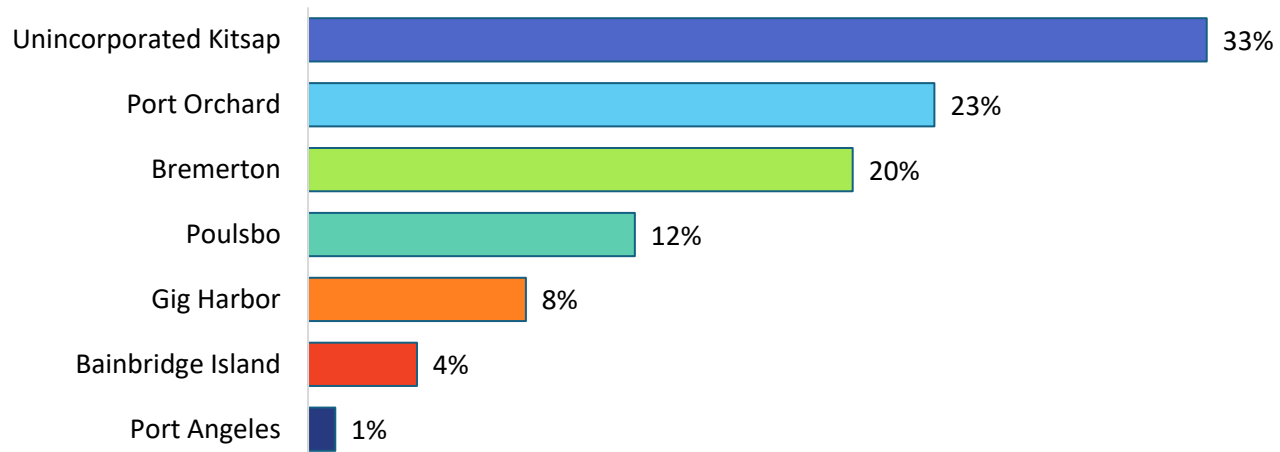


Chart 36. Percentage of respondents who have a yard with grass

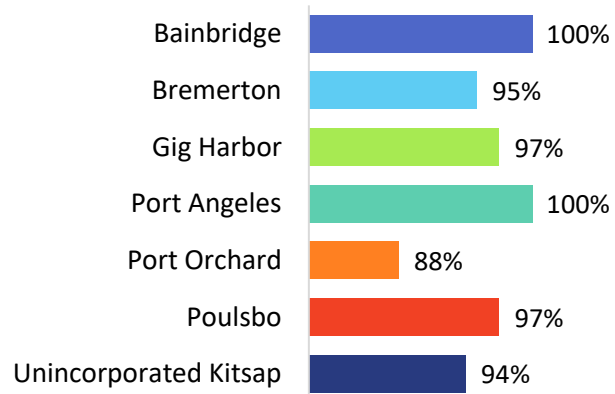


Chart 37. Percentage that maintain their own lawn

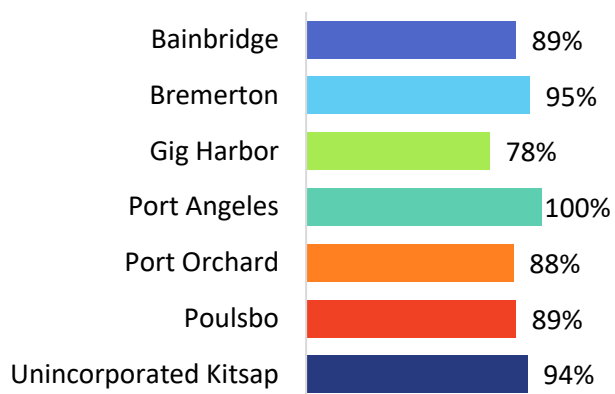
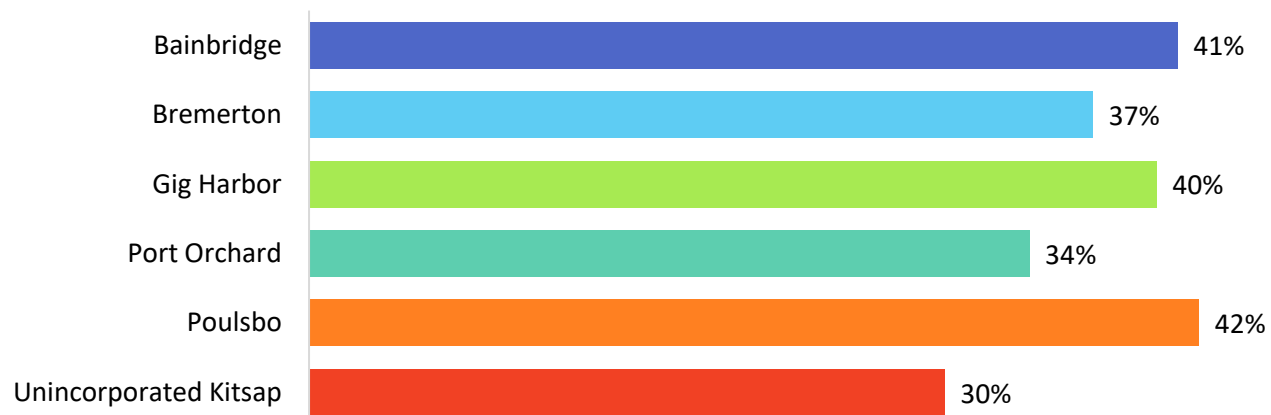


Table 12. Current attitudes/behaviors towards using organic lawn fertilizer						
	Bainbridge	Bremerton	Gig Harbor	Port Orchard	Poulsbo	Unincorp. Kitsap
Not interested in using organic lawn products	0%	5%	2%	4%	2%	3%
Never thought about it	3%	17%	12%	6%	7%	8%
Thinking about it	9%	17%	17%	18%	14%	16%
Planning to do in near future	9%	7%	7%	8%	7%	7%
Sometimes use organic	11%	20%	31%	21%	21%	18%
Always use organic	34%	17%	21%	11%	14%	15%
Not interested in using <i>any</i> lawn products	34%	17%	10%	32%	35%	33%

Chart 38. Percentage of respondents who say the Natural Yard Care messaging is "likely" or "very likely" to influence their lawn care practices



Note to readers: Port Angeles is not included in Charts 8-11, as the sample size from that jurisdiction was too small to allow calculations.

Chart 39. Self-reported fertilizer use within the past few years  
(social media respondents)

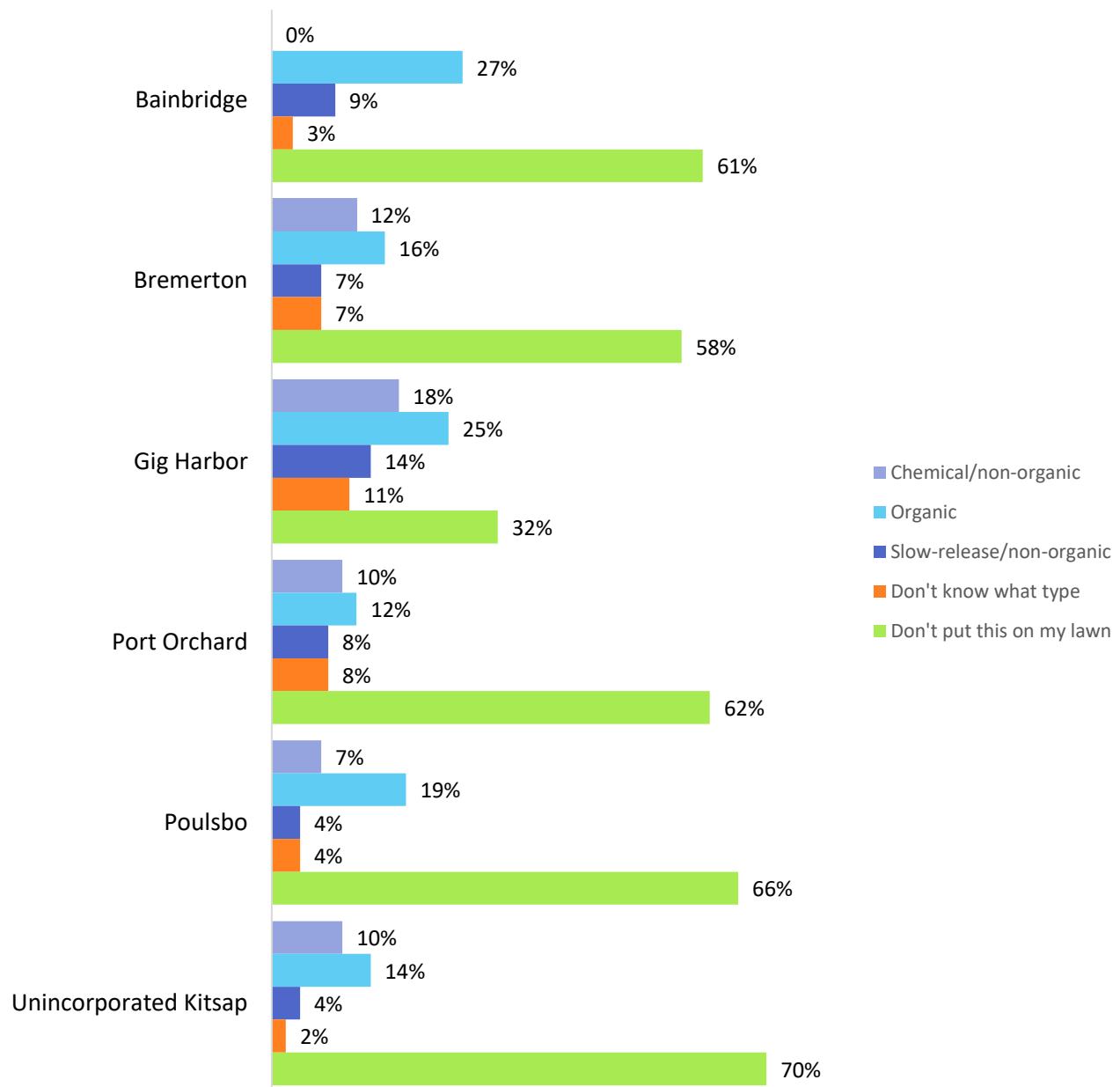


Chart 40. Self-reported use of weed & feed-type products within the past few years (social media respondents)

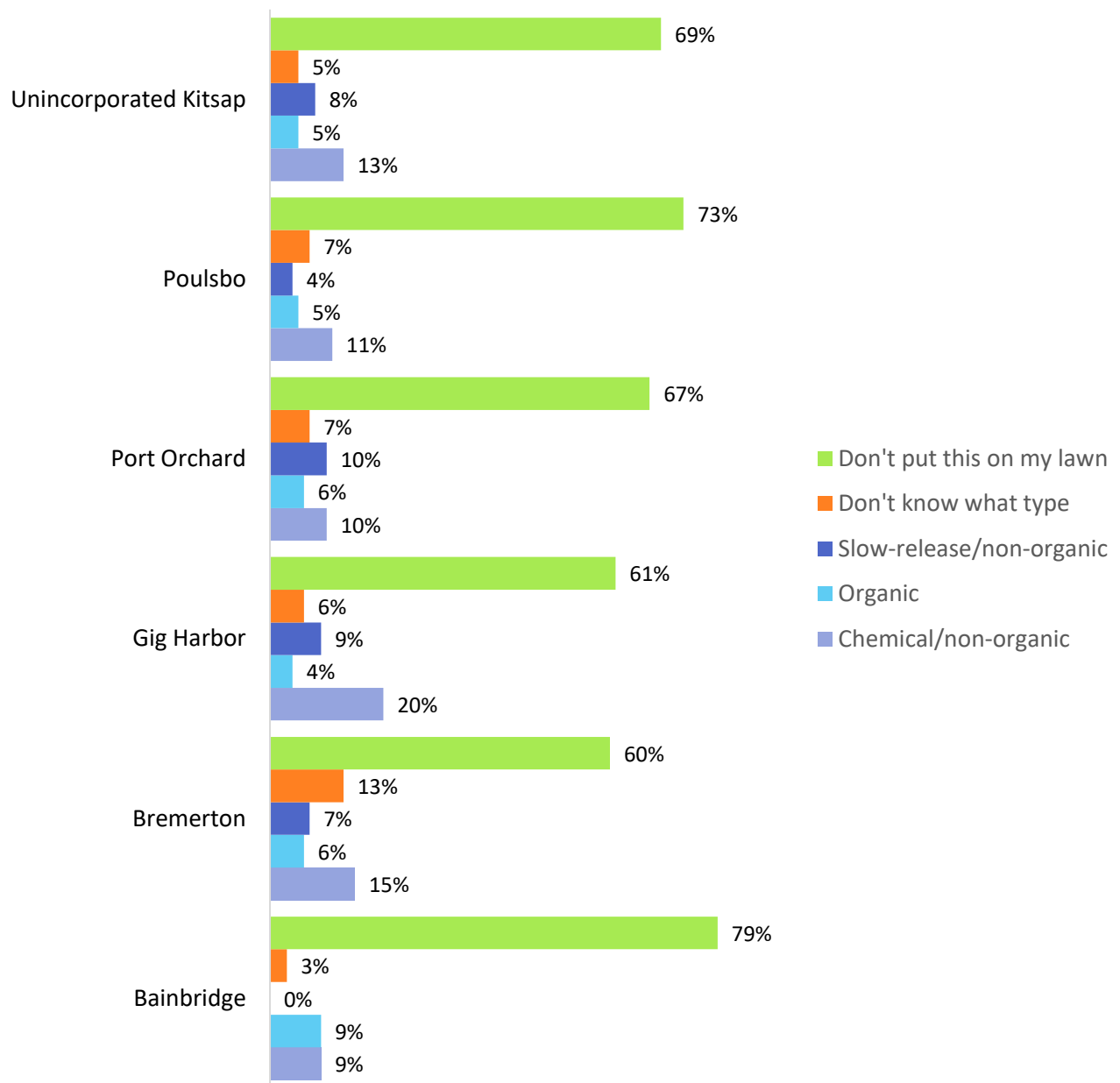


Chart 41. Self-reported use of weed killer within the past few years  
(social media respondents)

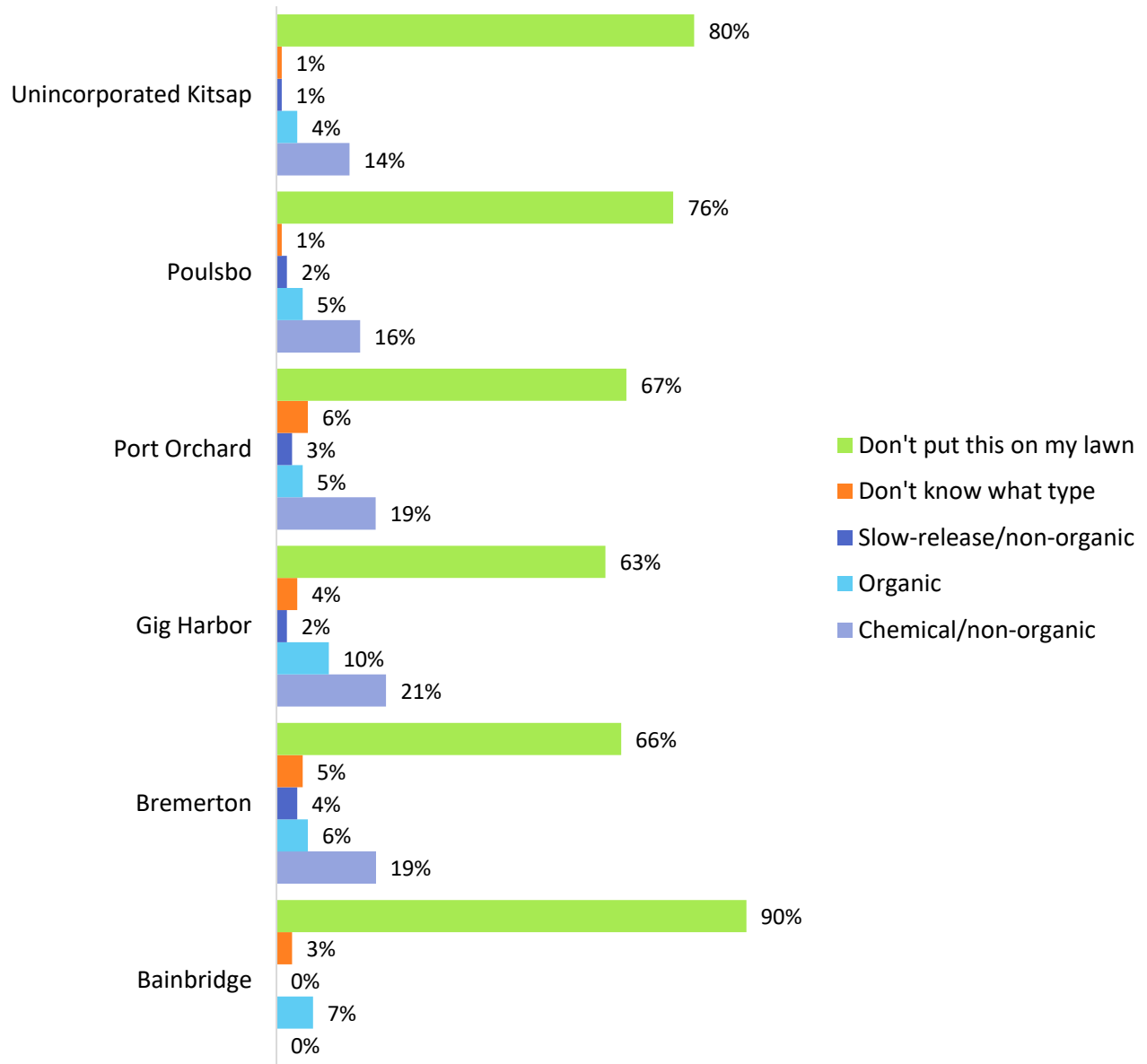


Chart 42. Self-reported use of moss killer within the past few years  
(social media respondents)

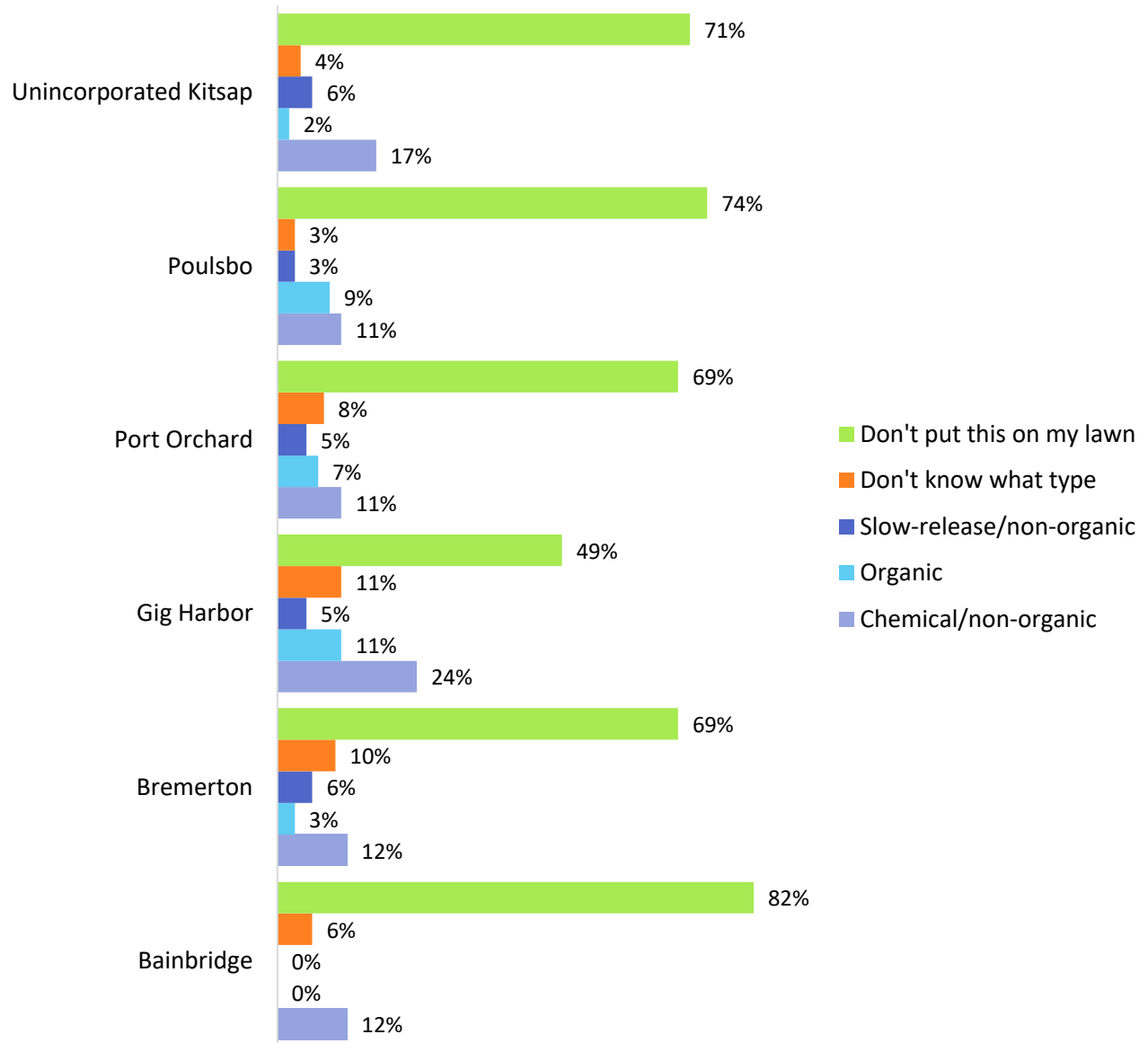


Table 13. Responses to, *“Is there anything else you’d like to tell us about your lawn care practices or the topic of natural yard care?”*<sup>45</sup>

(Combined sample of direct mail & social media survey respondents)

	Bainbridge Island	Bremerton	Gig Harbor	Port Angeles	Port Orchard	Poulsbo	Unincorp. Kitsap
Listed additional NYC steps they take	37%	32%	24%	27%	27%	21%	32%
Alternatives to lawns <sup>46</sup>	23%	18%	12%	26%	19%	31%	16%
Motivations for avoiding chemicals	16%	19%	24%	17%	16%	17%	19%
Identified need for learning/resources	14%	16%	18%	12%	15%	14%	19%
Don’t do anything to our yard but mow	10%	9%	0%	17%	5%	14%	9%
General agreement with/appreciation for campaign	19%	7%	6%	6%	4%	7%	9%
Barriers to using organic	3%	6%	14%	2%	0%	3%	5%
Comments on lack of agency <sup>47</sup>	1%	0%	12%	0%	4%	0%	2%
Other comments	12%	13%	8%	15%	15%	17%	12%

<sup>45</sup> Since respondents sometimes mentioned more than one topic in their response, totals may exceed 100%.

<sup>46</sup> Includes people who said they wanted to learn how to reduce or remove their lawn as well as those who said they’re in the process of doing so.

<sup>47</sup> These refer to respondents who said they didn’t have control over their lawn care decisions. The majority of these referenced HOA guidelines that dictated their lawn care; a few referenced somebody else in their household who made the lawn care decisions, like a partner or roommate.

## APPENDIX B. TOPICS THAT RESPONDENTS WOULD LIKE TO LEARN ABOUT & RESOURCES THEY'D LIKE TO HAVE

Note to readers: Respondents to both surveys had the opportunity to make any general comments they wanted regarding their own lawn care practices and/or the topic of natural yard care in general. As reflected in the table below, many people took the opportunity to mention a topic they'd like to learn about, a challenge they needed help with, or a resource they would find helpful. We have also included verbatim comments of appreciation for the campaign, which also provide a sense of the resources/knowledge respondents found helpful.

Table 14. Responses to open-ended question about lawn care that reflect need or interest in learning/resources	
Verbatim responses	Response categories
Having waterfront property, it is very important to have non-toxic alternatives for my lawn. How are these products identified and where are they sold?	<b>Questions about nontoxic weed control</b>
I need help in fixing a severe weed problem and don't know what organic products to use or where to go for help.	
Weed and feed really works for keeping the weeds under control. Would be interested to learn more about organic options that do not require many hours of manual labor to manage weeds on a lawn our size.	
I'm tempted to use a chemical to kill all the buttercup that is taking over our lawn but there don't seem to be any obvious organic options. Any suggestion?	
I use organic products when they are available. I know of no organic weed control products.	
I'd love to learn how to keep a lush green moss free yard using natural nonharmful products.	
I use organic products when they are available. I know of no organic weed control products.	
How to get rid of the blackberry shrubs at my back yard?	
I don't have kids, and I love how wildlife is safe to use my yard. Although I do mow, I have dandelions, daisies, clover, etc. instead of lush grass, mainly because I prefer to have frogs and deer. HOWEVER, lately I have gotten a bunch of Herb Robert and how do I get rid of it without products? It's everywhere.	
Natural pest and weed control are big concerns to me. We have mostly edible and ornamental plants, and I don't want to use chemicals on the food or where the dog may walk. We have lots of aphids and mosquitoes.	
Hard to control weeds, like dandelions, without weed killer.	
Can't seem to get rid of the crabgrass and others without using weed and feed	
I wish there was treatment for weeds AND moss that isn't dangerous and works the first time. I have a lot of wildlife walk through my yard. Therefore, I am trapped dealing with a huge weed problem.	

I sure like to save the wildlife from the noxious chemicals. Drat the invasive weeds.	
Concern exists over nonnative vegetation spread and what resources are available to help prevent that.	
I'd love a webinar on invasive plant management, we are struggling with that a great deal!	
Invasive plants need addressing, how to deal best with blackberries or marsh butter cup or any other common issues.	
Moss killer is the only product we use. We don't use any other lawn products, although I would be interested in organic safe weed killers.	
It's a struggle to keep flatweed in control. I also wonder if my neighbors judge me as lazy because I have a natural lawn.	
(We) mow 2.5acres weekly and about 2 acres (pasture) once a year. I don't water or fertilize but I do use brush killer to tame scotch broom and other brush. I wish there was an effective organic solution to killing that stuff.	
I'm not interested in fertilizing my lawn as much as I'm interested in getting rid of the weeds.	
Perhaps, providing a table of examples of healthier products to use in place of commonly used products. For example, weed and feed. I really haven't found anything that works as reliably, and our HOA doesn't allow weeds, so as much as we don't like to, we use the prescribed amount as necessary to keep things under control. If we win that gift card maybe we can put it to use buying some better products :)	
I'd also like to know what is most effective and natural. A few of the natural weed killers I have used either didn't work or took a really long time to get results.	
I believe most people would choose organic even if more expensive. A beautiful lawn is a gift to oneself and important - killing weeds in the most environmentally friendly way would be helpful.	
Natural yard care that I have tried does not kill weeds or moss and doesn't keep grass as green. If something great exists I'd love to know about it.	
I'm looking at ways to safely kill weeds in my non-grass areas: fence line in the woods and landscaping areas. That interests me a lot. I want the brambles and weeds gone but not kill my dog or other natural critters.	
I do not use spray weedkillers and wish to avoid toxins as much as possible. I pull weeds by hand but what an ongoing pain. Tips on keeping weeds at bay naturally are much appreciated!	

Would love design help getting rid of my lawn and creating a yard area that is beautiful and needs only natural rain.	<b>Alternatives to lawns</b>
We're looking to minimize the amount of lawn around our home and replace with natural landscaping over the next few years.	
I'm actively trying to turn my lawn into anything but! Trees, native meadow species, etc.!	
I hate having a lawn. I think we should get rid of lawns and have meadow. But I live in an HOA.	
More information on removing or decreasing the size of a lawn would be valuable information on these mailers. For a sustainability standpoint, that's an interest for many.	
We plan to eliminate as much "lawn" from our yard as is practical. Grass is not sustainable.	
If I had the time and money I'd put in a natural meadow lawn and mow very little.	
Any thoughts on putting out info on native alternatives to lawn? Stats on mono crop grass related to watering, mowing etc. vs a native clover etc. may be helpful info. Check out: <a href="https://www.tiktok.com/t/ZT81gDVVm/">https://www.tiktok.com/t/ZT81gDVVm/</a> <a href="https://www.tiktok.com/t/ZT81gP9Wa/">https://www.tiktok.com/t/ZT81gP9Wa/</a>	
I am looking to slowly eliminate my lawn and replace it with wildflowers and native plantings.	
I'd like to transition to a meadow instead of lawn. As it is, my lawn has a lot more than just grass- moss, dandelions, clover and weeds.	
We have three lawn areas. We are letting one of them turn into a meadow. We use a small amount of fertilizer on the lawns once a year.	
Lawns are horrible and if we weren't renting, I would switch to a rain garden or landscaping with native flowers	
Transitioning away from grass to clover but would like native alternatives to better support wildlife.	
Grass lawns are time consuming to maintain, we'd rather hike and hang out so we've covered much of our lot with wood chips and gardens (ornamental, veggie and fruit trees.	
I want a lawn that is bee and butterfly friendly. We even want to turn our lawn into clover lawn instead of expensive maintenance of the grass which does not benefit anything except for aesthetic purposes. Less watering for my lawn I'd rather have tons of plants.	
I think focus should be on low maintenance, water-free lawns- such as replacing grass w clover.	
We'd like to change our lawn area into more of a natural growth area, with just paths.	
I'm intending to plant about 1000 sq.ft in the backyard in clover which will require less water and less fertilizer.	
I would like help having a non-grass yard.	
We're trying to relandscape to get rid of our lawn and minimize watering and need for chemicals.	
I hope to reduce my lawn space by adding shrubs and xeriscaping. I don't want to have to mow.	
Trying to replace grass with other growing lawn plants.	
I'm getting rid of the lawn as soon as I can afford to replace it.	

We also don't water it. More interested in reducing the mowing needed, so alternative groundcovers would be of interest.	
Why do we have lawns in the first place? Stupid mono-culture waste of energy/water/time.	
We are gradually replacing lawn with other plants and hardscape.	
I hope to move to xeriscaping.	
Provide customers with more info on growing native plants, less lawns.	
Like to replace lawn with local plants and clover. Time, money and knowledge slowing me down.	
Would prefer to get rid of grass and go with natural ground cover consistent with Western Washington conditions.	
Trying to have less grass and more rain garden and natural.	
Personally, I think that the American lawn is a strange idea, lawn care is weird when you think about it. Oh, here's a piece of land I own with a crop you can't eat and no flowers. What's the point of this? Why do we kill weeds when they don't threaten food plants, why do we try to keep the lawn a certain level of green, a certain height that's to everyone else's standards. I want to plant flowers and berries.	
We don't water our lawn! Lawns are an ecosystem abomination. I'm slowly taking over ours with garden beds and shrubs.	
I am slowly removing the grass as I am able and replacing it with as many native plants as I can.	
I have way too much lawn but can't afford native plants to switch it over to something easier to maintain. Would love to create a woodland for animals and to stop using lawn products.	
We are downsizing the lawn space with native perennials that grow in the existing soil type.	
Planning to replace grass with something more productive.	
I would honestly like to just remove our lawn altogether and replace it with native plants, a native plant meadow.	
We want to decrease size of lawn to reduce water use and add native plants.	
Would like to replace grass with clover. Would also like to use more native ground cover plants.	
Lawns in general, what a PITA. Wish there were better options that didn't require mowing, chemicals, etc. that were communicated to County residents.	
I have a mostly wooded lot and don't do anything to the small patch of grass other than occasional mowing. However, I have planted native Washington plants in my yard. I hate lawns in general, but if I absolutely had to, I would absolutely use organic lawn products and do whatever necessary to protect the watershed.	
We're planning on eliminating the lawn.	
Working towards a lawn that's full of pollinators and native plants.	
I use no chemicals on my lawn or in my garden. When needed, I use all-natural pest repellent for deer, rabbits and slugs. I am considering "smothering" the rest of the front yard and creating a meadow style front yard in addition to planted beds where I only use compost.	
We are slowly eliminating our lawn.	

I have reduced my lawn in the past 3 years by 60% due to looks and cost of keeping it green during the summer. I am still looking for more ways to reduce (have replace with shrubs and flowers).	
We've been converting part of our lawn to mostly native plants that are drought tolerant. We love it and hope more people will embrace the practice.	
Moving to native foliage.	
I actually don't want a lawn since it requires too much maintenance to look acceptable but letting it grow naturally looks socially unacceptable. I'm going to put in the effort to dig up the lawn and rebuild it as a garden space. Impressing others with a perfect, flat, green lawn just isn't economically feasible anymore.	
We only mow because we have an HOA. If not for that, our yard would be a meadow.	
Less grass, more native flowering plants.	
I can't wait to pull the grass out one day.	
I would like to install artificial turf and get rid of the grass if it was affordable	
I'd like to hear more about alternatives to lawns...	
I'm going to check out the website further, but if the county can offer some information on grass alternative lawns, I would love to hear it as I'm looking into making this leap myself.	
I would be interested on what to place in my yard that is native to the area to help the bees.	
I'd be interested in information about what I can swap out for grass that still allows me to walk around. In particular, how can I encourage moss?	
I would like less lawn but don't know how.	
We're trying to eliminate portions of our lawn in favor of more native plantings.	
I think more people should be embracing a "wild" yard. I am not talking about letting it grow out of control, but this manicured landscape business is ridiculous, even with "natural" or ecofriendly products. Natural ground covers, wild flowers, and other native flora are the way to go. I liked your past promotions for xeriscaping and rain gardens.	
I actually want to get rid of most of my yard and plant native shrubbery that would not require watering and minimal upkeep.	
Looking into lawn replacement with natural plants, still want some lawn but want to minimize.	
We are replacing the grass with native and edible trees, shrubs, and ground covers as fast as we can	
It has been challenging to effectively maintain a lawn here. We have considered lawn alternatives (turf or rocks).	
We know other people would be motivated to remove their lawns if there was a financial incentive like other places are doing.	
We just had all our grass/weeds ripped up and plan to replace it with clover.	
I'd like to know how to turn part of it into a sustainable meadow.	
We are regrowing patchy areas with clover. It's going great but we have concerns about reselling value.	
We don't water or fertilize. Just mow. We are interested in eliminating some lawn area.	

I think grass lawns are rather ridiculous. If I could cultivate a lawn comprised of pure red clover for example, I would do it, and never mow it. But unfortunately these dang blackberries would take over so mowing is a necessity, at least during the spring	
I'm always trying to expand native plant garden beds and decrease lawn size. Also do minimal watering in summer.	
I'm team kill-the-lawn! Tips on converting to natural/pollinator habitat or food forest would be great.	
Trying to let areas of the estate go back to nature, only letting a certain area get cut and maintained. Turning other areas into gardens to cut down grassy areas	
I'm planting more grass area into wildflowers.	
The County's messaging should focus on how families can turn lawn into garden space.	
Many in our subdivision are considering clover lawns (less maintenance, drought tolerant, bee-friendly).	
Is it okay to plant a flower meadow in my back yard?	
We'd prefer a natural habitat vs lawn for much of our yard but the time and cost to make the change is a barrier and we aren't sure about upkeep.	
A seminar on getting rid of grass and sustainable alternatives to lawns please.	
I'd like to see a class or tutorial on landscaping to eliminate grass, using native plants and still have it friendly to birds and other wildlife.	
We are trying to shrink our lawn by removing grass and planting native plants and adding more fruit and vegetable garden space.	
I'm in the process of planting entirely native plants in my yard.	
I'd love more information to be available around converting a grass yard to a natural/more resilient yard. I am looking to convert nearly all of my grass to clover and wildflowers, so having information about the best types of clover/grass replacement/ natural ground cover specific to our area would be wonderful!	
I'm not sure this is the right place for this, but I'm more interested in learning about "no-mow" lawns, such as clover lawns, etc... so having something regarding that would be more up my alley.	
Biodiversity is important, so I've reduced unnecessary lawn areas in favor of planting flowers and herbs.	
I would like to see the county encourage lawn alternatives, like native plants/flowers instead of lawns, which are terrible for the environment for several different reasons.	
We're trying to eliminate the lawn and replace it with native wildflowers and clover.	
Watering a lawn to maintain it seems unwise to us, so alternatives to lawns are of interest.	
Lawns should be discouraged and natural, native plants that can survive without fertilizers & excessive watering should be encouraged. My plan is to do just that in the near future.	
I would love to have native plants instead of a lawn. It's what the house came with and I can't afford to change it.	
We'd like to see less lawn more natural landscape.	
I would like to move away from grass to a more natural landscape.	

I'd like more readily available info on how to replace grass with clover, natural/native grasses that don't need (to be) mowed.	
We have turned more of our lawn area back into natural habitat, with indigenous plants.	
Why not promote turf? Grass for a lawn of my size only provides aesthetic, which turf could provide without wasting water and damaging the environment with lawn care products.	
We are thinking about getting rid of the grass in our front yard and replacing it with terraced natural vegetation. We have a sloped yard and would appreciate any guidance.	
I recently moved here from California. Due to many years of drought, residents in CA have been encouraged to grow native plants instead of grass lawn which is water consuming and hard to care for. Native plants are easy to care for and make our yard more interesting and beautiful.	
Encourage electrifying lawn care equipment for 3 reasons: less pollution, less noise, fewer climate change gasses. Both individuals and lawn care companies should be encouraged to switch to battery powered machines.	Would like to see policy change
It would be helpful if the City or other local agencies could work with HOAs who put great emphasis on lawn appearance (which wastes water to keep grass green and potentially places chemicals into the environment through use of fertilizers, etc.), and promote more natural yards and landscapes that fit with the local ecosystems and encourage growth of native plants. I have only owned my home for about a year, and I acknowledge that I have not sought out our particular HOA's rules for native landscapes, however they do seem to place emphasis on simply having green grass.	
Say - this might not be the right mechanism to complain about roadside poison, but good God! Stop using it! Just mow a couple times a year, would you? that poison creates dead vegetation which looks a lot worse than the occasional overgrowth. Plus, it kills all the frogs that hang out in the drainage ditches. Despicable practice!	
I am reducing the number of times I cut the lawn and reducing the watering schedule to conserve water. I think the county should mandate organic fertilizer and prohibit the use of Round Up and other like products such as Ground Clear. Our environment is critically important, especially given unchecked development and destruction of our natural habitat.	
There shouldn't be any chemicals used on waterfront property! And string trimmers are a major plastic pollutant (where do people think that plastic line goes when it breaks?) All gas-powered lawn equipment should be banned! It's a ridiculous practice, contributing to climate change and adding more plastic, including micro particles to the environment! Only human powered equipment, e.g. push lawnmowers, should be used for regular lawn and garden maintenance. It'll never happen, but it should!	
My HOA (technically an ROA) insists that each residence have a well-kept grass lawn. I would love support from the local government to make other types of natural ground cover available and acceptable.	
My HOA (technically an ROA) insists that each residence have a well-kept grass lawn. I would love support from the local government to make other types of natural ground cover available and acceptable.	
I wish hardware stores would have to post warning signs in their lawn care section.	
We should have a rule in Gig Harbor that houses can't require lawn- would rather have low water native landscaping. Would like to see seminars on this with resources for homeowners.	

If HOA's were no allowed to dictate no clover lawns, we could plant more environmentally sound yards.	
We think natural lawn care (including chemical free weed management) is VERY important, but we live in an HOA that sprays roundup on every common surface. We need resources to share with the HOA board to convince them that there are better alternatives that will work.	
I would love to see a push towards allowing more natural yards instead of the cookie cutter 1950s green lawn. I don't mean for it to look bad, but I think it's ridiculous that my HOA won't allow clover when it is extremely beneficial and now it's even a trend to replace your grass with it.	
I see more and more neighbors put in in-ground sprinkling systems, and wonder if this is better than careful hand watering.	Questions & comments about watering
More info on watering guidance.	
I think water use also needs to be a topic of conversation. An Airbnb is by our house and they excessively water the very small yard.	
More education around watering and grass types best suited for the PNW.	
It consumes too much water. I don't want my yard to look bad and dead, but I also don't want to consume so much water watering it. Catch 22.	
Organic always sounds good but why is it safer/better than inorganic? Don't just say it's better, teach me why.	Questions about organics & labeling
Hard to find things that are truly organic.	
I would like to do what is right for the environment. I just wish it was more obvious on lawn treatment packaging to be able to tell if it's harmful to the environment, insects, animals, etc.	
I've always preferred organic treatments, but they are often ineffective so a lot of research on effectiveness has to be done before purchases are made.	
I would be absolutely excited to use organic products to fertilize and kill weeds in my yard if I were sure they were actually "organic", better than the currently used products, and priced commensurate with non-organic products.	
Sometimes it is difficult to find organic products that work well.	
I would be more inclined to purchase natural/organic lawn care products if I knew which ones were effective.	
I have to educate myself about organic lawn care. I have a rain garden and I am interested in organic lawn care.	Need general guidance on organics
I'm very interested in anything that supports our goal of maintaining plants on our property that take less water and feed wildlife or our family and are healthier for the local water systems (no chemicals).	
I'd like to learn more about what to use!	
We prefer natural lawn care but are just unsure how it will affect the lawn we are trying to grow.	
Education on ways to do better is most helpful.	

Knowing where to easily access information about natural remedies for moss and weeds and general grass care as well as reducing grass and replacing with alternatives would be helpful.	
I think you should also address chemicals put on flower/shrub areas. I am guessing many areas, especially along roads, use a fair bit of fertilizer.	Education needed (for other people)
I don't use any chemicals because I have honeybees. I think that using pollinators for an advert like this could also be very effective.	
Please educate the community on the principles of permaculture, no dig and using native grass or other annuals to reduce water usage and not need to spray weed kill or synthetic fertilizer.	
Prefer organic methods, but efficacy often leads to the use of non-organic methods. Not only lawns, but beds, vegetable gardens, plant pests, etc. Knowledge and improved products will increase use of organic methods.	
I wish people REALLY knew the dangers of products like Round-Up; our neighbors use has made our dogs sick. I can smell it when she sprays. I've seen her spray plants, pull them up, and throw them in the ocean (we live at the beach). It's just horrible. She told me once "it just goes away." So she clearly doesn't understand the impact. Also, I wish people would understand the importance and fragility of bees and other pollinators.	
I've converted more than half the "lawn" (yard grass) to food + ornamental native and other perennial plans. Certified as Backyard Wildlife Habitat by the state of WA. Neighbors let weeds spread, which is frustrating, because their seeds infest my yard, and I weed by hand/tools. They also let a weed grow on sidewalks and easements that is dangerous for dogs, and we all walk dogs there and on street.	
A large portion of our "lawn" is devoted to planting beds that are focused on native plants or on plants that provide food, nectar, or shelter to bees, birds, butterflies, etc. We never use insecticides or herbicides. There needs to be more education about not dumping plant refuse in wild areas, as our neighbors often do, as it can start invasive plants growing in native areas. Bainbridge Disposal's program to accept lawn refuse is a terrific option.	
I'd rather everyone replace their lawn with other, more sustainable vegetation altogether. I hope this is encouraged even more so than "more natural" lawn care practices.	
Rain gardens or edible gardens should be encouraged. Better for our environment.	
Consumers are oversold on weed and feed. The big box stores could do more education on issues with it.	
Consumers are oversold on weed and feed. The big box stores could do more education on issues with it.	
I wish less emphasis was placed on having a green lawn and more on creating rain gardens. Watering grass can be a waste of water and its usage should be very targeted to specific areas like outdoor parks.	
City of Bremerton needs to encourage resilient lawns, not perfect lawns. Climate future unknown. No need for large water bills to maintain grass in summer. Not safe to apply most products	
Let's also try to address leaf blowers—so many reasons and I do not think people understand how terrible they are for our environment-they think about the air quality issues but don't realize the effects the quality of the soil, the things that grow in and around our garden beds and of course the noise.	

It's not just about lawn care- think about those who mow and the clippings are all out on the street- or those who blow their leaves out on the street- don't people have any common sense.	
I wish you would spend money educating people about how many options there are for no-grass lawns using more diverse, native plants. I do appreciate you are doing harm reduction but does organic fertilizer actually do less harm to our waterways than non-organic? Doesn't it all have a negative impact?	
I allow my grass to go dormant when the temperatures rise. I wish more homeowners would adopt this practice to conserve resources.	
How to get rid of moles.	Help with other challenges
We have a lot of moles in our area so it would be nice to know about how to control them.	
Can't think of anything right now, except for the moles are becoming a problem.	
I would be more likely to learn more about natural garden products, for example, natural ways to keep slugs away from dahlias.	
Info on how to landscape over our septic drain field which is now grass.	
Didn't really address moss control.	
I would love to use a product that could improve the health of my lawn as it's full of moss and definitely could use some fertilizer. Would like recommendations for homes with pets and, more importantly, backyard chickens, rabbits, goats, etc.	How to improve lawn health in general
I'd like to learn about composting and natural nutrients lawns/gardens need.	
Our soil is super sandy. Like a sandbox. How do we fix that?	
My lawn is very compacted and not in very good shape. We purchased this house 5 years ago and want to improve the curb appeal and overall lawn health.	
The webinar was very helpful, because we've been concerned about our impact on water, and I came away with very practical things to try.	Appreciation for campaign
I appreciate the efforts to educate & help homeowners make better decisions that will reduce harmful runoff!	
I applaud natural yard care.	
I support you in anything you can do to support healthy lawn practices, appreciate your efforts very much, and hope they are effective!! Thank you!!!	
For us, it was a bit of "preaching to the choir," and it doesn't really take much to convince us to go organic (because) we already do, and we use zero pesticides, etc. But! We are so glad you are spreading this message - I hope it connects with people who haven't considered it in the past. Thank you!	
Thank you for trying to make households more aware of how the practices they use to maintain their lawn affect other humans and animals.	
I support you in anything you can do to support healthy lawn practices, appreciate your efforts very much, and hope they are effective!! Thank you!!!	
Love this offer, the webinar was helpful too.	
I think this is a good topic to get people to think about the undesirable effects of fertilizers and pesticides for lawn care.	
Thank you for trying to educate residents. Be very explicit about how terrible weed and feed products are.	

Thanks for trying to influence our community to learn healthy environmental practices.	
Thanks for making me aware that there are natural fertilizers out there. I don't normally fertilize, but good to keep in mind. I'm all for organic stuff and know the hazards of the bad stuff.	
I appreciate the County's efforts!	
We do the cheap and natural things for lawn care, and it works so far. But it takes a lot of personal hours (versus an afternoon of spraying) so we understand that not everyone has that availability; good effort that the County is doing.	
I appreciate that Kitsap County offers these types of resources for homeowners! They are not only good for homeowners but for our environment as well!	
We in your audience are all adult learners, so in an awareness / action campaign like this, giving us “adult learners” the why and repeating the message for us is needed to get us to adopt new SOPs on anything. Everything about this campaign is really well done and has probably created the most engagement and influence on me as any other outreach campaign. Nice job!	
I would appreciate receiving a coupon for organic fertilizer or mulch that I can use to apply twice a year (Spring and Fall).	Other suggestions for resources
Be like California and pay us to rip out our lawns and put in natural, native plants. It would save us, and you, a lot of money spent on watering!	
It was a terrible loss losing the 2 yard waste pickups that City of Port Orchard used to provide its citizenry.	
It would be helpful if yard waste was picked up more in the spring.	
Would love more support for removing noxious weeds, like free disposal.	
We put items in our composting trash can. It would be nice if we had options to pick up some of the composted material for yards.	
I would like to see a natural fertilizer pickup location in Port Orchard.	
More information on local plants and things that are native to the area.	
I would love free classes taught in our community.	

## APPENDIX C. INSTRUMENTS

### DIRECT MAIL SURVEY: TREATMENT & CONTROL VERSIONS

Thank you for taking the time to complete this short survey. Your responses will be confidential, and we will only share combined (not individual) responses when reporting results.

As you read the questions, please answer for your household as a whole. And be sure to enter your email at the end if you'd like to enter the drawing to win a \$100 Amazon gift card.

\* 1. First of all, what is your current zip code?

\* 2. Do you have a yard with grass at your home?

- ☐ Yes  
☐ No

3. Do either of these apply to your current household? (Check any that apply)

- ☐ We have children living at home (not including adult children)  
☐ We have a pet dog or cat with access to the yard  
☐ None of the above

4. What size is your lawn? (Either in square feet or acres. A rough estimate is fine.)

\*5. Do you maintain the grass yourself or use a lawn care company?

- ☐ Maintain it ourselves  
☐ Use a lawn care company

\* 6. Which of these products, if any, have you used on your lawn in the past few years? (Check all that apply)

- ☐ Natural or organic fertilizer  
☐ Non-organic fertilizer  
☐ Fertilizer & herbicide combination (weed & feed)  
☐ Weed killer  
☐ Moss killer  
☐ Other (please describe)  
☐ None of the above

\* 7. In terms of using natural/organic products on your lawn, which of these best describes you right now?

- ☐ I am not interested in using natural/organic lawn products
- ☐ I've never thought about using natural/organic products on my lawn instead of non-organic
- ☐ I am thinking about using natural/organic products on my lawn instead of non-organic
- ☐ I am planning on using natural/organic products on my lawn in the near future instead of non-organic I sometimes use natural/organic lawn products
- ☐ I only use natural/organic lawn products
- ☐ I am not interested in using any products on our lawn

Comments

\*8. Within the past couple of months, did your household receive this postcard in the mail?

- ☐ Yes, we received it
- ☐ Not sure
- ☐ No, I don't remember receiving it

9. When you received it, do you recall doing any of the following? (Check all that apply.)

- ☐ Read it over
- ☐ Skimmed it
- ☐ Signed up for one of the webinars on natural lawn care
- ☐ Used the coupon for discounted natural/organic lawn fertilizer
- ☐ Planning to use the fertilizer coupon before it expires on 6/18/23
- ☐ None of the above

Comment

*The two question below was substituted for questions 8 and 9 in the control version of this survey.*

*\* 8a. Within the past couple of months, do you remember seeing either of the ads below on social media or elsewhere?*

- ☐ *Yes*
- ☐ *Not sure*
- ☐ *No*

9a. After seeing the ad(s), did you do any of these actions? (Check any that apply)

- ☐ Signed up for one of the webinars on natural lawn care
- ☐ Used the coupon for discounted natural/organic lawn fertilizer
- ☐ Planning to use the fertilizer coupon before it expires on 6/18/23
- ☐ None of the above

\* 10. Looking at the ads now, how likely is it that this this messaging will influence your lawn care practices?

Very unlikely

Unlikely

Not sure

Likely

Very likely

☐☐☐☐☐

10a. Why do you think this message is unlikely to influence your household's lawn care practices?

- ☐ The message isn't aimed at us, because we don't use fertilizer of any kind on our lawn.
- ☐ The message isn't aimed at us, because we only use organic/natural fertilizers on our lawn.
- ☐ Because we're not interested in switching from weed & feed to natural/organic lawn fertilizer.
- ☐ Other (please describe)

11. What's the primary reason you are unlikely to try natural or organic fertilizers on your lawn? (Check all that apply.)

- ☐ They don't work as well as chemical fertilizers
- ☐ I don't think the products we're currently using are harmful to my household's health
- ☐ I don't think the products we're currently using are harmful to the environment
- ☐ The natural/organic products are too expensive
- ☐ Other reason (please describe)

11. Is there anything else you'd like to tell us about your lawn care practices or the topic of natural yard care?

12. If you'd like to enter the drawing to win a \$100 gift card, please provide your email. Your email will only be used for this purpose.

Email Address

Thanks very much for your feedback. We truly appreciate it.

## SOCIAL MEDIA / OTHER ONLINE SOURCES SURVEY

Thank you for taking the time to complete this short survey. Your responses will be confidential, and we will only share combined (not individual) responses when reporting results.

As you read the questions, please answer for your household as a whole. And be sure to enter your email at the end if you'd like to enter the drawing to win a \$100 Amazon gift card.

\* 2. To make sure we are receiving responses from real people - not robots - please **select B** as your answer choice below.

- ☐ A
- ☐ B
- ☐ C
- ☐ D

\* 3. Which of the following best describes your residence?

- ☐ Single family home
- ☐ Townhome or duplex
- ☐ Multi-unit condominium or apartment

\*4. Does your property have a yard that includes grass?

- ☐ Yes
- ☐ No

\*5 Do you maintain the grass yourself or use a lawn care company?

- ☐ Maintain it ourselves
- ☐ Use a lawn care company

6. Do either of these apply to your current household? (Check any that apply)

- ☐ We have at least one child under 18 living in the household
- ☐ We have a pet that sometimes or regularly goes into the yard
- ☐ Neither of the above

\*7. For each of the following products, please indicate which, if any type, you put on your lawn.

	Chemical/non-organic	Organic	Don't know what kind	Don't put this on my lawn
Fertilizer				
Weed killer				
Weed & feed				
Moss killer				
Other (please list)				

8. What size is your lawn? (Either in square feet or acres. A rough estimate is fine.)

\* 9. In terms of using natural/organic products on your lawn, which of these best describes you right now?

- ☐ I am not interested in using natural/organic lawn products
- ☐ I've never thought about using natural/organic products on my lawn instead of non-organic
- ☐ I am thinking about using natural/organic products on my lawn instead of non-organic
- ☐ I am planning on using natural/organic products on my lawn in the near future instead of non-organic
- ☐ I sometimes use natural/organic lawn products
- ☐ I only use natural/organic lawn products
- ☐ I am not interested in using any products on our lawn

Comments

\* 10. Within the past couple of months, do you remember seeing either of the ads below on social media or elsewhere?

- ☐ Yes
- ☐ No
- ☐ Not sure

11. After seeing the ad(s), did you do either of these actions? (Check any that apply)

- ☐ Signed up for one of the webinars on natural lawn care
- ☐ Used the coupon for discounted natural/organic lawn fertilizer
- ☐ Neither of the above

Comment

\* 12. Looking at the ads now, how likely is it that this this messaging will influence your lawn care practices?

Very unlikely

Unlikely

Not sure

Likely

Very likely

☐☐☐☐☐

13. Why do you think this message is unlikely to influence your household's lawn care practices?

- ☐ The message isn't aimed at us, because we don't use fertilizer of any kind on our lawn
- ☐ The message isn't aimed at us, because we only use organic/natural fertilizers on our lawn
- ☐ Because we're not interested in switching from weed & feed to natural/organic lawn fertilizer

Other

14. What is it about the messaging (the words and/or pictures) that you think will influence your household's lawn care practices?

15. What's the primary reason you are unlikely to try natural or organic fertilizers on your lawn? (Check all that apply.)

- ☐ They don't work as well as chemical fertilizers
- ☐ I don't think the products we're currently using are harmful to my household's health
- ☐ I don't think the products we're currently using are harmful to the environment
- ☐ The natural/organic products are too expensive
- ☐ Other reason (please describe)

16. Is there anything else you'd like to tell us about your lawn care practices or the topic of natural yard care?

17. If you'd like to enter the drawing to win a \$100 gift card, please provide your email. Your email will only be used for this purpose.

Email Address

Thanks very much for your feedback. We truly appreciate it.

# Natural Yard Care Social Marketing Campaign Evaluation Report

Prepared for:

WSSOG

February 2024

Final report

Kathryn Owen Consulting LLC

# Table of contents

Executive summary	3-5
Background	
History of Natural Yard Care Social Marketing Campaign	6-7
2023 Campaign Elements & Outputs	7-8
Evaluation Methods	8-9
Findings	
Direct Mail Results	10-18
Social Media / Online Results	19-27
Respondent Comments About Their Lawn Care Practices	28-30
Webinar Results	31-35
Results from Retailer Interviews	36-38
Potential Impact on Nutrient Runoff	39-42
Conclusions and recommendations	
43-48	
Appendices	
Appendix A: Results broken down by jurisdiction	49-58
Appendix B: Verbatim comments on learning/resource needs	59-70
Appendix C: Instruments	71-77

WSSOG  
Natural Yard Care Social  
Marketing Campaign

Summative Evaluation

# Overview

## Project purpose & evaluation goals

Kitsap County contracted with Kathryn Owen Consulting LLC to conduct a summative evaluation of the Natural Yard Care Social Marketing Campaign carried out by the West Sound Stormwater Outreach Group (WSSOG), a multi-jurisdictional partnership between Kitsap County, the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The aim of this campaign was to help reduce nutrient runoff - a major source of pollution to local waterways and to Puget Sound as a whole.

The target behavior for the Natural Yard Care (NYC) campaign was to encourage homeowners to switch from weed-and-feed type products to natural or organic fertilizer.<sup>1</sup> The target audience was initially identified as households who a) have a lawn, b) maintain the lawn themselves, and c) have children or pets with access to the yard as part of the household.

This evaluation summarizes findings from the most recent year of this multiyear campaign, which began in 2018. The evaluation centered on exploring the campaign's impact on audience receptivity to the messages, intent to engage in the target behavior, and actual engagement in the target behavior. Towards this end, we surveyed 2481 households within WSSOG jurisdictions. We also conducted in-person and phone interviews with partners (i.e., nurseries and garden centers involved in distribution of a discount coupon for organic fertilizer).

## Evaluation findings

In spite of significant challenges posed by the COVID 19 pandemic, this campaign was able to produce a compelling ad campaign that spoke to the target audiences' interests and concerns and that many said would influence their behavior; to hold a series of webinars on natural lawn care that participants found valuable and that encouraged the target behavior; and to begin developing successful partnerships with local nurseries and other retailers. Key findings include:

- ❖ Roughly 20% of survey respondents have used weed and feed, moss killer, weed killer, or a nonorganic, slow-release fertilizer. Only 5%, however, identified themselves as *"not interested"* in using organic fertilizer.
- ❖ In all, 40% of the audience falls into the "willingness to change" category. They have already thought about doing the target behavior, have planned to start doing it, or have started doing it at least some of the time. Among those who are willing to engage in the target behavior, the challenge of controlling weeds and/or invasive plants was the most frequently mentioned barrier. Among the

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<sup>1</sup> The campaign used the phrase "natural/organic" in most of its marketing literature, which has been shortened to "organic" for readability, unless quoting campaign materials.

audience as a whole, the most prominent barriers were the perceptions that a) organics don't work as well as chemical fertilizer, and b) are too expensive. Respondents – whether from the direct mail or social media survey – were equally likely fall into the “willingness to change” category.

- ❖ One-third of survey respondents said they were not interested in using *any type* of fertilizer on their lawns, and there was significant interest in alternatives to grass lawns.
- ❖ Over a third of the **entire** audience said the NYC campaign ads were “*likely*” or “*very likely*” to influence their lawn care practices. Not counting those who were already using organic exclusively, 19% of the audience showed intent to adopt this new behavior. This translates to a potential 3,457 pounds or 1.72 tons of nutrient runoff diverted from local waterways; if extrapolated to the entire audience reached (not just survey respondents) the figure comes to 23,673 pounds or 11.8 tons.
- ❖ The aspect of the ad campaign the audience found particularly compelling was the focus on things they cared about: protecting marine life and Puget Sound; protecting their children, pets, and families; and protecting nature in general. People also liked the use of direct and compelling words like “*healthy*” and “*safe*,” and some appreciated the offers for fertilizer discounts and webinars. In addition, we found that households with and without children or pets were equally likely to find the ad campaign compelling.
- ❖ The three webinars on natural yard care offered by a Master Gardener were attended by 29 individuals, out of 103 registering. While they reached a fairly small audience, the webinars had a high satisfaction rate, and the majority of attendees said they were likely to recommend the webinars to others. Of the attendees surveyed six months later, the majority reported having taken one or more steps towards natural lawn care.
- ✚ All of the nurseries and garden centers were interested in participating in future campaigns. Retailers’ suggestions included changing the discount to a flat fee rather than a percentage, having discount coupons available on days when there is a workshop or demo on natural lawn care, and collecting additional info to find out whether the coupon is generating a) new customers for the retailers, and b) new users of organic fertilizers.

## Recommendations

- ✚ While there were people who *were not* interested in the target behavior because they don't agree that nonorganic fertilizers pose a hazard – to their households or to Puget Sound – this group was quite small. For this reason, we **recommend focusing future efforts on moving beyond awareness to skill building**. To address the needs of the audience most likely to engage in the target behavior, the campaign could offer follow-up activities that can help people learn how to treat areas of concern (weeds, invasive plants, moss) without using toxic chemicals. These are most likely to be successful if they feature one-on-one conversations, which are able to respond to individualized conditions (e.g., lawn size, slope, proximity to water) and can contextualize the behavior.
- ✚ If WSSOG wants to continue using a social marketing approach, we recommend revisiting the target behavior and **identifying a behavior that is non-divisible (doesn't contain multiple steps) and end-state**. That is, the behavior will produce the desired outcome for the audience without requiring additional action. If the desired outcome is caring for the lawn without chemicals, the current target works; we suspect, however, that the desired outcome among these households is for a lawn that looks good (weeds are under control, for instance).

✚ Continue and expand the use of social marketing tools, including social diffusion and norms, public commitment, and making the behavior convenient. If the campaign were to adopt a non-divisible and end-state behavior, some of these additional tools could be employed more effectively. For instance, if the campaign were to encourage the behavior of adjusting lawnmower height to crowd out weeds, households could make a public commitment and help establish norms by putting up a small yard sign. Or the behavior could be prompted through reminders placed in nurseries and garden centers and take-home stickers.

✚ Clarify the intent of the fertilizer discount. The discount coupon for 25% off organic fertilizer was provided as a way to reduce the barrier of cost for people interested in switching to organic. But because the coupon is for one-time use, it may not maintain the behavior beyond one application. If unfamiliarity with the products and where to find them were the main barrier, simply introducing people to the organic options through a coupon would be helpful. But with a product consumers buy repeatedly, the discount may be seen as having limited value. If WSSOG feels it would be helpful in convincing people of the benefits of organics, a cost comparison for customers showing organic and nonorganic costs over time could also be helpful.

In addition, because the participating nurseries focus on organic products already, it was unclear whether the discount coupons were encouraging first-time customers or first-time organic users – rather than people who already use organics and appreciate the discount. Our suggestion is to collect data during coupon redemption to find out the percentage of a) first time customers to that retailer, and b) first-time organic users, to find out whether the coupon is having the desired effect.

# Campaign background

Kitsap County contracted with Kathryn Owen Consulting LLC to conduct a summative evaluation of the Natural Yard Care Social Marketing Campaign carried out by the West Sound Stormwater Outreach Group (WSSOG), a multi-jurisdictional partnership between Kitsap County, the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The aim of this campaign was to help reduce nutrient runoff - a major source of pollution to local waterways and to Puget Sound as a whole.

The target behavior for the Natural Yard Care (NYC) campaign was to encourage homeowners to switch from weed-and-feed type products to natural or organic fertilizer.<sup>2</sup> And the target audience was identified as households who a) have a lawn, b) maintain the lawn themselves, and c) have children or pets as part of the household.

## Campaign history

From 2018-2022, WSSOG contracted with the communications and marketing firm C+C<sup>3</sup> to conduct social marketing training for the group, carry out audience research to inform the campaign, develop creative concepts, implement a pilot campaign in one jurisdiction (the City of Poulsbo) and then expand the campaign throughout the WSSOG jurisdictions. Comprehensive reports on the earlier stages of the campaign are available upon request, so won't be repeated in detail here. In brief, planned key campaign elements included:

- **Coupons offering a discount for organic fertilizer** which could be redeemed at one of six nurseries in Kitsap County, Port Angeles, and Gig Harbor. The coupons were a response to the finding in front-end research that cost was a major barrier to using organic fertilizer.
- **Outreach conducted presented by Master Gardeners**, volunteers with Washington State University's Extension program, at nurseries and garden supply stores. Audience research had found that this group was a trusted information source.
- **A variety of communication channels** were used to advertise the webinars and coupons including direct mail, social media, email and – in 2023 – an event held at one of the participating nurseries. A prominent feature of campaign communications was a series of ads (tested and refined after the pilot). (See p. 3)

With the start of the global COVID 19 pandemic entering the spring 2020 gardening season, the campaign was obliged to the initial plan for in-person outreach was tabled and the campaign was postponed until the following spring. Additional audience research was commissioned from C+C, in the form of an in-depth online survey completed by 13 respondents. This additional research informed the next iteration of the campaign, which substituted webinars presented by Master Gardeners instead of in-person outreach. Participants could sign up to receive a follow-up email from a Master Gardener a month or so after the webinar if they were interested in getting individual guidance.

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<sup>2</sup> The campaign used the phrase "natural/organic" in most of its marketing literature, shortened to "organic" for this report.

<sup>3</sup> <https://cplusc.com/>



## 2023 campaign elements and outputs

The same campaign elements listed above (with the substitution of webinars for in-person outreach) were implemented by C+C and WSSOG:

- **Social media campaign via Facebook**, featuring two ads. The first, advertising the NYC webinars, ran from April 12-May 20, 2023. (See image below, left.) The second, offering the discount coupon, ran from April 5-June 17. (See image below, right.) The Facebook campaign reached an estimated 94,144 people and received 6,691 link clicks in all; on average, each ad was seen seven times per person. The campaign ran for three weeks longer than in 2022, resulting in almost double the number of link clicks.



- A coupon for natural or organic fertilizer offering 25% off (or up to \$15 off) to be redeemed at one of the six retailers. The offer was active between April 1 and June 18, with 68 coupons redeemed.<sup>4</sup>
- A postcard featuring the same content as the Facebook ads was mailed to 14,347 households across the WSSOG jurisdictions.
- Three webinars on natural yard care were offered between April 29-May 20 with the advertised title, *“Growing a Healthier Lawn for your kids and Pets.”*<sup>5</sup> Each consisted of a short (20 minute) PowerPoint presentation followed by a question/answer period.

## Evaluation methods

We used a mixed-methods approach to assess the effectiveness and impact of the campaign that included the following:



Online surveys publicized by WSSOG members through various communication channels, each jurisdiction’s Facebook, Instagram, Twitter sites, NextDoor in target communities and GovDelivery.<sup>6</sup> (See example on next page.) The online survey was active for three weeks, starting July 5. Results were compared to baseline data collected in December 2018 during initial audience research.



Postcards were mailed out to target audiences in each jurisdiction advertising the campaign, as described above, at the end of March. In early June, a follow-up letter was sent inviting the recipients to participate in an online survey. At the same time, a mailing was sent to a control group of households meeting similar characteristics (same zip code, majority single family households) by five of the seven jurisdictions.



People who registered to attend one of the three webinars were asked to answer a few questions about their lawn care practices as a pre-survey. Another survey was conducted of webinar attendees immediately after the webinar, and a follow-up survey was sent out six months later to explore any lasting impact.



The six participating nurseries were asked to participate in a brief interview about their experience with the campaign. Four of the six participated.

<sup>4</sup> The previous year, a similar number of coupons (70) were redeemed at participating retailers.

<sup>5</sup> The webinars took place on two Saturday mornings (April 29 and May 20) and Wednesday, May 3<sup>rd</sup> in the evening.

<sup>6</sup> That is, email lists of people who have signed up to receive County updates and alerts.

## Evaluation roles

- Data on social media reach, and coupon redemptions, was gathered and reported by C+C.
- Pre-post webinar surveys were conducted by Kitsap County Public Works Dept., with input into survey design and analysis conducted by Kathryn Owen Consulting.
- Online surveys (direct mail follow-up and social media surveys) and nursery interviews were conducted and data analyzed by Kathryn Owen Consulting.

To encourage participation in the online surveys, incentives were offered. Respondents could choose to provide their email to enter a drawing to win one of 10 Amazon gift cards in the amount of \$100.

To gain additional insight into the impact of the campaign, we used a control group design for the survey of postcard recipients, in which all but two of the WSSOG jurisdictions sent the survey invite to a) households who had received the postcard, and b) households who had not, but reflected the same general characteristics (e.g., same zip codes, focus on single family households). One jurisdiction (Gig Harbor), however, decided to use their campaign budget to send additional postcards rather than on a control group mailing.

All surveys yielded both quantitative and qualitative data. Quantitative data including frequencies and between-group comparisons were analyzed through SPSS software. To check for differences between samples, significance was set at  $p = 0.05$ .<sup>7</sup>

Qualitative data (responses to open-ended questions) were coded based upon emergent themes. Themes were identified by two evaluators working separately, and the coding frameworks were compared for degree of interrater reliability.<sup>8</sup>

Finally, we used the Transtheoretical Model of Change (also known as Stages of Change Model) to analyze audience readiness to engage in the targeted behavior.<sup>9</sup>

Kitsap County  
Stormwater News

Does your home have a lawn? We want to hear from you.

Take a brief [survey](#) and enter into a drawing for an Amazon gift card.

Does your home have a lawn? If so, we'd love to hear from you. Take a brief survey at [surveymonkey.com/r/9TYJT82](https://surveymonkey.com/r/9TYJT82)

The West Sound Stormwater Outreach Group wants to make sure our programs meet the needs of our community, and we can't do that without your feedback. The survey takes less than five minutes and in return, we'll enter you in a drawing to win a \$100 Amazon gift card.

The [survey](#) will only be available until July 17 so be sure to complete it soon. Thanks for sharing your thoughts with us!

**About This Project**

The West Sound Stormwater Outreach Group (otherwise called WSSOG) is a multijurisdictional partnership between Kitsap County, the cities of Bainbridge Island, Bremerton, Gig Harbor, Port Angeles, Port Orchard and Poulsbo. These agencies work together on improving water quality by reducing pollutants in stormwater runoff, which are a major source of pollution to local waterways and Puget Sound. This survey is being jointly coordinated by WSSOG.

<sup>7</sup> A significance level of 0.05 indicates that the risk of concluding a difference exists when there is no actual difference is 5%.

<sup>8</sup> Interrater reliability (IRR) refers to the consistency in which two or more people apply the same coding framework to qualitative data, like answers to open-ended questions.

<sup>9</sup> A brief overview can be found at <https://sphweb.bumc.bu.edu/otlt/mph/modules/sb/behavioralchangetheories/behavioralchangetheories6.html>

# Findings

## Part 1. Direct mail survey results

Note: Because survey questions were modified slightly between the direct mail and social media surveys, we analyzed and present the results separately, with one exception. (See

### In this section:

- ✚ Survey response rates
- ✚ Characteristics of sample
- ✚ Current and intended engagement in target behavior
- ✚ Self-reported likelihood that campaign will influence behavior
- ✚ Perceived barriers to organic fertilizer

### Response rates

Postcards featuring the NYC campaign messages and offers (e.g., webinars and fertilizer discount) were sent out to 14,347 households at the end of March 2023. When contacted again at the start of June, 10% (n=1408) responded to the request to take a follow-up survey.<sup>10</sup> As reflected below, the response rate was highest in Poulsbo, where a quarter responded. Eighty-five percent (n=1202) were in the treatment group (had received the survey) and 15% (n=205) in the control group (had not).

Table 1. Response rates by jurisdiction

Jurisdiction	# of postcards sent	# of responses	Response rate	Includes control group
Bainbridge Island	1226	206	17%	Yes
Bremerton	2052	276	13%	Yes
Gig Harbor	521	23	4%	No
Port Angeles	1029	106	10%	Yes
Port Orchard	542	77	14%	Yes
Poulsbo	511	115	23%	Yes
Unincorporated Kitsap County	8466	581	7%	Yes

<sup>10</sup> This response rate reflects a 3% margin of error at a 95% confidence level. That is, if everyone who received the direct mail survey request had responded (14,347 people) results are 95% likely to lie within 3% plus or minus.

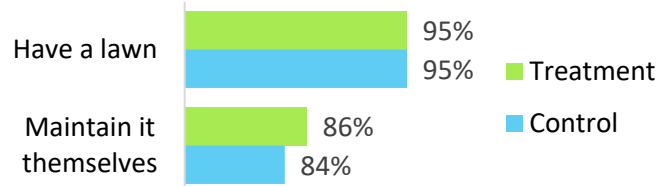
## Sample characteristics

### Lawn ownership & maintenance

Of those responding to the survey, 95% have a yard with grass at home, and 87-88% maintain the lawn themselves. Treatment and control groups were nearly identical in this respect.

The percentage of households with a lawn varied little by jurisdiction, with nearly all falling between 95-98% of lawn owners. The exception was Gig Harbor, where 82% of respondents owned a home with a lawn.

Chart 1. Nearly all households have a lawn & most maintain it themselves  
(n=1408)



### Between-group comparisons

- Treatment and control groups were equally likely to own a lawn, with treatment group members slightly more likely to maintain it themselves.
- Lawn ownership and maintenance varied little by jurisdiction except for Gig Harbor, where 82% of households had a lawn and just 40% maintained it themselves.

### Lawn size

Among those who have a grassy lawn in their yard, the mean or average lawn size for the entire sample was 6865 square feet. Not surprisingly, there was a significant difference in lawn size between those who maintained their own lawn vs. those using a lawn company; the mean lawn size for the latter was twice as large.

The rest of the results apply only to those who meet the criteria of having a lawn and maintaining it themselves.

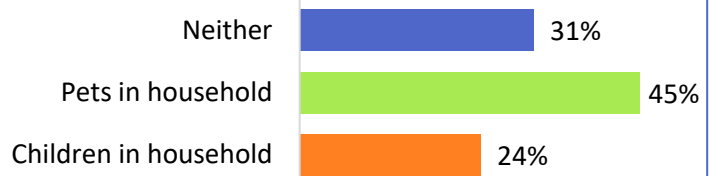
## Household composition

Front-end research for the campaign identified households that included children and/or pets as the target audience for the campaign. Sixty-nine percent of respondents fell into this category.



Twenty-seven percent of respondents have children under 18 living in the household. (This compares to 26% in the most recent census data for Kitsap County.<sup>11</sup>)

Chart 2. 69% of respondents have children under 18 and/or pets with access to their yard (n=1137)



Over half of all respondents have pets who have access to their yard. (This compares to an estimated 63% of Washington state households with pets according to the latest figures.<sup>12</sup>)

### Between-group comparisons

- The treatment and control groups were identical in percentage of households with children under 18.
- The control group was somewhat more likely to have pets at home.
- Households in Port Angeles were the most likely to have children and/or pets at home; households in Gig Harbor were the least likely to do so.

## Including households without pets or children in the analysis

We have included households without children or pets in the analysis, as we found that this audience is equally likely to have been receptive to and influenced by the ad campaign, and to show willingness to using organic fertilizer rather than weed and feed-type products. We will, however, report observed differences *between* households with and without children/pets.

## Lawn size

- **For the purposes of the report**, we have classified lawns as small ( < 1500 square feet), **medium(1500-8000 square feet) and large (8000)**. Those with large lawns were somewhat more likely to use a lawn care company than those with medium or small lawns.

<sup>11</sup> [https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53\\_050XX00US53035&tid=ACSDP5Y2022.DP02](https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53_050XX00US53035&tid=ACSDP5Y2022.DP02)

<sup>12</sup> <https://worldpopulationreview.com/state-rankings/pet-ownership-statistics-by-state>

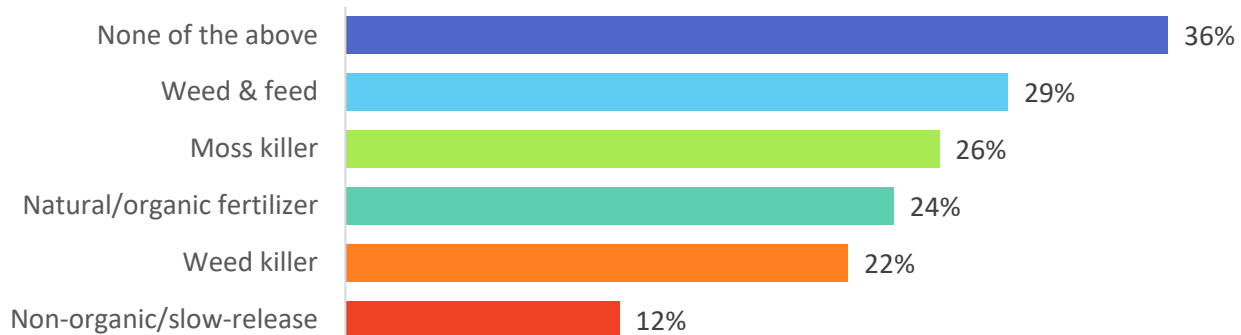
## Current and intended participation in target behavior

Respondents were asked to indicate which, if any, products they have used on their lawn over the past few years. As reflected below, the most frequent response was “none of the above.” Of those who *have* used lawn products, 16% have used natural/organic.

Respondents were also asked to list any other products they used on their lawn. Five percent listed other products. Lime and vinegar were both mentioned by a quarter of respondents, and between 5-10% apiece used baking soda, pesticides, and iron.<sup>13</sup>

- ❖ Lime (28%)                      Vinegar (26%)
- ❖ Pesticides (7%)              Baking soda (7%)              Iron (4%)

Chart 3. Many do not use any products on their lawns. If they had, they were slightly more likely to have used weed & feed than other products. (n=1137)



### Between-group comparisons

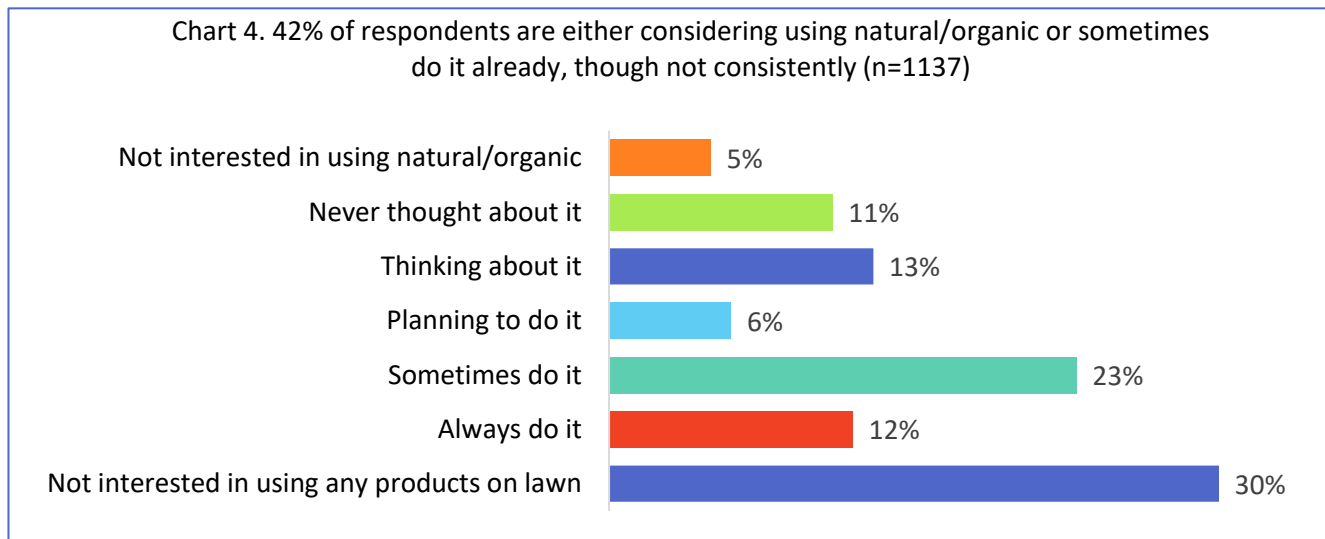
- Households with children were significantly more likely to say they used natural/organic fertilizer than those without ( $p = 0.05$ ).
- Households with pets were significantly less likely to have used moss killer, weed & feed; they were more likely to say they didn't use any products on their lawn ( $p=0.03$ ).
- The treatment and control groups did not differ significantly in use of lawn products.

<sup>13</sup> Other products were mentioned 1-2 people apiece, including corn gluten, chicken manure, and Epsom salts.

## Current behavior in regard to organic fertilizer

Respondents were asked to indicate their current behavior and attitudes towards using organic lawn fertilizer by selecting from a list of options ranging from “I’m not interested in using natural/organic” to “I only use organics.” They also had the option of marking if they weren’t interested in using any products on their lawn.

Few were in the “not interested in this behavior” bucket (5%). For another 30%, the action wasn’t relevant (they weren’t interested in using lawn products).



## Comments on willingness to change

Respondents could make additional comments in response to this question, and 10% did. Of these, the most frequent topics were:

- Comments on [what prevents them from using organic fertilizer](#), with concerns about effectiveness, availability and cost cited. E.g., “I would love to (use organic) but my household can’t afford it with how much more it is. They also don’t kill the weeds as well as non-organic.”
- Comments about [wanting to reduce or remove their lawn](#). E.g., “I don’t like the grass. Do as little with it as possible. Want lawn alternative.”
- Comments [describing how or when they use nonorganic](#). Nearly all who raised this topic were in the “sometimes use organic” group, who described the conditions under which they have used nonorganics. E.g., “I spot treated a small area with Ferti Lome weed-free zone when we first moved in but otherwise don’t use nonorganic products in the yard.”

## Treatment & control

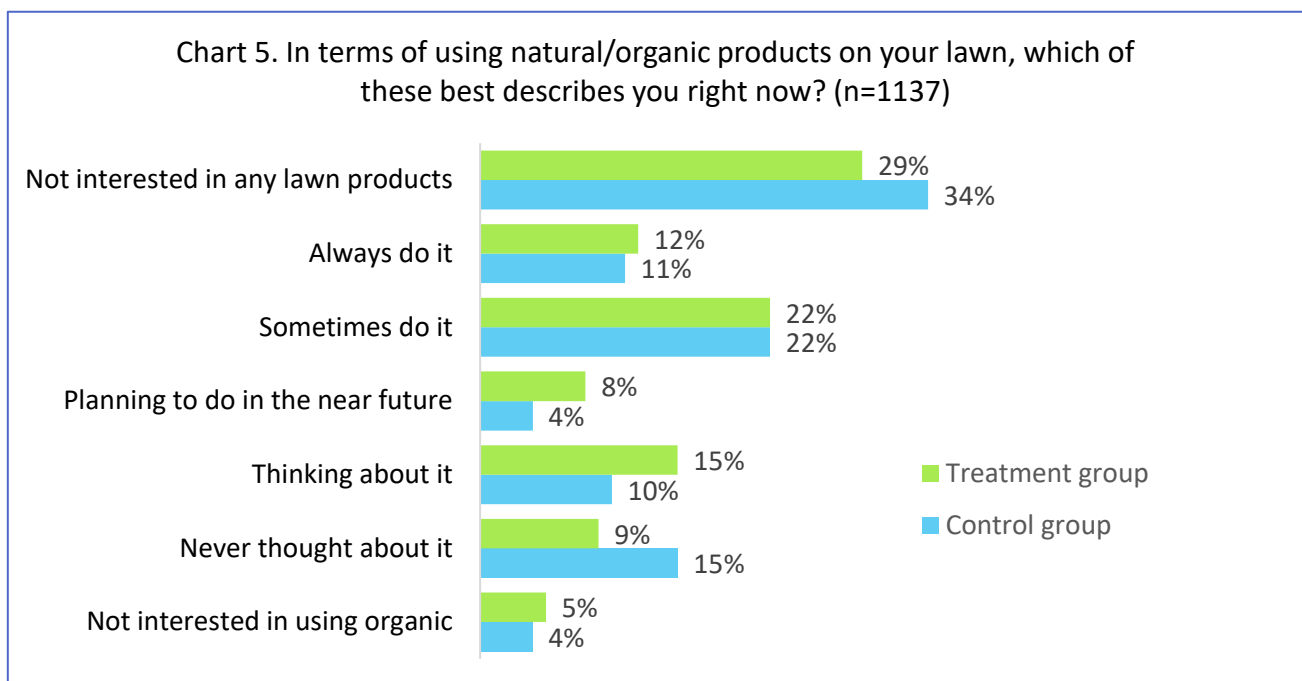
We were interested in whether receiving the campaign postcard a couple of months prior would result in people being more likely to say they were thinking about, planning, or starting to do the target behavior of switching from weed and feed to natural/organic fertilizer.

As reflected below:

- 43% of the treatment group fall into the “willingness to change” category; that is, thinking about it, planning to do it in the near future, or did it some of the time already.
- 36% of the control group indicate willingness to change, representing a statistically significant difference between treatment and control.
- The treatment group was also less likely to say they had “never thought about it” before.

### Difference between those who did and didn’t recall receiving the postcard

This potential relationship – between receiving the postcard and being open to change – was likely mediated, however, by whether or not the person received the postcard. And in fact, when we compared postcard recipients who recalled receiving it with those who did not, the first group was significantly more likely to fall into either the “*thinking about it*” or “*planning to do it in the near future*” categories ( $p = <.001$ ). It may be that those who noticed the postcard were encouraged to consider using organic because of the postcard; on the other hand, it may be that those who noticed the postcard were people who were already interested in the topic, so more likely to take notice.



### Other between-group comparisons in willingness to change

- There were no significant differences on this measure based on whether the household included children under 18.
- Households with pets were significantly more likely to say they a) *weren't interested in using any lawn products* ( $p = 0.03$ ) or b) *always use organic* ( $p = <.001$ ).
- Bainbridge Island households were the most likely to say they *always use organic*. In terms of being open to adopting the behavior (*thinking about it, planning to do it or sometimes doing it already*) respondents from Unincorporated Kitsap County, Port Orchard, Poulsbo and Bremerton were somewhat more likely to fall into this category than those from Port Angeles and Gig Harbor.
- There were no significant differences based on whether the household had a small, medium, or large lawn.

### Recall of Natural Yard Care postcard

Members of the treatment group were asked whether they remembered getting the postcard in the mail in the past couple of months. (An image of the postcard was included to jog peoples' memories.)

Over a quarter remembered receiving. Forty-two percent didn't, the remaining 30% weren't sure. There were no significant differences in recall rates by jurisdiction.

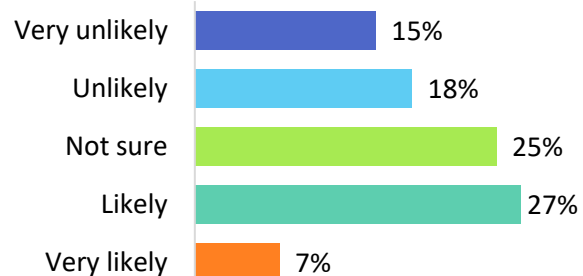
Of the 28% who remembered seeing the postcard (n=269):

- ❖ 49% said they had read it
- ❖ 37% had skimmed it
- ❖ 12% had either used the coupon (4%) or planned to (8%)
- ❖ 3% had signed up for a webinar
- ❖ 9% hadn't done any of the above (they had tossed it or set it aside and lost it)

Chart 6. Over a quarter recalled receiving the campaign postcard (n=966)



Chart 7. 34% say the campaign ad is likely to change their lawn care practices (n=1137)

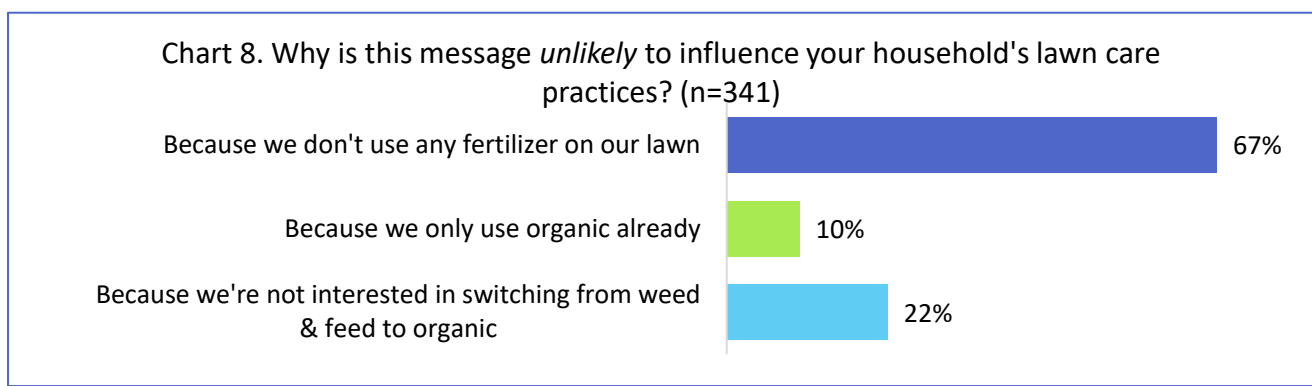


Twenty-six people made additional comments about the postcards. Of those who did, most (31%) said they had wanted to use the coupon or attend a register but had missed the deadline; tossed it because they thought it was junk mail (27%), didn't need it because they don't fertilize their lawn or had already used fertilizer that spring (19%). The remainder gave other responses (< 5% apiece); e.g., *"Brought it work and someone picked it up from the 'free' table."*

### Likelihood ad will influence lawn care practices

Both treatment and control groups were shown images of the two postcards, and asked to rate how likely it was that they would influence their lawn care practices.

- 34% said it was either "likely" or "very likely" to change their lawn care practices.
- Of those who said it was "unlikely" or "very unlikely" to influence them, the main reason given was that they didn't use fertilizer of any kind on the lawn.



### Comments on the ad's influence on their behavior

Respondents could list additional reasons they didn't think the ad would influence their behavior; 18% did so. Of these:

- 29% commented on the ad itself. Most of these said they ignored or disliked ads or wouldn't change their behavior because of an ad. Five percent of these said they didn't find the ad interesting.
- 14% said it was unlikely to influence them because they use nonorganic rarely or only when 'necessary'
- 13% raised concerns about organics, such as price, effectiveness or convenience
- 10% said they didn't feel nonorganic fertilizers were a problem
- 5% said it was because they don't have control over the decision (i.e., another household member or their HOA guidelines prevented them from using organic)
- 5% gave "leave me alone/none of your business" responses
- The remainder gave other responses, none mentioned by more than a few people apiece.

### Influence of postcard on willingness to change

As mentioned above, we compared postcard recall with willingness to take part in the target behavior. We explored this further by comparing those who recalled receiving the postcard AND had taken any action (read it, skimmed it, signed up for a webinar, used or planned to use the coupon) vs. those who had taken no action. Since only 9% said they tossed it without looking at it, the numbers aren't large enough to determine significance. But the results suggest, not surprisingly, that people who read the postcard were

more likely to be using organics already – and people who weren’t interested in using lawn products were the most likely to have ignored it.

## Barriers to organic fertilizers

Finally, we asked those who said that the campaign ad would not influence their behavior were asked to identify their main issues with organic fertilizer, offering a list of potential reasons. Nearly a quarter cited the increased cost of organics; other reasons were cited by 15-17% apiece, including concerns about effectiveness of organics and the belief the products they used weren’t harmful. The remainder gave other reasons, described below.

### Additional barriers

Just over a quarter gave additional reasons, including (in order of frequency):

- I don’t use chemical products often (E.g., *“Only use it sparingly.”*)
- I use them per instructions (E.g., *“I use per directions. Pesticide safety was my career at one point.”*)
- I’m using up a supply. (E.g., *“We have a bunch on hand still.”*)
- I don’t have control over the decision (These respondents cited somebody else in the household who made the lawn care decisions or HOA rules. E.g., *“Wife is set in her ways.”*)
- We’re just used to what we’ve been doing. (E.g., *“I’m happy with the results of what I’m using.”*)

Chart 9. Interest in behavior by whether they read the postcard (n=966)

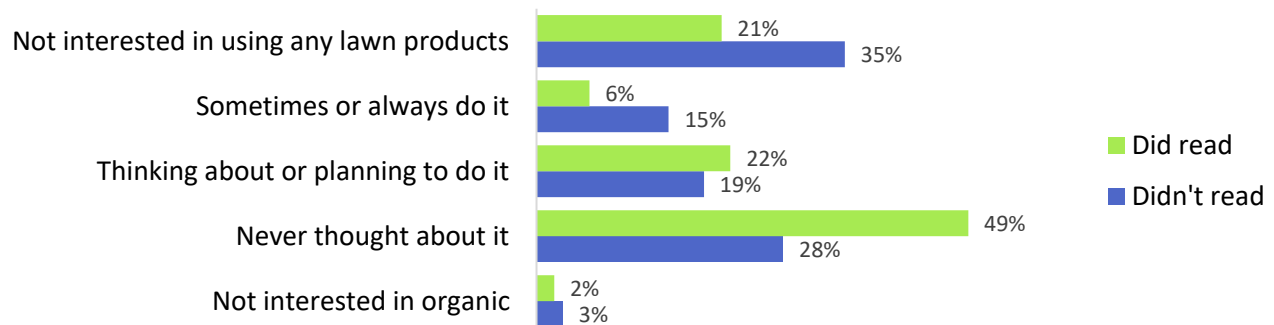
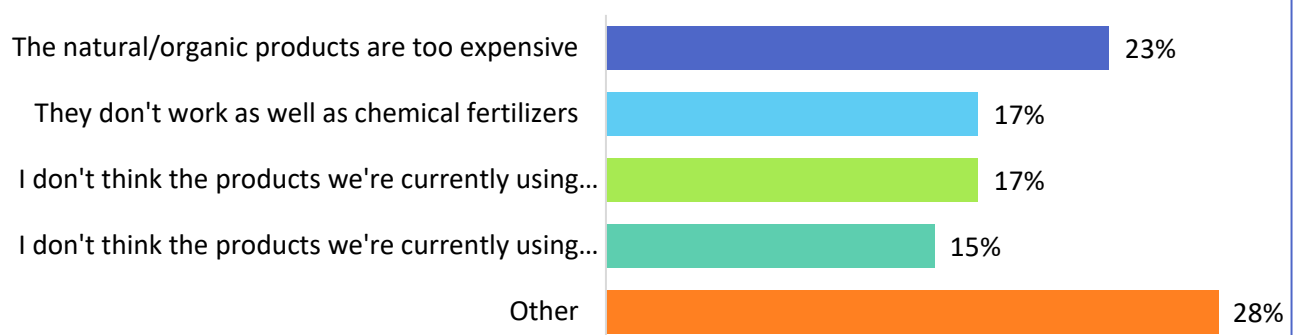


Chart 10. Primary reasons given for not planning to switch to organic fertilizer (n=250)



# Findings

## Part 2. Social media / online results

### In this section:

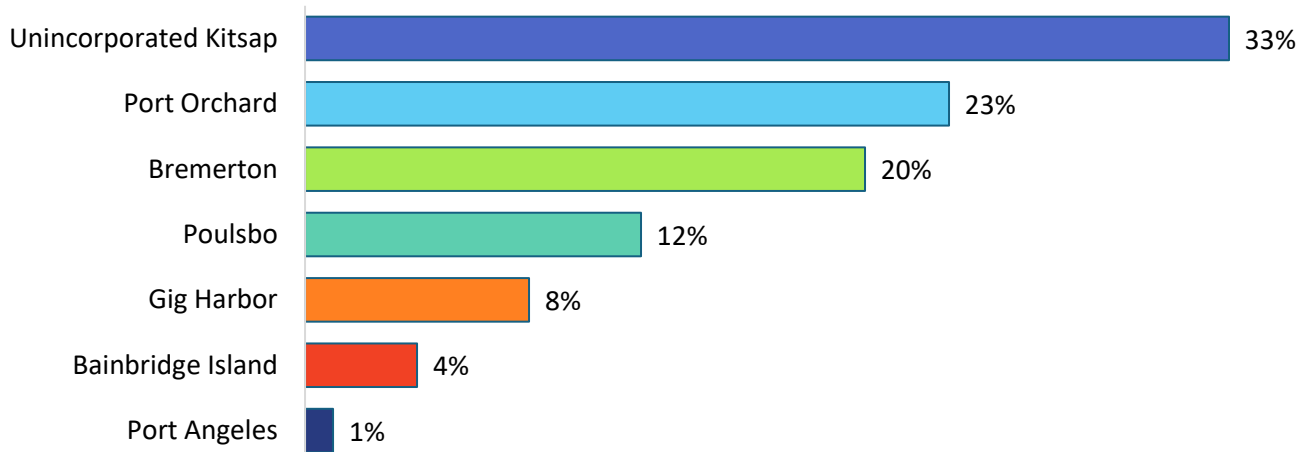
- ✚ Survey response rates
- ✚ Characteristics of sample
- ✚ Current and intended engagement in target behavior
- ✚ Self-reported likelihood that campaign will influence behavior
- ✚ Perceived barriers to using organic fertilizer
- ✚ Questions and comments from both direct mail and online survey respondents

### Response rates

The Natural Yard Care social media ads ran on Facebook in April-June 2023. Data provided by C+C indicates that 94,144 people were reached through the two ads, with 6,691 link clicks. After eliminating spam responses and zip codes outside of the target area, there were 994 valid responses.<sup>14</sup>

As reflected below, the largest number of respondents came from Unincorporated Kitsap County, followed by Port Orchard and Bremerton, the county's two largest cities.

Chart 11. Respondents by location (n=994)



<sup>14</sup> The survey gathered 12,000 responses in all, but the vast majority of these were eliminated as “survey bots,” or computer programs designed to automatically complete online surveys.

### Between-group comparisons

- In all jurisdictions but one, upwards of 95% had a yard with grass at their home; 88% of Port Orchard households did so.
- In roughly 90% or above of households with lawns, the respondent said they maintained their own lawn. The exception is Gig Harbor, where 78% maintained their own lawn.
- As with the direct mail survey, households who use a lawn care company were more likely to have a large lawn (over 8,000 square feet).
- Households in Gig Harbor were the least likely to have either pets or children at home.

## Sample characteristics

### Lawn ownership & maintenance

Of those responding to the survey, 98% have a yard with grass at home, and 90% of these maintain the lawn themselves.

The average lawn size was quite a bit larger than the direct mail sample: 18,527 square feet compared to 6875 square feet. This may be because a greater percentage of respondents to the online survey came from Unincorporated Kitsap County, which has lower housing density than more urban areas like Bremerton.<sup>15</sup>

### Household composition<sup>16</sup>



Of those who meet the criteria of having a yard and maintaining it themselves, 96% live in a single-family home.<sup>17</sup> One quarter have children under 18 living at home. (This compares to 26% in the most recent census data for Kitsap County.<sup>18</sup>



53% have pets who access their yard. (This compares to an estimated 63% of Washington state households with pets according to the latest figures.<sup>19</sup>)

Chart 12. 98% have a yard with grass (n=994)



Chart 13. 90% maintain their own lawn (n=994)



<sup>15</sup> The chart at right uses the same breakdown for lawn sizes as used in the direct mail, which split lawn size equally into the same three categories.

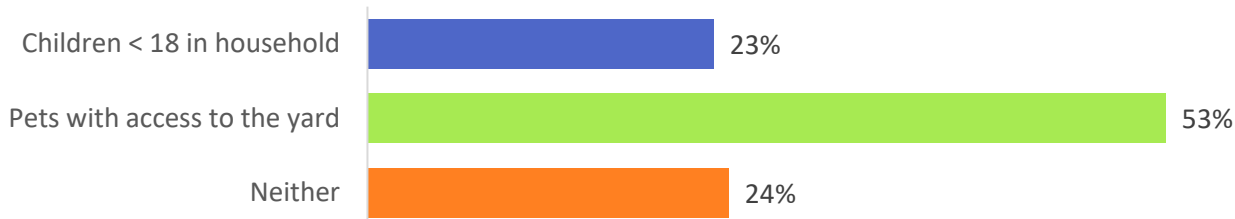
<sup>16</sup> Respondents to the online survey were reluctant to answer the question about their household members, resulting in a smaller n or sample size.

<sup>17</sup> An additional 3% live in a townhome or duplex, and 1% in a multi-unit condo or apartment.

<sup>18</sup> [https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53\\_050XX00US53035&tid=ACSDP5Y2022.DP02](https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53_050XX00US53035&tid=ACSDP5Y2022.DP02)

<sup>19</sup> <https://worldpopulationreview.com/state-rankings/pet-ownership-statistics-by-state>

Chart 14. Three-quarters of respondents have children and/or pets in the household (n=290)



### Sample for remaining findings

As with the findings from the direct mail campaign, we have compared those with and without children and pets for each survey topic but have included households with neither in the study sample.

### Current and intended participation in target behavior

For this survey, the list of products was broken down further to compare results with those gathered in the 2018-2019 online survey. As indicated below, most respondents said they had not used use any of the product types listed. Of those that did, they were most likely to have used fertilizer, with roughly equal percentages having used organic fertilizer vs. nonorganic (chemical/non-organic or slow release/non-organic).

Table 2. Use of lawn care products within past few years (n=849)

Type	Fertilizer	Weed killer	Weed & feed	Moss killer
Chemical/non-organic	10%	13%	17%	14%
Organic	16%	5%	5%	5%
Slow release/non-organic	7%	7%	3%	5%
Don't know what type	6%	8%	4%	7%
Don't use on my lawn	61%	67%	71%	69%

Respondents were also asked to list any other products they used on their lawn; 4% did so, listing:

- ❖ Lime (20%)
- ❖ Vinegar (27%)
- ❖ Pesticides (13%)
- ❖ Manure (13%)
- ❖ Other products (27%; each mentioned by 1-2 people apiece, including corn gluten, baking soda, Epsom salts and iron)

#### Between-group comparisons

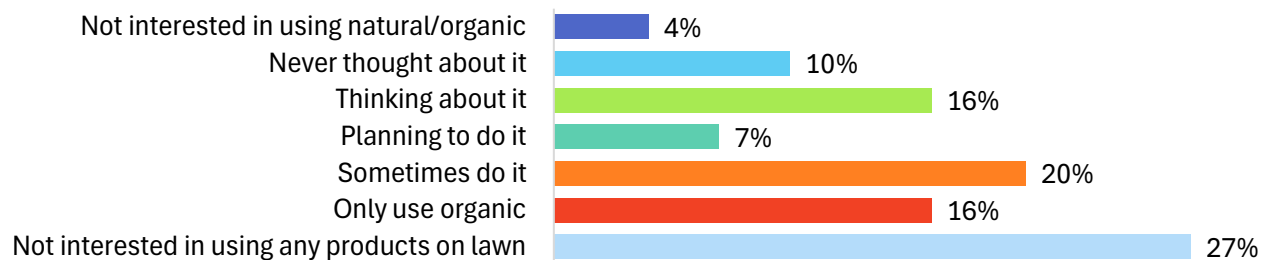
- Households with children were significantly more likely to say they used natural/organic fertilizer than those without ( $p = 0.05$ ).
- Households with pets were significantly more likely to say they didn't use any products on their lawn ( $p = <.001$ ).

## Current and intended participation in target behavior

Respondents were asked to indicate their current behavior and attitudes towards using organic lawn fertilizer by selecting from a list of options ranging from “I’m not interested” to “I only use organics.” Similar to findings from the direct mail survey, the most common response was “not interested in using any products on my lawn.” Twenty percent said they “sometimes use natural/organic” and 16% that they “only use organic.”

In all, 43% could be considered as falling into the “open to change” category, including a) people who are thinking about or planning to use organic lawn fertilizer in the future, or sometimes – but not always – use organic, indicating room for growth.

Chart 15. In terms of using natural/organic products on your lawn, which of these best describes you? (n=849)



## Comments on willingness to change

Respondents could make additional comments in response to this question; 7% did so. The most common “other” responses, in order of frequency, were:

- Comments about barriers to using organic fertilizer, with concerns about effectiveness, availability and cost cited. E.g., “My big box store doesn’t carry it;” “If there was an organic that worked well against moss, I’d use it.”
- Comments describing how or when they use nonorganic. Nearly everyone who fell into this category had said they “sometimes” used organic fertilizer. E.g., “Minimal usage (of chemical);” “I would prefer to not use products but do when I need to.”
- Comments about wanting to remove/reduce the lawn. E.g., “I would like to get rid of my grass lawn because it is costly and wasteful;” “I’m actually thinking about replacing my lawn with more eco-friendly ground cover.”
- Motivations for using organics – or nothing. E.g., “I have elderly dogs who enjoy eating grass and dirt in the yard. I don’t want to use any lawn products that might make them sick;” “We are a wildlife and native plant friendly property and grown edible/food stuffs on our lot.”

## Recall and impact of Natural Yard Care ads

A quarter of respondents recalled seeing one of the ads on social media; another 14% weren’t sure, and the majority (61%) did not recall seeing them. Among those who did remember seeing the ads (n=218), 14% had acted as a result, either using the coupon for a discount on organic fertilizer or signing up for one of the natural lawn care webinars. (Three percent did both.)

Chart 16. Within the past couple of months, do you remember seeing either of these ads on social media? (n=849)

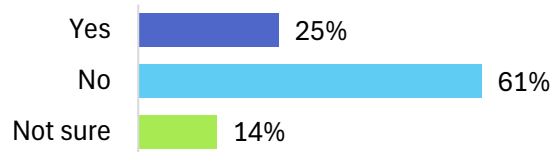
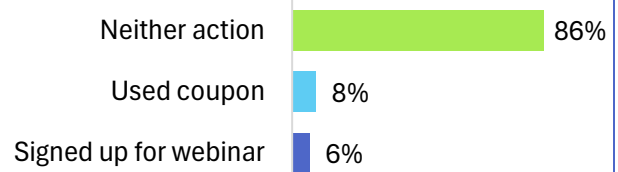


Chart 17. After seeing the ad(s), did you take either of these actions? (n=212)

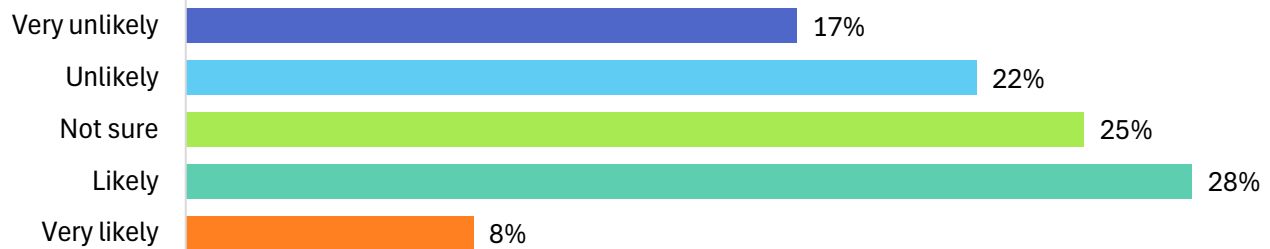


### Likelihood ad will influence lawn care

Whether or not they had seen the original ads on Facebook or elsewhere, respondents were asked to take a look at them again and indicate how likely it was that the ad would influence their lawn care practices.

Thirty-six percent described it as either “*likely*” or “*very likely*.”

Chart 18. Looking at the ads now, how likely is it that this messaging will influence your lawn care practices? (n=849)



## Positive influence of ads on intended behavior

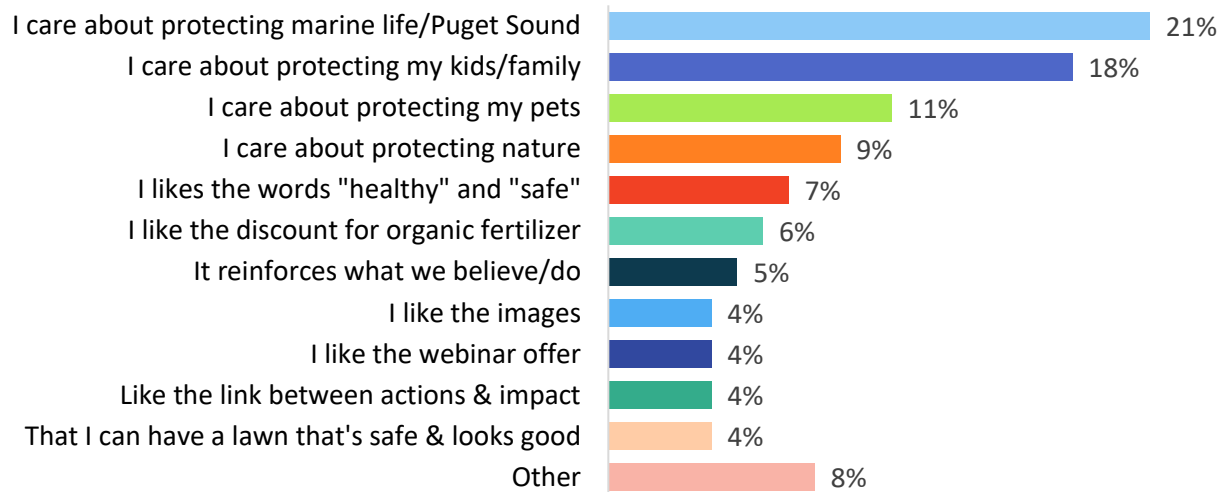
Respondents who said the ads were likely to influence them were asked to describe *what it was* about the ads they felt would influence their household's lawn care practices. As reflected below, over half said the ads focused on what they care about: protecting marine life and Puget Sound, protecting their children and family, protecting their pets, and protecting nature in general. For example:

*Family - I know that toxics might harm my pets (and one day kids), so I would prefer to avoid them if I can.*

*We don't have children or outdoor pets that live with us but the picture of the seals influences me as I worry about the wildlife.*

*The thought of making the waters surrounding Kitsap safer for animals and people.  
Showing the animals in the sound affected by poisons applied to our lawns.*

Chart 19. What is about the messaging that will influence your household's lawn care practices? (n=305)



### Other aspects of the ads that people appreciated included:

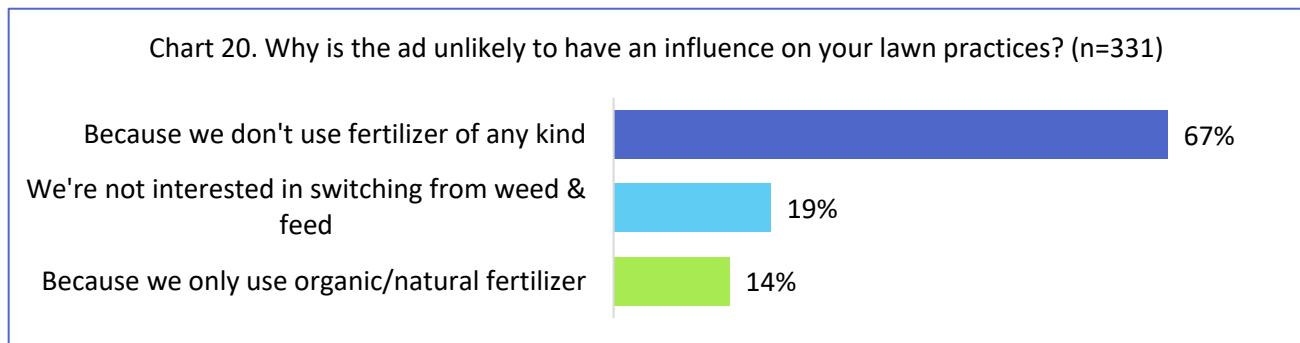
- Use of powerful words such as "healthy" and "safe"
- The coupon for discounted fertilizer
- Reinforcement for their own beliefs/actions. E.g., *"The messaging reminds me that we are doing the right thing by not using weed & feed on our lawn."*
- The images used in the ads – in particular, the image of the seal pup and mother, which was most often singled out as compelling. E.g., *"The heartfelt images: mom and baby seals and the families. Also good wording...tugs at the heartstrings."* A few respondents also mentioned other images. E.g., *"I appreciate the representation in the photo because she looks like me!"*
- The webinar offer. E.g., *"I like the idea of a free webinar. I don't know a lot about lawn care and a webinar tailored to my area/climate/soil/grass types would be very helpful."*
- The connection between the actions we take and their impact. E.g., *"It's my responsibility to ensure that my yard is a safe place to play and so that Puget Sound remains that way as well;"* *"Seeing the kids and wildlife with action words that say I affect their health."*

- The idea that they can have a lawn that is both safe *and* looks good. E.g., *“How (fertilizer) affects ground water, and that it actually will work and kills weeds (IMPORTANT).”*

Other “likes” mentioned by less than 4% apiece included the local focus (e.g., *“The seal being more specific to this area (versus) somewhere else (Spokane, for instance),”* the info provided (e.g., *“I just never realized there were organic lawn treatments”*), and the ads as a reminder (e.g., *“...reminds me I should talk to my husband about buying more organic products instead of chemical ones”*).

### Those who feel the ads are *unlikely* to impact their behavior

The respondents who said the ads were unlikely to impact their household’s lawn care practices (39%) were asked to indicate why. In response to a set of three reasons, the most frequent was because they did not use fertilizer of any kind on their lawn.



Respondents also had the option of listing any additional reasons they were unlikely to switch; 17% did so. The most common “other” reasons, in order of frequency, were:

- They dislike or ignore ads. E.g., *“I ignore ads for the most part;” “I would never switch because of an ad;” “It is not grabbing my attention.”*<sup>20</sup>
- Challenges with organics. E.g., *“The organic stuff doesn’t work as well or requires more use.”*
- We are planning to remove our lawn anyway.
- A lack of control over lawn care decisions. E.g., *“I live with my BF and do not purchase our lawn care items.”*
- Need more info. E.g., *“The message isn’t providing information about pet-safe products.”*
- Disagree with message. E.g., *“I’m not interested in opinions about my lawn care or lawn care products. I would skip right over that ad.”*
- Already agree with organic messaging. E.g., *“I’m a cancer survivor. I will never use chemicals around my house.”*

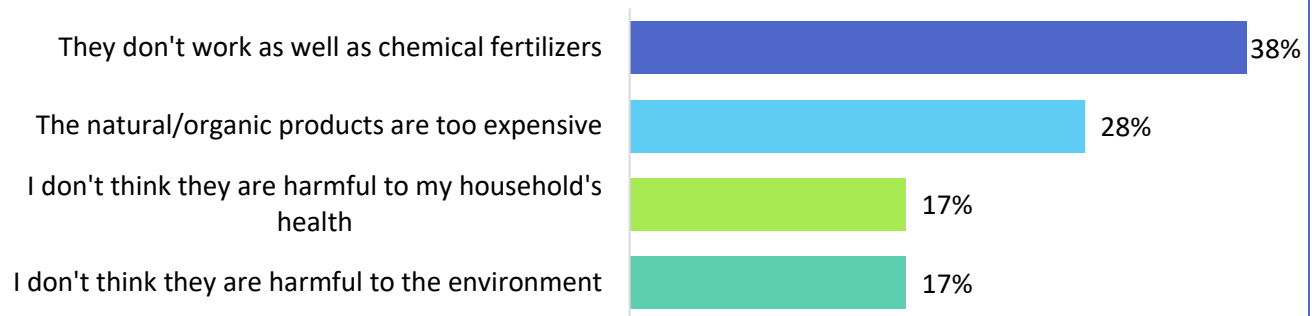
<sup>20</sup> Of comments focusing on the ads, nearly all cited one of the first two: I ignore ads/Ads don’t influence me.

## Barriers to using organic fertilizer

Finally, we asked those who said that the campaign ad would not influence their behavior because they were not interested were asked to identify their main concerns about organic fertilizer. From a list of reasons we provided, the most frequently selected was the concern that organics didn't work as well as chemical fertilizers, followed by the concern that organics are more expensive.

Respondents were again given the opportunity to write in any additional reasons that were important to them, but only two people did so.

Chart 21. Perceived barriers to organic lawn fertilizer (n=46)

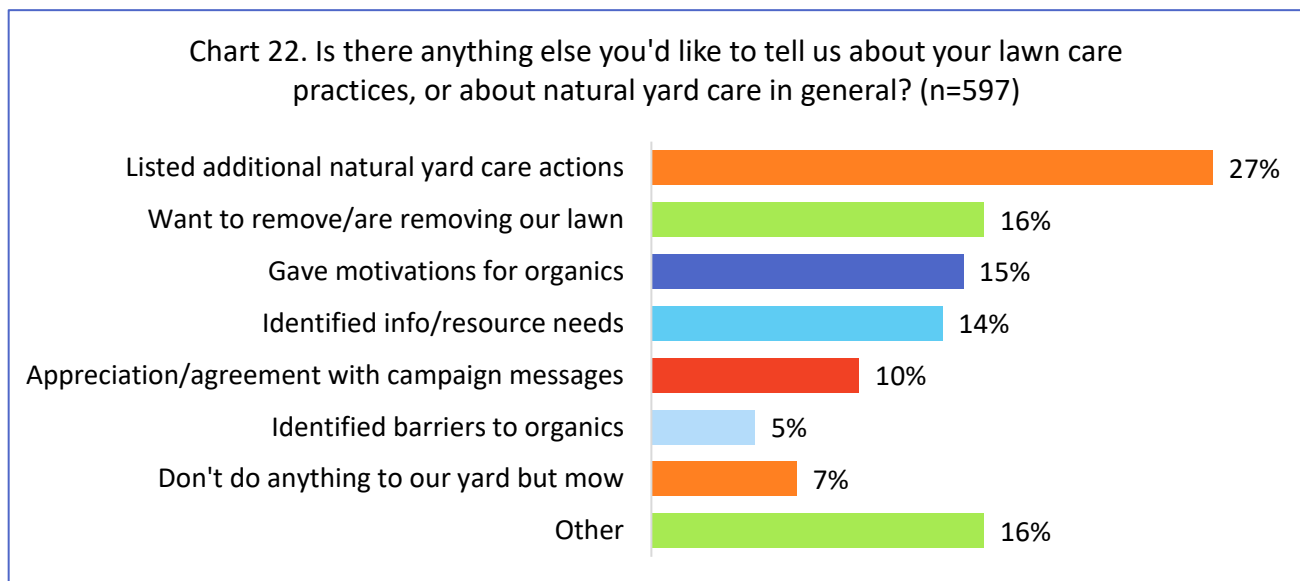


# Additional comments from both direct mail and online survey respondents

## Additional comments from survey respondents

Respondents to both the direct mail and online survey were asked, at the end of the survey, whether there was anything else they wanted to share about their lawn care practices – or about natural yard care in general.

Thirty-one percent of total survey respondents did so. In our experience, this is a high percentage of responses to an “Anything to add?” question. It’s also worth noting that nearly all were substantive and related to the topic.



## Response categories

As reflected above, the most common response was to cite additional lawn care practices they engaged in, aside from fertilizing. In order of frequency, practices that were mentioned included: leaving the lawn dormant and not watering in the summer, weeding by hand, using native plants, mulching, setting the lawn mower higher, seeding with clover, and using compost.

*Besides not using any products, we also mow to the maximum height of our mower and leave the clippings on the lawn.*

*I have, over the past four years, been building my soil by aerating and mulching.*

*Planning in bringing in soil amending compost to build the soil so fertilizer can be eliminated. We physically pull weeds. Only clover is too difficult. We leave that for the rabbits.*

The next most frequent response category was comments about wanting to reduce or replace their grass lawn:

*A workshop on how to tear up the grass and appropriately install native plants would be more useful to me. The grass is way too labor intensive, especially the older I get!*

*Would love to learn how to have a non-grass yard for the dogs to play in.*

*Please provide information to residents on plants that are a good alternative to grass, when planning to turn a lawn into a meadow. Thanks!*

Many respondents cited motivations for using organics, with equal numbers citing backyard wildlife (especially pollinators), healthy environments for people and pets, and concerns about local water quality from chemical runoff.

*I don't use any chemicals because I have honeybees. I think that using pollinators for an advert like this could also be very effective.*

*We love our pollinators and are happy to have a lawn with clover and some weeds if it helps the insect population.*

*It takes a lot more time and effort to create a healthy organic space with community HOAs. But I know I have a safe place for my grandkids, animals, and wildlife.*

Fourteen percent identified information and/or resources they would like. The most frequent topic within this category was the need for advice on dealing with weeds/invasive plants organically. Some also asked for materials to convince others (HOAs or neighbors), and for advice on how to know what “natural” or “organic” actually means when it comes to advertising products.

*I don't do much to my yard for actual lawn health, but I do treat for moles because that is an issue. I am concerned about what that does to the environment and streams from runoff. Still, I have to treat (it) because they are causing sinking around sewer drain lines, and other issues.*

*I'm nervous about using anything on my lawn since it seems like "natural" and "organic" are sometimes used for products that are really unsafe. I use a weed puller and let the lawn grow without any additives, but I do wish I knew a way to make it look better without risk.*

*We think natural lawn care (including chemical free weed management) is VERY important, but we live in an HOA that sprays roundup on every common surface. We need resources to share with the HOA board to convince them that there are better alternatives that will work.*

*I do not use spray weedkillers and wish to avoid toxins as much as possible. I pull weeds by hand but what an ongoing pain. Tips on keeping weeds at bay naturally are much appreciated!*

Ten percent gave comments of appreciation and agreement for the messaging in the ads.

*I appreciate that Kitsap County offers these types of resources for homeowners! They are not only good for homeowners but for our environment as well!*

*I'm already fish aware and focused so you're preaching to the choir.*

Seven percent of comments fell into the category of, “I don’t do anything to my yard but mow.” For example, “We are the only home in our cul de sac that receives baggies with landscapers’ business cards. I arrange them artistically.”

Only 5% made comments about barriers to using organics, likely because earlier questions had explored this topic already. The barrier mentioned most often by this 5% was the challenge of dealing with weeds/invasives without toxic chemicals. E.g., *“The natural yard care that I have tried does not kill weeds or moss and doesn’t keep grass as green. If something great exists I’d love to know about it;” “I don’t have kids, and I love how wildlife is safe to use my yard. Although I do mow, I have dandelions, daisies, clover, etc. instead of lush grass, mainly because I prefer to have frogs and deer. HOWEVER, lately I have gotten a bunch of Herb Robert and how do I get rid of it without products? It’s everywhere.”*

Other topics mentioned by multiple people (fewer than 5% apiece) included comments reflecting lack of agency (i.e., someone else makes the decisions), opinions about what the County/town should do,<sup>21</sup> and unrelated responses (2%), and negative comments, made by just 1%. E.g., *“How about the County take care of fixing the roads, and I take care of my lawn?”*

## Differences by jurisdiction

While comments did not vary greatly by jurisdiction, there were a few differences:

- Respondents from Bainbridge Island were the most likely to share additional NYC steps they have taken, and to make comments of agreement or appreciation for the campaign.
- Respondents from Gig Harbor and Port Orchard were the most likely to make comments reflecting lack of agency. I.e., referencing their HOA’s rules – or a housemate’s control – as barriers to taking action. (See p. 58 in the Appendix for a comprehensive breakdown by jurisdiction.)

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<sup>21</sup> Most of these were concerns about whether Kitsap County was spraying herbicides and/or pesticides along roadways, along with a few comments about jurisdiction-specific actions they’d like to see. E.g., *“We should have a rule in Gig Harbor that houses can’t require lawn. Would rather have low-water native landscaping.”*

# Findings

## Part 3. Webinar results

### In this section:

- ✚ Registration and attendance rates
- ✚ Publicity avenues
- ✚ Satisfaction with webinar and likelihood of recommending
- ✚ Current and intended engagement in target behavior
- ✚ Questions about natural lawn care
- ✚ Changes reported by participants since attending the webinar

### Background

Each of the three workshops was presented by a Master Gardener affiliated with Washington State University's Extension program. The PowerPoint presentation lasted 20 minutes, followed by a question-and-answer period, which ran from 15-30 minutes, depending on the session. Nearly all participants stayed through the PowerPoint and the majority stayed for the Q&A as well.

### Audience & publicity

One hundred and three people registered for one of the webinars, and 29% of these (n=30) attended, with an average of 10 per session.

Among people who registered for a webinar, 77% (n=77) were in the priority audience of households that have children under 18 and/or pets with access to the yard. Registrants lived in all seven WSSOG jurisdictions, with the largest percentage coming from Unincorporated Kitsap.

Facebook was by far the primary route through which people heard about the webinars. Another quarter learned about them through the email newsletter sent out through GovDelivery and 10% through the campaign postcard mailed to area households.

Chart 23. Workshop registrants came from all 7 jurisdictions (n=103)

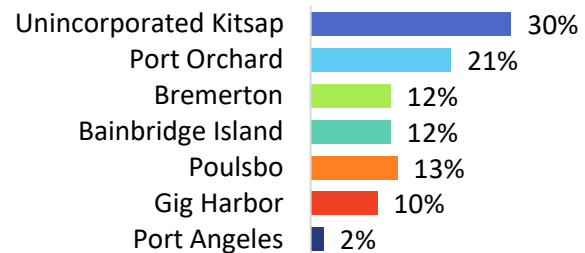
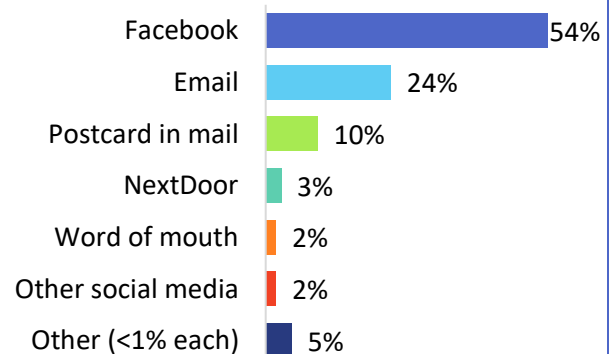


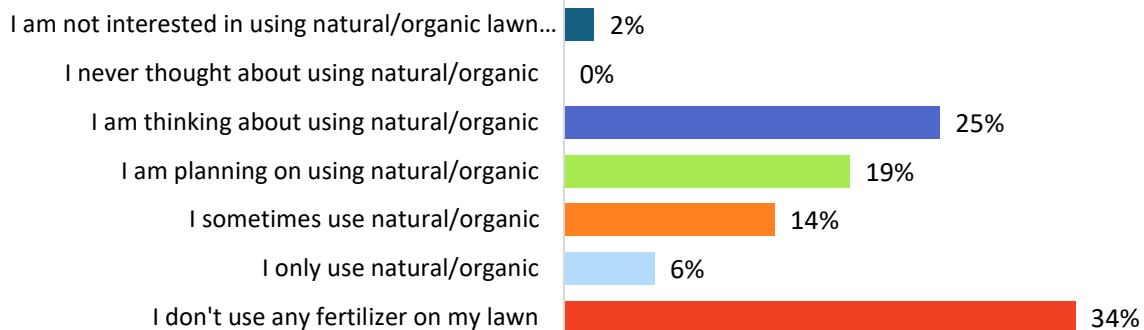
Chart 24. Over half heard about the events on Facebook (n=103)



## Current practice regarding target behavior

The largest percentage of registrants said they don't use any fertilizer on their lawn (organic or otherwise). Another 39% were considering using organic (thinking about it or planning to do so in the near future), and 20% used organic lawn products some or all of the time already.

Chart 25. Most registrants were either considering using natural/organic lawn care products, or did so some of the time already



## Participant questions about lawn care

Prior to the webinar, those who had registered were asked to write down any questions or concerns they had about natural lawn care. Forty-one percent wrote in questions, with the most frequent being ways to deal with weeds/invasive plants and pests naturally, how to control moss, info on organic products and alternatives to lawns.<sup>22</sup> For example:

*How do natural lawn products help existing lawns? Do they help reduce weeds?*

*How to get rid of sticker bushes and moss in my grass naturally/safely, as moss has taken over and I have a dog.*

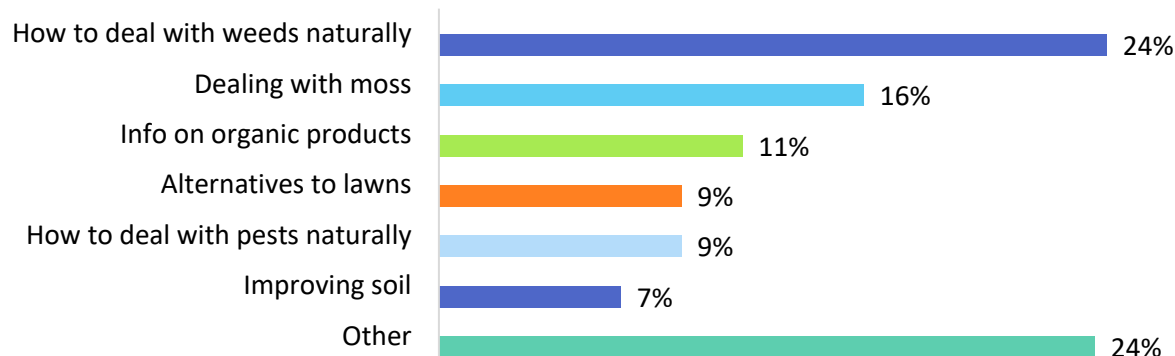
*Can you talk about short wildflower meadows?*

*What is a safe weed and feed product for lawns and growing fruit trees?*

*Our neighborhood has issues with various weeds and invasive grasses, and we live near water (so) I don't want to pollute.*

<sup>22</sup> Many other topics were mentioned by one or two people apiece, ranging from how to repair a dog urine-damaged lawn, the best lawn mower blade length to discourage weeds, best lawn for "paw traffic," and general questions asking for info or resources. E.g., "I'm a new homeowner and have no idea what I'm doing."

Chart 26. Over 40% identified topics they hoped to learn about at the webinars  
(n=41)



## Immediate post-webinar survey

### Satisfaction

Immediately after the webinar, respondents were asked to fill out an online survey about their experience. Sixteen people (55%) completed the survey.<sup>23</sup>

- 100% of attendees said the webinar met (75%) or exceeded (25%) expectations.
- When asked how likely they were to recommend the webinar to family, friends or coworkers, respondents gave it a mean score of 8.8 on a 1-10 scale (1 low, 10 high). The Net Promoter Score is 56%; scores above 50% are generally considered very good to excellent.<sup>24</sup>

Six of 16 respondents made comments at the end of the survey; all of these were positive. One person made a request: recommendations for the best tools for manually removing weeds. Sample quotes:

*It was very well run, jumped right in, information was very helpful, and I greatly respected the speaker's approach to lawn health. I'm very very pleased that your program is spreading this information. Our earth needs it so thank you!*

*This was great for me since I just moved to the PNW and this is a much different growing climate than where I moved from.*

*It was well done with the background support. The speaker's knowledge was supported by others which was nice. I was surprised (speaker) did not know about Tagro.*

<sup>23</sup> The survey was set to appear immediately after the webinar, but due to a logical glitch, not everyone saw the pop-up. So, some of these respondents took the survey immediately; others did so after an email request following the webinar.

<sup>24</sup> The Net Promoter Score (NPS) aims to measure the % of customers for a business or other organization who would be considered active promoters, based on their likelihood of recommending. See <https://www.bain.com/consulting-services/customer-strategy-and-marketing/net-promoter-score-system/>

### Target behavior

As reflected at right, most respondents have used non-organic chemicals on their lawns within the past few years. A quarter (n=4) have used natural or organic fertilizer; one of these had also used weed and feed. Three respondents had used other products including Tagro (two mentions) and Triazolid, an insecticide.

Table 3. Which of these products, if any, have you used on your lawn in the past few years?	Responses (n=16)
Weed & feed	5
Moss killer	5
Natural or organic fertilizer	4
Weed killer	4
None of the above	4
Nonorganic / slow release	0
Other products	3

### Impact on intended behavior

To assess the impact of the webinar on participants' intent to switch from weed and feed to natural/organic lawn products, the survey included a question aimed at measuring progress in peoples' willingness to make this shift.

#### Changes pre-post survey

Those who attended a webinar were compared to those who completed the survey soon afterwards.

While participants were more likely to say they were planning to do the target behavior after the webinar, they were also more likely to say they already used exclusively organic. Given the relatively small number of webinar participants (n=29, half of whom completed the post-survey), it's impossible to say whether this reflects a statistically significant change.

Table 4. In terms of using natural/organic fertilizer, which best describes you?	Pre (n=103)	Post (n=16)
Not interested	0	0
Never thought about it	0	0
Thinking about it	13%	21%
Planning on doing it soon	28%	33%
Sometimes do it	7%	7%
Always do it	14%	27%
Not interested in using any lawn products	31%	20%

### Self-Efficacy in Lawn Care

Participants were also asked to rate their confidence post-webinar in their ability to create a healthy lawn using natural/organic products.

- On a scale of 1-10 (1 being low, 10 being high) the mean confidence score was 7.0 with 15 responding.
- Seven of the 16 rated themselves as confident (7 or higher); another 7 were unsure or somewhat confident (5 or 6) and 1 as not confident (3).

Asked what would help boost their confidence, those who rated themselves a 6 or lower cited:

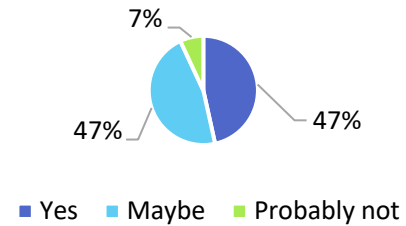
- Questions about whether they could control weeds without toxic chemicals. E.g., *"I like having a well-groomed lawn but I'm concerned about weed control, especially larger type weeds...ie: dandelion."*
- Concerns about cost. E.g., *"Not certain it will be effective without costing a lot more."*
- Doubts about whether other household members would be on board. E.g., *"Unsure if spouse will comply."*

## Intent to use coupon for organic fertilizer discount

Respondents who had attended a webinar were roughly split between those who said they intended to use the coupon for 25% off natural/organic fertilizer, and those who said they would “maybe” use it.

Attendees were given the opportunity to sign up for a follow-up email exchange with a Master Gardener a few months after the workshop to address any lawn care questions they might run into. Four people signed up for this follow-up support.

Chart 27. Do you plan to use the discount coupon?



## Six-month post follow-up survey

Six months after the webinar, a survey was sent to everyone who had registered. Twelve percent (n=12) responded; seven of the 12 had attended the webinar.<sup>25</sup> When asked what motivated them to attend, one person said they attended “just to learn a little, get some information.” The rest said they attended to learn how to take care of their lawn without toxic chemicals. For example:

*Wanted to find out about ways to keep the lawn nice without putting chemicals in the water.*

*Advice to take better care of my weeds and grass in an environmentally safe way.*

*To learn how to naturally take care of my yard without harsh chemicals.*

### Key Findings

Among those who registered but didn’t attend, the [primary reasons for missing the webinar](#) were: forgot to watch the webinar, had a time conflict, had issues with the internet or Zoom, or had planned to watch the recording later.

[None of the respondents had used the coupon](#) for 25% off natural/organic lawn fertilizer. The main reason given for not using the coupon was that they didn’t remember receiving the coupon, followed by “*Did not want/need lawn fertilizer.*”

In terms of [intent to do the target behavior](#), approximately 30% apiece said: “*never thought about it,*” “*am thinking about/planning to do it;*” and “*I sometimes/always use organic fertilizer.*”

When asked [what if any changes they had made since attending the webinar](#), five of the seven attendees had taken one or more steps:

- 4 had adjust their lawn mower higher
- 3 had stopped using weed and feed
- 1 apiece had used a mulching mower or left clippings; begun watering more deeply and less frequently; and had aerated their lawn.

<sup>25</sup> One attendee was from Poulsbo, the rest from Unincorporated Kitsap County.

# Findings

## Part 4. Interviews with participating nurseries

### In this section:

- Coupon redemption numbers and locations
- Satisfaction with webinar and likelihood of recommending
- Nurseries' perspectives on logistics & impact of NYC campaign
- Suggestions for the future

### Background

Six retail establishments across the West Sound participated in the Natural Yard Care coupon promotion during the spring of 2023. The coupons offered a 25% discount (or up to \$15 off) on select natural or organic lawn fertilizer products. (See coupon below.)

Table 5. Participating nurseries	# coupons redeemed	Nursery location
Airport Garden Center	19	Port Angeles
Bay Hay & Feed	8	Bainbridge Island
Bremerton City Nursery	23	Bremerton
Gig Harbor Ace Hardware	10	Gig Harbor
Vern's Organic Topsoil	8	Poulsbo
Walrath Landscape Supply	0	Gig Harbor
Total coupons redeemed	68	

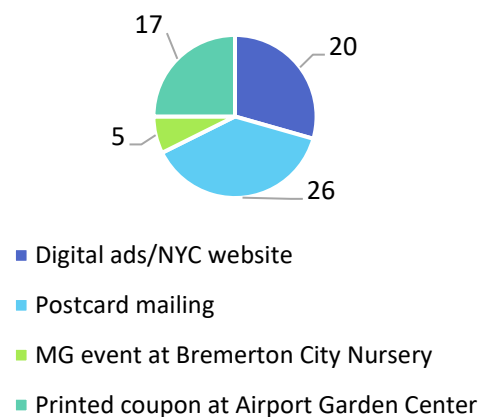
Coupons were active from April 1-June 18, 2023, and could be downloaded from the digital ads, NYC website or the NYC postcard sent by direct mail. In addition, one nursery (Airport Garden Center) printed out coupons and shared them with customers during their visit.

Info provided by communications and marketing firm C+C, who created the coupons and tracked redemptions, found that the printed coupon that Airport Garden Center staff handed out was responsible for almost as many redemptions as the digital campaign.<sup>26</sup>

### Interviews with nurseries

Four of the nurseries (Airport Garden Center, Bay Hay & Feed, Bremerton City Nursery & Walrath Landscape Supply) participated in short interviews (phone or in-person) following the campaign.

Chart 28. Source of coupons (n=68)



<sup>26</sup> C+C also noted that Gig Harbor Ace Hardware began using the same method (an in-store flyer) halfway through the campaign.

Because of the anomalies in recent years (the COVID pandemic and an unseasonably late spring in 2022), the nurseries noted the challenges of seeing distinct patterns in overall fertilizer sales over the past three-four years. However, three of the four reported that sales were strong during this most recent year. Airport Garden Center, for instance, was up 15% in fertilizer sales compared to 2022.

### Logistics of coupon redemption

All four retailers felt the coupon redemption process worked fine for their staff. Staff at Bay Hay and Feed suggested that having a specific dollar amount off (rather than a percentage) would make the process even simpler for both staff and customers; the other three nurseries agreed. But none felt the process was arduous. *“We’re pretty versed in coupons,”* says Betsy Matthews, co-owner of Airport Garden Center, *“and one of our trainings for new staff is coupons.”*

Matthews also shares that she made a log for staff to use listing what the coupon was for, customer’s first name (so there weren’t duplicate redemptions), and type of coupon – whether from the postcard, social media, in-store copies, etc. Next time around, says Matthews, she’s planning to add two questions to the log: 1) whether the customer is a first-time visitor, and 2) whether they’re a first-time organic fertilizer user, to see if the coupon promotion influenced these.

Another logistical challenge was that the product one company (Walrath Landscape Supply) ordered for the promotion was, says Jami Burke (soil consultant at Walrath), *“A very good product, but it’s more expensive than some and the instructions aren’t as clear as they could be. In the future, I’d get a brand where the instructions are less complicated.”*<sup>27</sup> While they are interested in participating in a coupon redemption again next year, she notes that they have a lot of product still on hand. She hadn’t been aware, she says, what the goal was for coupon redemptions, so in retrospect, she over-ordered.

As noted above, both Gig Harbor and Airport Garden Center ended up printing out coupons and handing them to customers. The other two were asked if this was something they’d consider in future. Els Heijne, manager at Bay Hay and Feed, noted that while they weren’t opposed to this, this approach wouldn’t enable WSSOG to measure the success of the digital/postcard campaigns.

### Impact on interest in organic fertilizer

We also explored whether the ad campaign and coupon generated any conversations with customers – such as first-time buyers - about using organic fertilizer, like how to apply it, how often, etc. All four of these nurseries highlight organic products as part of their regular practice, however; as a result, none recalled getting questions from people who seemed to be new organics users.

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<sup>27</sup> The product is from Hendrikus Organics. <https://www.hendrikusorganics.com/about-ushttps://www.hendrikusorganics.com/about-us>

Three of the retailers noted that they are known for their philosophy of using organics, so they don't get many questions from people wondering whether to buy organics. *"We're about organics,"* says Heijne at Bay Hay and Feed, *"and people know that."* Justin Dreary, one of the owners of Bremerton City Nursery, agrees. *"People wouldn't come asking about weed and feed vs. organic; they know we're organic."* Adds Betsy at Airport Garden Center, *"We've been training our customers to use organics for a long time, so it's probably 95% of our customers who buy them. We still have some that's not (organic) but they're all in the back and you have to ask for them specifically. We have some old farmers who don't want to switch."*

The fourth retailer – Walrath Landscape Supply – says they're known more for supplying soil, gravel and hardscape more than they are for fertilizer, although they are planning to build up the garden side of their business. Jami Burke also notes she wouldn't expect to get a lot of questions about organics in her area because, *"...there are a lot of lawn care companies in this area; many people use them and there are high expectations for lush, green lawns. It would require a lot of educational outreach to move people away from that, and I don't know whether this (WSSOG campaign) had much of that element."* Prior to working at Walrath, Jami explains, she was part of a team that conducted home visits with households in Olympia, WA, focused on switching to organics to improve stormwater. *"People don't necessarily know,"* she says, *"why to use organic, how to use it, what the issue with phosphorus is, etc. They really need one-on-one help and conversations to apply the knowledge to their own landscape."*

## Suggestions for future

All of the retailers interviewed are interested in participating in future coupon redemptions to promote natural yard care. Suggestions raised by the nurseries included:

- ❖ As mentioned earlier, considering a straight dollar off promotion rather than a percentage (i.e., \$15 off rather than 25% off). (Four mentions)
- ❖ Having a discount that is available on the day their nursery could hold an event highlighting organic lawn care. (Three mentions) Airport Garden Center for example, says they hold well-attended events focusing on fruit trees, Mason bees and other pollinators which would pair well with the organic message.
- ❖ Figuring out how to incentivize stores that are stocking weed and feed and other nonorganic products to participate in the promotion. As interviewees noted, big box stores are more likely to draw people who haven't yet decided to purchase organic, so would have a better chance of reaching people who haven't yet made the switch. (Two mentions)
- ❖ Adding two items to the coupon tracking sheet: whether the person is a first-time customer, and whether they're a first-time organic fertilizer user. (One mention)
- ❖ Conducting in-person outreach (as WSSOG had planned at the start of this campaign but jettisoned due to COVID 19). (One mention) As noted earlier, Jamie Burke from Walrath also suggested door-to-door visits, if possible, for educational conversations with households about natural yard care. (Burke also offered to serve as a resource for the campaign, because of her prior experience in door-to-door conversations about organic lawn care and her passion for the subject.)
- ❖ Providing nurseries with a ballpark estimate of how many coupons are likely to be redeemed based on performance to date, so nurseries make sure they have enough – but not too much.

# Findings

## Part 5. Calculation of potential campaign impact on nutrient pollution into local waterways

### Pre-post results from online surveys

In January of 2019, prior to the launch of the NYC social marketing campaign, data was collected on current lawn practices among Kitsap County households and perceived barriers to using organic fertilizers. The survey was made available on Facebook, NextDoor, GovDelivery, and in communication channels in Gig Harbor and Port Angeles.<sup>28</sup> Results were compared with the online survey we conducted in 2023.<sup>29</sup> The pre-post audiences were not paired but have the following characteristics in common: owning a home with a lawn, maintaining the lawn themselves, and living within the communities covered by these media channels.

As reflected below, respondents to the post-survey were slightly less likely to have used non-organic fertilizer or weed-and-feed within the past few years, though the differences fall short of statistical significance. It's important to note that:

- The figures for baseline include only households with children and pets; the post figures included all households who have a lawn and maintain it themselves. Because of the low percentage of respondents who provided household demographics there are not enough cases in each of the conditions to conduct a robust comparison of households with and without children and pets who also used these products.<sup>30</sup>
- The post survey was conducted about two months after the NYC ads ran. Since people were reporting on their behavior in recent years, we don't know whether they had used non-organic products in the two months *since* seeing the ad.
- Given the four-year gap between pre and post, there are factors aside from the NYC campaign that may have influenced peoples' attitudes and behaviors regarding the use of non-organic fertilizer and weed-and-feed. With consumers' increasing concern over the use of synthetic chemicals, for example, the organic fertilizer market has grown in recent years.<sup>31</sup>

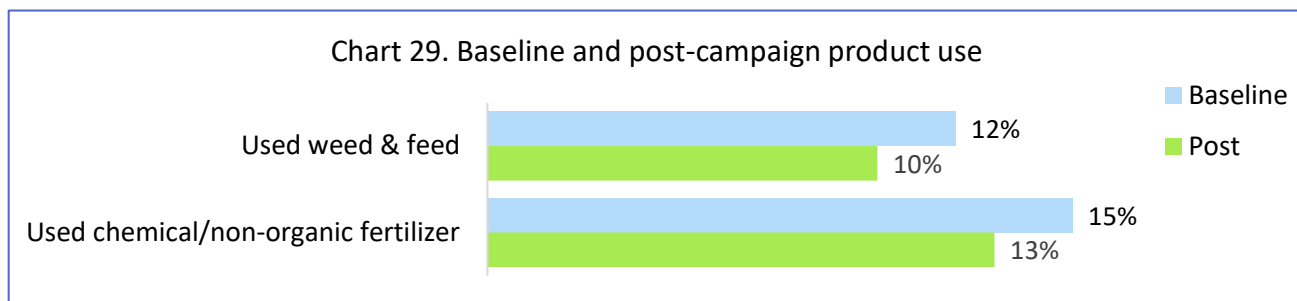
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<sup>28</sup> Hardwick Research (2019) *WSSOG Stormwater Runoff Survey*, Kitsap County.

<sup>29</sup> Households who responded to the Direct Mail survey were not included in this sample, since they received a different treatment (a postcard in the mail vs. seeing the messaging online).

<sup>30</sup> To respect respondents' privacy, we did not require them to answer the survey questions about their household members.

<sup>31</sup> One estimate suggests the organic fertilizer market grew at an 8% rate between 2018 and 2022; see <https://www.futuremarketinsights.com/reports/north-america-organic-fertilizers-market>



## Potential impact of campaign on fertilizer runoff

### Assumptions used in calculating potential impact

The WSSOG members noted at the start of this project that the technology does not exist that would enable behaviors encouraged by this campaign to be linked to observed water quality changes, given a) the many variables affecting water quality in a complex system such as Puget Sound, b) the widespread geographic scope of the campaign, and c) the relatively small scale of the campaign.

Lacking an independent measure that could provide insight into cause and effect, what we present below is an estimate of the amount of inorganic fertilizer that *would be prevented* from entering Puget Sound if this audience's intent to act were to lead to the desired behavior. The calculations are based on the following assumptions:

- ❖ We assumed an average usage of 2.85 pounds of fertilizer used per 1,000 square feet.<sup>32</sup> The calculations are based on a single application of fertilizer. (A survey conducted by Hardwick Research at the outset of this campaign found that most people using weed and feed-type products used them once a year or less; 31%, however, fertilize more than once a year.)
- ❖ We found estimates in the literature for degree of runoff (i.e., the percentage of fertilizer that typically runs off the property after it's applied) ranging from 2% to 64%. Degree of runoff varies dramatically; it is influenced by when it was applied (e.g., after a rainstorm), degree of saturation or soil compaction, type of fertilizer (slow or fast-release), steepness of slope, etc. For the purposes of getting a ballpark sense of the amount of inorganic fertilizer that may have been diverted from Puget Sound through this campaign, we used the figure of 20% based on Maciolek et al in a 2005 study of Boston Harbor,<sup>33</sup> cited by the World Resources Institute.<sup>34</sup>

It's worth underscoring that the figures below showing potential impact on Puget Sound are based not on independently observed behaviors, but on survey respondents' self-reported intent when it comes to using organic rather than inorganic fertilizer. Intent to act is one of the variables that predict whether we *will* act, but we can't know for sure how many followed through.

<sup>32</sup> Estimates vary depending upon the exact product; this estimate is drawn from the recommendation by Scott's (14.29-pound bag to cover 5,000 square feet). <https://www.homedepot.com/p/Scotts-Turf-Builder-14-29-lbs-5-000-sq-ft-Weed-and-Feed-Weed-Killer-Plus-Lawn-Fertilizer-25006A/205546050>

<sup>33</sup> Maciolek, N.J., R.J. Diaz, D.T. Dahlen, C.D. Hunt, and I.P. Williams. 2005. *2003 Boston Harbor Benthic Monitoring Report*. Boston: Massachusetts Water Resources Authority.

<sup>34</sup> Report on eutrophication and hypoxia around the globe, published by the World Resources Institute. See <https://www.wri.org/initiatives/eutrophication-and-hypoxia/references>

## Direct mail survey results on intended behavior change

The sample used for the calculations below is 1187, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 1187:

- 34% (401) said the NYC ads were “likely” or “very likely” to influence their own lawn care practices.
- Of these, 38% (n=152) said they were already using only organic fertilizer or weren’t using anything on their lawn.
- The other 62% (n=248) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, **17% of direct mail respondents** can be described as showing intent to adopt the new behavior.

Table 6. Potential impact based on respondents who say they are likely to use organic/fertilizer (and not currently doing so)

### DIRECT MAIL RESULTS

n	Total square feet of lawn among respondents	Total square feet / 1,000	1,417.51 x 2.85	4,039.91 x .20 (estimated runoff)
248	1,417,514 square feet	1,417.514	4,039.91 pounds	<b>807.98 pounds</b>

Table 7. If extrapolated to entire direct mail audience (n=14,350)

### DIRECT MAIL RESULTS

n	Average lawn size of respondents	Total square feet	Total square feet/1,000 sq.ft	16,743.73 x 2.85	47,717.55 x .20
2439	6,865	16,743,735.00	16,743.735	47,717.55 pounds	9,543.51 pounds = 4.77 tons

## B. Social media/online survey results on intended behavior change

The sample used for the calculations below is 875, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 875:

- 36% (315) said the NYC ads were “likely” or “very likely” to influence their own lawn care practices.
- Of these, 44% (n=135) said they were already using organic fertilizer exclusively or hadn’t used any products on their lawn.
- The other 56% (n=175) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, 20% of online respondents can be described as showing intent to change their behavior to using organic fertilizer.

Table 8. Potential impact based on respondents who say they are likely to use organic/fertilizer (and aren’t currently doing so)  
ONLINE RESPONSE

n	Total square feet of lawn among respondents	Total square feet/1,000 sq.ft	4,648.397 x 2.85	13,247.93 x .20
175	4,648,397	4,648.39	13,247.93 pounds	2,649.58 pounds or 1.32 tons

Table 9. If extrapolated to online audience as a whole  
ONLINE RESPONSE

n	Average lawn size	Total square feet	24,789,126/1,000 sq.ft	24,789.126 x 2.85	70,649.00 x .20
1338	18,527 sq. ft.	24,789,126	24,789.126	70,649.00 pounds	14,129.80 pounds or 7.06 tons

# Conclusions and Recommendations

The Natural Yard Care social marketing campaign conducted by WSSOG over the past few years has resulted in messaging that target audiences find compelling, and that a quarter believe will influence their behavior: switching from nonorganic lawn products to natural/organic ones. The campaign has also provided valuable lessons for WSSOG that can be applied to future efforts, and partnerships with local nurseries who are committed to encouraging organic products. It is especially noteworthy that the campaign began just a few months before the COVID pandemic, which made it impossible to carry out the initial campaign plan.

## Campaign Outputs

Through a combination of ads placed on social media, mailings to households, discount offers for reduced-price organic fertilizer, and webinars offered by a Master Gardener, 2023 campaign results include:

- ❖ Facebook ads that reached an estimated 94,144 people throughout Kitsap County, Gig Harbor and Port Angeles
- ❖ Another 14,347 reached through postcards replicating the Facebook ads sent to households in the same area
- ❖ Three webinars, attended by 29 people
- ❖ Discount coupons for organic fertilizer, redeemed by 68 people at one of five area nurseries

## Outcomes among survey respondents

In all, 2481 completed surveys; of these, 2093 were in the target audience of a) having a yard with grass, and b) maintaining the lawn themselves.

- ❖ After reviewing the NYC ads, 34% said the ads were likely or very likely to influence their lawn care practices. Not counting those who were using organic exclusively already, this translates to [19% of the audience showing intent to adopt the target behavior](#).
- ❖ The two main study samples (social media respondents and direct mail respondents) were very similar in terms of interest in the target behavior. For example, 42% of direct mail respondents indicated willingness to engage in the behavior,<sup>35</sup> compared to 43% of social media respondents. And 34% of the direct mail group said the NYC ad was “likely” or “very likely” to influence their lawn care behavior compared to 36% of the social media group.
- ❖ The aspect of the ad campaign the audience found particularly compelling was the focus on things they cared about: protecting marine life and Puget Sound; protecting their children, pets, and families; and protecting nature in general. People also liked the use of direct and compelling words like “healthy” and “safe,” and some appreciated the offers for fertilizer discounts and webinars.
- ❖ When asked about products they use on their lawns, the most frequent response was, “*I don’t use any products at all.*” Roughly 20% have used weed and feed, moss killer, weed killer, or a nonorganic, slow-release fertilizer.
- ❖ Very few people, however (approximately 5%) say they are *not* interested in using organic fertilizer. (Another third say they are not interested in using *any type* of fertilizer on their lawns.)

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<sup>35</sup> That is, saying they were either thinking of doing it, planning to do it in the near future, or already doing it some of the time.

- ❖ In all, 40% of the audience surveyed falls into the “willingness to change” category. They have already thought about doing the target behavior, have planned to start doing it, or have begun doing it at least some of the time.
- ❖ Among those who are willing to engage in the target behavior, the challenge of controlling weeds and/or invasive plants was a primary barrier. Among the audience as a whole, the most prominent barriers were a) the perception that organics don’t work as well as chemical fertilizer, and b) the organic products are too expensive.
- ❖ When given the opportunity to make general comments about their own lawn care practices or about natural yard care in general, the most frequent topics that emerged were:
  - Comments on NYC steps the respondent was taking aside from not using weed and feed-type products
  - Comments about wanting to reduce or remove their lawn
  - Comments about topics the respondent would like help with, including learning and/or resources
  - Comments about the perceived benefits of not using weed and feed-type products or other lawn chemicals
  - Comments of appreciation and/or agreement with WSSOG’s NYC campaign
- ❖ While comments did not vary greatly by jurisdiction, there were a few differences:
  - Respondents from Bainbridge Island were the most likely to share additional NYC steps they have taken, and to make comments of agreement or appreciation for the campaign.
  - Respondents from Gig Harbor and Port Orchard were the most likely to make comments reflecting lack of agency. I.e., referencing their HOA’s rules – or a housemate’s control – as barriers to taking action.

## Lessons learned

- The campaign messages of caring for children, pets, marine life, and Puget Sound were compelling to the audience as a whole – not only households with children and/or pets. Because the ad campaign featured an image of a seal pup and mother (the photo that the audience found most compelling), the campaign had broader appeal than may have been expected initially.
- Having a pet at home with access to the yard seems to alter respondents’ yard care behavior in a way that having children at home did not. Pet-owning households were more likely to say they didn’t use any lawn products, and more likely to use organic products than households with children – or households with neither children or pets. One explanation may be that pets are spending more time in the yard (year-round) than children, so raise more concerns about exposure.
- Because the participating nurseries focus on organic products already, it was unclear whether the discount coupons were encouraging first-time customers or first-time organic users – rather than regular organics customers who appreciate the discount. All of the nurseries we interviewed were interested in participating again in the future, and some made suggestions for strengthening the campaign.

- ❖ While the cost of organic products remains a perceived barrier for many, the **primary barrier among those who showed willingness to change was the challenge of treating weeds and invasive plants without toxic chemicals.**

## Recommendations

### Audience segmentation

The results of this study suggest that when it comes to willingness to engage in the target behavior, the audience can be segmented into four categories:



Group A = Not interested (33%) This subset includes:

- People who are not interested in using organic fertilizer on their lawns (5%)
- People who aren't interested in using fertilizer of any kind on their lawn (28%)<sup>36</sup>



Group B = Not on their radar at this point (10%). People who said they had “*never thought about*” using organic fertilizer.



Group C = Already doing the target behavior consistently (14%) These are people who said they only use organic fertilizers on their lawns AND haven't used any inorganic products (weed and feed, slow release/nonorganic, weed killer, etc.) for at least the past few years.



Group D = Open to change (43%). People who have used inorganic fertilizers in the past, express an intent to change their lawn care practices, and say they were influenced to do so through the NYC campaign.

These categories draw from the Transtheoretical Model,<sup>37</sup> which offers a model for how individuals move through six stages of change, from:

- Precontemplation (not interested/not thinking about it)
- Contemplation and preparation (thinking about it/planning to do it soon)
- Action (starting to do the behavior, or doing it some of the time)
- Maintenance (doing it consistently over time)

Viewed through this lens, Group D is the most likely to change their behavior. And for this group, the key task isn't necessarily to convince people to use organics; many of them understand and articulate the benefits of organics already. They do face barriers, and the data suggests that dealing with perceived challenges – in particular, controlling weeds, invasive plants (and for some people, moss) – organically and effectively is the primary one.

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<sup>36</sup> Includes people who also said they're planning to reduce or remove their lawn.

<sup>37</sup> The model was initially developed to understand and treat health-related behaviors but has been applied in multiple areas of human behavior. See, for example, Inman, R.A., Moreira, P.A., Faria, S., Araujo, M., Cunha, D., Pedras, S. and Correia Lopes, J. (2022) An application of the transtheoretical model to climate change prevention: Validation of the climate change stages of change questionnaire in middle school students and their schoolteachers, *Environmental Education Research*, 28:7, 1003-1022, DOI: [10.1080/13504622.2021.1998382](https://doi.org/10.1080/13504622.2021.1998382)

## We recommend:

- ✚ **Focus future behavior change efforts on Group D for maximum impact** through activities that offer guidance on organic methods for weed control and improving grass health. This approach can also help reinforce the behavior among those who already do the desired behavior (Group C) by addressing any ongoing challenges.

Because lawn care is very context-specific and requires development of knowledge and skills through practice, we suggest that activities aimed at this group should incorporate opportunities for one-on-one or small group conversation based on issues.

Such activities could include:

- As WSSOG had initially planned, workshops and other outreach events at local retailers offering hands-on demonstrations and advice on organic approaches to weed control and grass health.
- Exploring possibilities for peer-to-peer learning, which can be especially valuable for practicing new skills. For example, neighborhood tours could be offered where participants visit the yards of households who are already using organic fertilizer and are able to ask questions about the process. A surprising number of survey respondents offered information about natural yard care steps they're already taking, indicating a willingness to share their experience and knowledge.
- Downloadable webinars and/or materials focused on individual topics. Based on respondents' questions and comments, topics might include alternatives to lawns, dealing with moss, controlling weeds and nontoxic treatment of invasives, how to improve soil, how to strengthen lawn health through mulching and composting, etc. There are many examples of natural yard care info online already,<sup>38</sup> but they generally cover a range of topics without great depth.

- ✚ **Revisit the behavioral ask.** While the target behavior (don't use weed and feed-type lawn products) can be communicated in one sentence, the action is multifaceted. Assuming that most people have a reason for using products like weed and feed – controlling weeds or having a green lawn – they will need to come up with an alternative way to address these issues. Even if they make a clean switch to an organic fertilizer, front-end research for this project found that among those who used organic lawn products, nearly half said it took over a year before they felt confident that the lawn was going to look the way they wanted, and 38% said it took over two years.<sup>39</sup>

Social marketing researchers recommend that target behaviors be a) non-divisible, and b) end-state. Dr. Doug McKenzie-Mohr, environmental psychologist and author of Fostering Sustainable Behavior and multiple articles on social marketing, suggests determining whether a behavior is end-state by asking, *“Will engaging in this behavior produce the desired outcome, or will my audience need to do something else before the desired outcome is achieved?”* In the case of stopping the use of weed and feed-type lawn products it's worth considering whether the desired outcome for the audience is the lack of toxic chemicals in the yard alone, or a yard that doesn't use toxic chemicals AND that they are happy with.

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<sup>38</sup> For example, <https://tpchd.org/healthy-homes/dirt-alert-tacoma-smelter-plume/natural-yard-care/> and <https://www.seattle.gov/utilities/protecting-our-environment/sustainability-tips/pollution-prevention/yard-care>

<sup>39</sup> WSSOG Stormwater Runoff Survey, Kitsap County. Dec 2018-Jan 2019. Conducted by Hardwick Research.

Examples of non-divisible behaviors related to natural lawn care used by other campaigns include:

- ✚ A *Keeping Grass Off the Streets* campaign aimed at landscaping companies, which encouraged landscapers to blow clippings back into the yard rather than into the road.<sup>40</sup>
- ✚ The *Save the Crabs* campaign in the Chesapeake Bay region, which used a variety of tools (including peoples' love of soft-shelled crab) to encourage the habit of using lawn fertilizer in fall rather than spring.<sup>41</sup>
- ✚ A lawn care behavior change campaign in Southwest Florida that identified a list of behavioral targets for natural yard care, such as: cut grass at the highest setting on your lawn mower, and don't fertilize before it rains.<sup>42</sup>

## ✚ Make it a habit

The Stages of Change model provides a framework for understanding which segments of the audience are open to change. But behavior change efforts need more than the initial impetus. Recent research on habit formation suggests we are most likely to establish a habit if we have the opportunity to practice it repeatedly in a consistent context.<sup>43</sup> (For instance, buying the same fertilizer at the same nursery every time.) Habits develop when the action becomes automatic, so they don't require us to weigh the pros and cons of a behavior each time. This suggests it may be worth considering a behavior to target that people are likely to practice on a regular basis during the gardening season, so it has a better chance of becoming an automatic action.

## ✚ Use additional social marketing tools

The messages and images used in this campaign were quite effective; many indicated they found them compelling, and they reinforced peoples' feelings of care for marine life in Puget Sound as well as for children and pets. While increasing awareness and changing attitudes are worthwhile endeavors and can lay the basis for subsequent action, they aren't synonymous with social marketing, which relies on a combination of tools to encourage actual behavior change. And there is ample evidence that awareness alone does not necessarily lead to action, especially when the desired behavior has significant barriers.<sup>44</sup>

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<sup>40</sup> chrome-

extension://efaidnbmninnbpcjpcglclefindmkaj/https://cfpub.epa.gov/npstbx/files/Alachua%20County%20Environmental%20Protection%20Department%202012.pdf

<sup>41</sup> <https://www.thensmc.com/resources/showcase/save-the-crabs>

<sup>42</sup> chrome-

extension://efaidnbmninnbpcjpcglclefindmkaj/https://www.swfwmd.state.fl.us/sites/default/files/medias/documents/CrystalRiverPosttestReportv1f%20-%20FINAL%20REPORT.pdf

<sup>43</sup> For a discussion of habit formation research related to sustainability behaviors, see

<https://link.springer.com/article/10.1007/s13280-021-01619-6>

<sup>44</sup> Moser, S., & Kleinhüchelkotten, S. (2018). Good intents, but low impacts: diverging importance of motivational and socioeconomic determinants explaining pro-environmental behavior, energy use, and carbon footprint. *Environment and Behavior*, 50(6), 626-656.

The WSSOG campaign has already made use of social marketing approaches and tools, including front-end research to identify the audience and perceived barriers to action, offering an incentive, using trusted messengers (Master Gardeners), and creating effective messages with emotional weight. Additional social marketing tools that could be applied include:

- Social diffusion and setting norms, or engaging people through word-of-mouth and personal relationships with others who are taking the desired action and working with social norms (within neighborhoods or communities) to position the desired behavior as the norm.
- Convenience: Giving people simple tools or instructions to follow so that the action is relatively convenient.
- Commitment: When people make a public commitment, they are more likely to follow through with their behavior. Examples include pledges, which in the case of natural yard care campaigns could take the form of yard signs indicating that they have taken the desired action and are part of the campaign.
- Communications: While the materials developed for the WSSOG campaign are excellent, one additional piece that might be added to future materials is a statement referring to the impact of action. E.g., *“If 100 households did this behavior, we could keep up to x pounds of pollution from entering Puget Sound.”*

### Clarify the intent of the organic fertilizer discount component

The discount coupon for 25% off organic fertilizer was provided as a way to reduce the barrier of cost for people interested in switching to organic. But because the coupon is for one-time use, it may not maintain the behavior beyond that one application. If unfamiliarity with the products and where to find them were the main barrier, simply introducing people to the products through a coupon would be helpful. But with a product consumers buy repeatedly, the discount may be seen as having limited value. Our suggestions include:

- Begin collecting data through nurseries on first-time customers and first-time organic fertilizer users, to find out whether the coupon is having the desired effect.
- Consider providing consumers with a cost comparison between organic and nonorganic fertilizer used over time. Some respondents were unsure as to whether they needed to apply the same amount of organic fertilizer as nonorganic – or more – so weren’t sure what the cost would **amount** to over time.

### Continue and build on partnerships with retailers

As the retail partners for this year’s campaign indicated, most have a strong organic focus and tend not to draw people who are looking for products other than organics. These nurseries and garden centers do share a passion for natural yard care, and express interest in continuing to participate in the campaign and, in some cases, building upon their role. At the same time, a few of the nurseries questioned whether the campaign might try to include a retailer or two representing places that sell the greatest quantities of fertilizer (i.e., big box stores), to reach a broader audience and build interest in organics.

## APPENDIX A. MAIN FINDINGS BY JURISDICTION

### PART 1: DIRECT MAIL RESULTS

Note to readers: Very few households in Gig Harbor responded to the direct mail survey; in addition, this jurisdiction opted not to use a control group. As a result, the number of responses was very low (n=23), resulting in a high margin of sampling error for findings from that jurisdiction. Actual results could vary by as much as 20% plus or minus the totals presented.

Table 10. Survey response rate by jurisdiction: direct mail respondents

Jurisdiction	# of postcards sent	# of responses	Response rate	Includes control group
Bainbridge Island	1226	206	17%	Yes
Bremerton	2052	276	13%	Yes
Gig Harbor	521	23	4%	No
Port Angeles	1029	106	10%	Yes
Port Orchard	542	77	14%	Yes
Poulsbo	511	115	23%	Yes
Unincorporated Kitsap County	8466	581	7%	Yes

Chart 30. Percentage of respondents who have a yard with grass

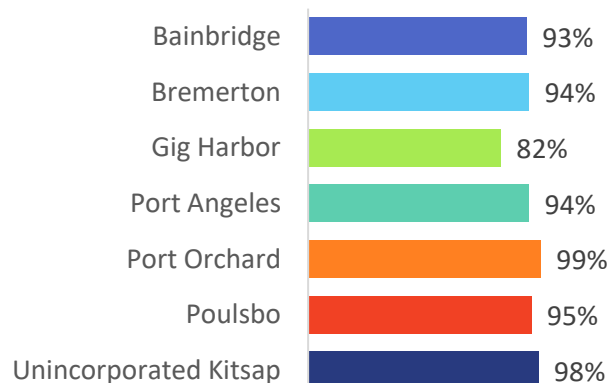


Chart 31. Percentage who maintain their lawn themselves

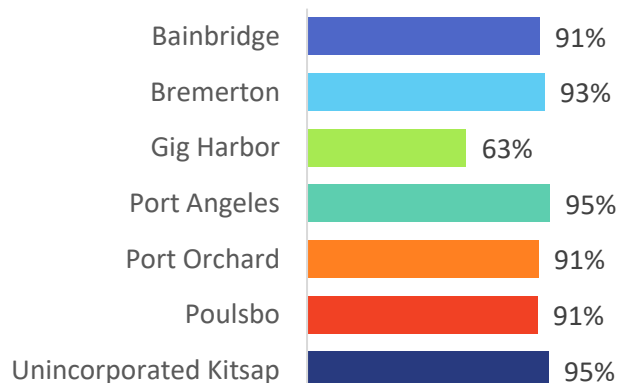


Chart 32. Which of these products, if any, have you used on your lawn in the past few years?

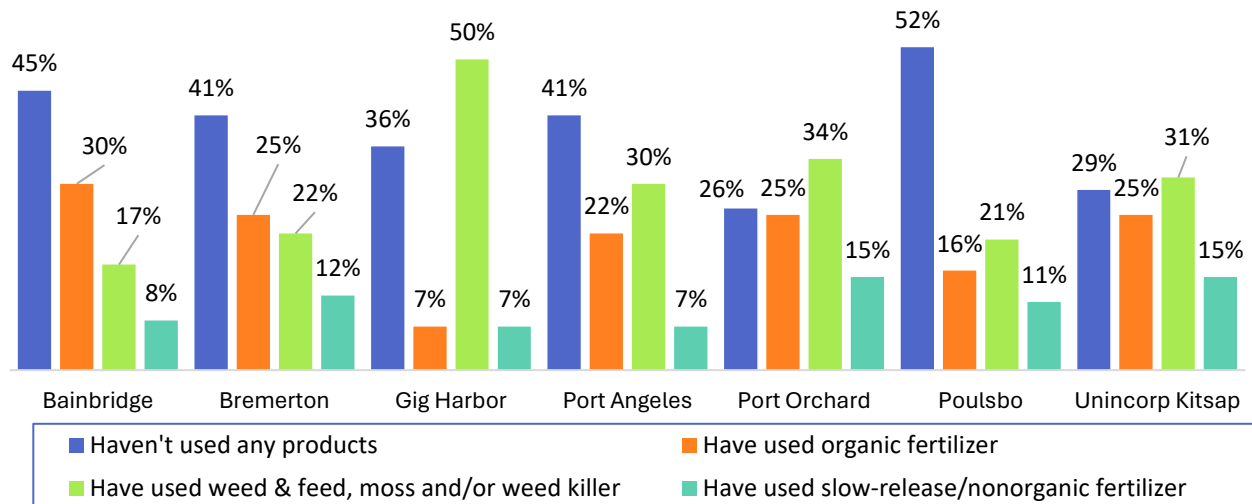


Chart 33. Percentage of respondents who remembered receiving the Natural Yard Care postcard in the mail

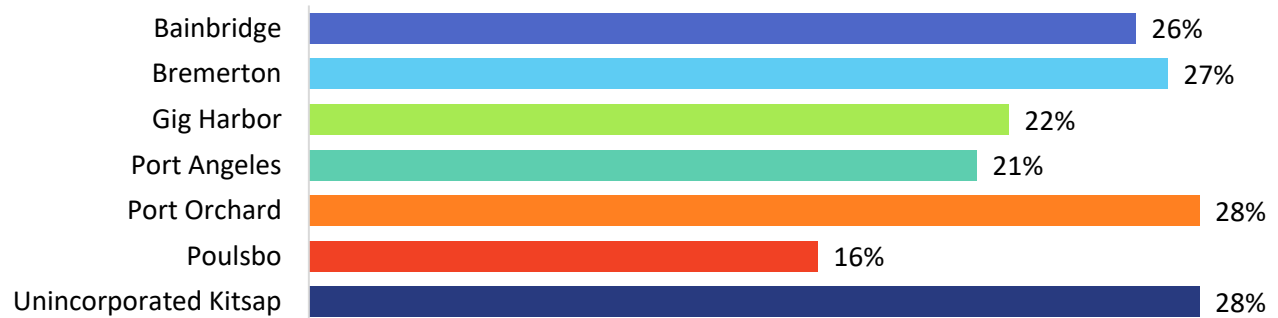
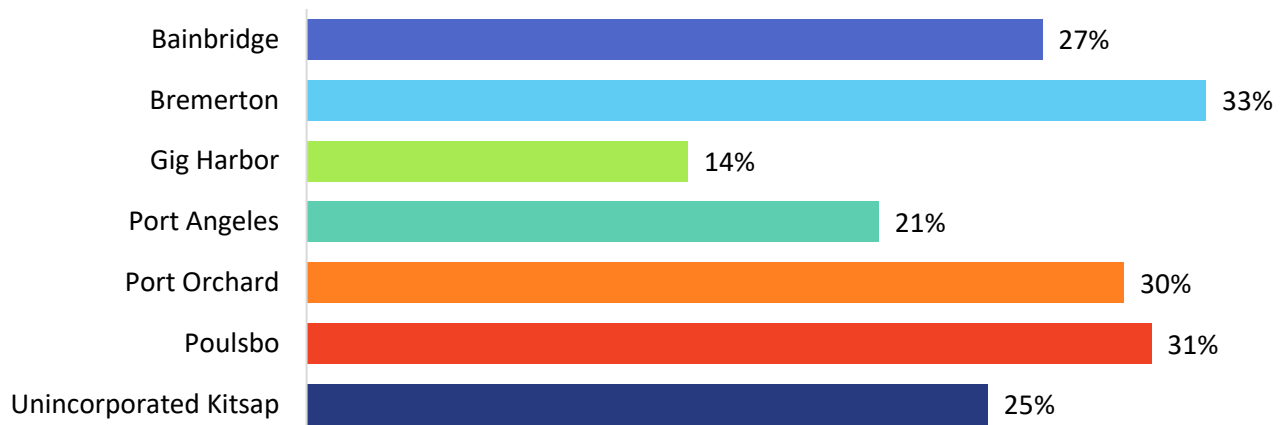


Chart 34. Percentage of respondents who said the Natural Yard Care postcard's messaging was "*likely*" or "*very likely*" to influence their lawn care practices



## PART 2: RESULTS FROM SOCIAL MEDIA SURVEYS

Chart 35. Respondents by location

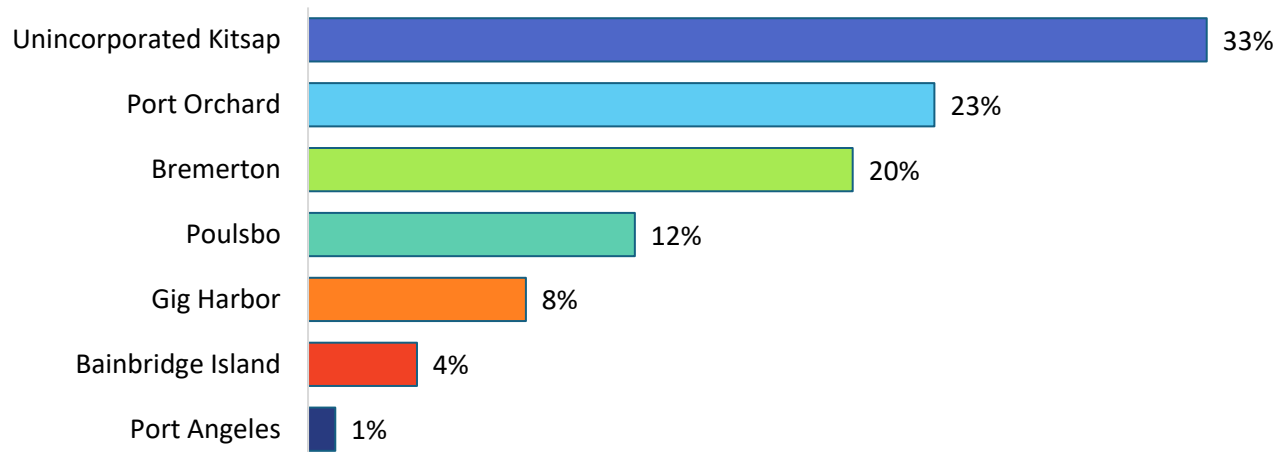


Chart 36. Percentage of respondents who have a yard with grass

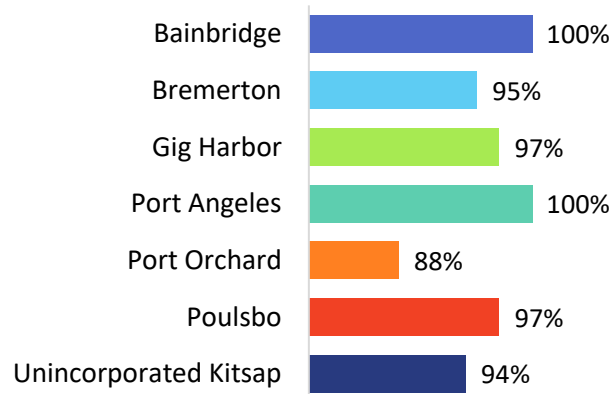


Chart 37. Percentage that maintain their own lawn

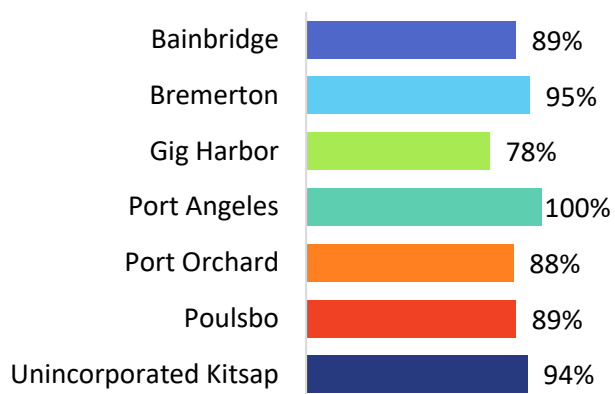
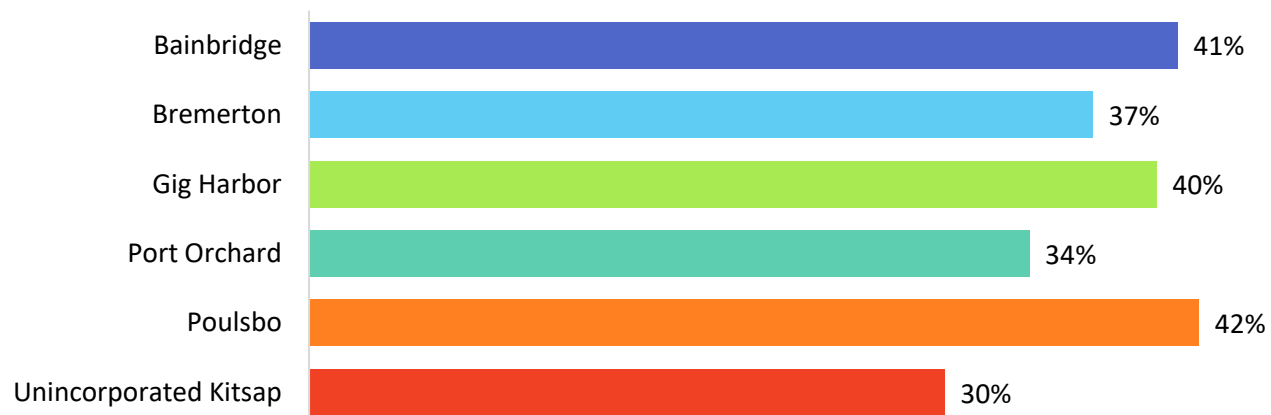


Table 12. Current attitudes/behaviors towards using organic lawn fertilizer						
	Bainbridge	Bremerton	Gig Harbor	Port Orchard	Poulsbo	Unincorp. Kitsap
Not interested in using organic lawn products	0%	5%	2%	4%	2%	3%
Never thought about it	3%	17%	12%	6%	7%	8%
Thinking about it	9%	17%	17%	18%	14%	16%
Planning to do in near future	9%	7%	7%	8%	7%	7%
Sometimes use organic	11%	20%	31%	21%	21%	18%
Always use organic	34%	17%	21%	11%	14%	15%
Not interested in using <i>any</i> lawn products	34%	17%	10%	32%	35%	33%

Chart 38. Percentage of respondents who say the Natural Yard Care messaging is "likely" or "very likely" to influence their lawn care practices



Note to readers: Port Angeles is not included in Charts 8-11, as the sample size from that jurisdiction was too small to allow calculations.

Chart 39. Self-reported fertilizer use within the past few years  
(social media respondents)

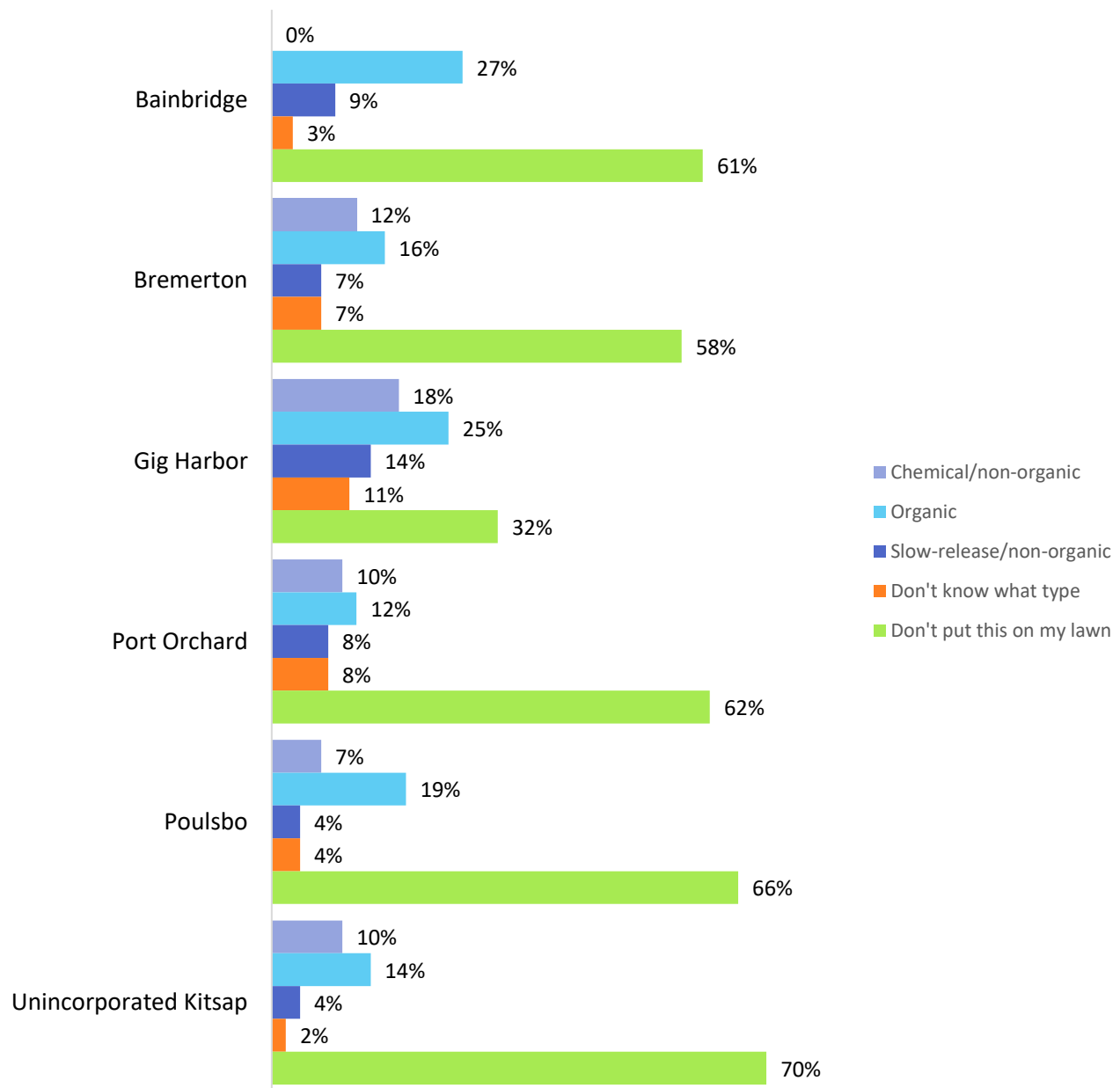


Chart 40. Self-reported use of weed & feed-type products within the past few years (social media respondents)

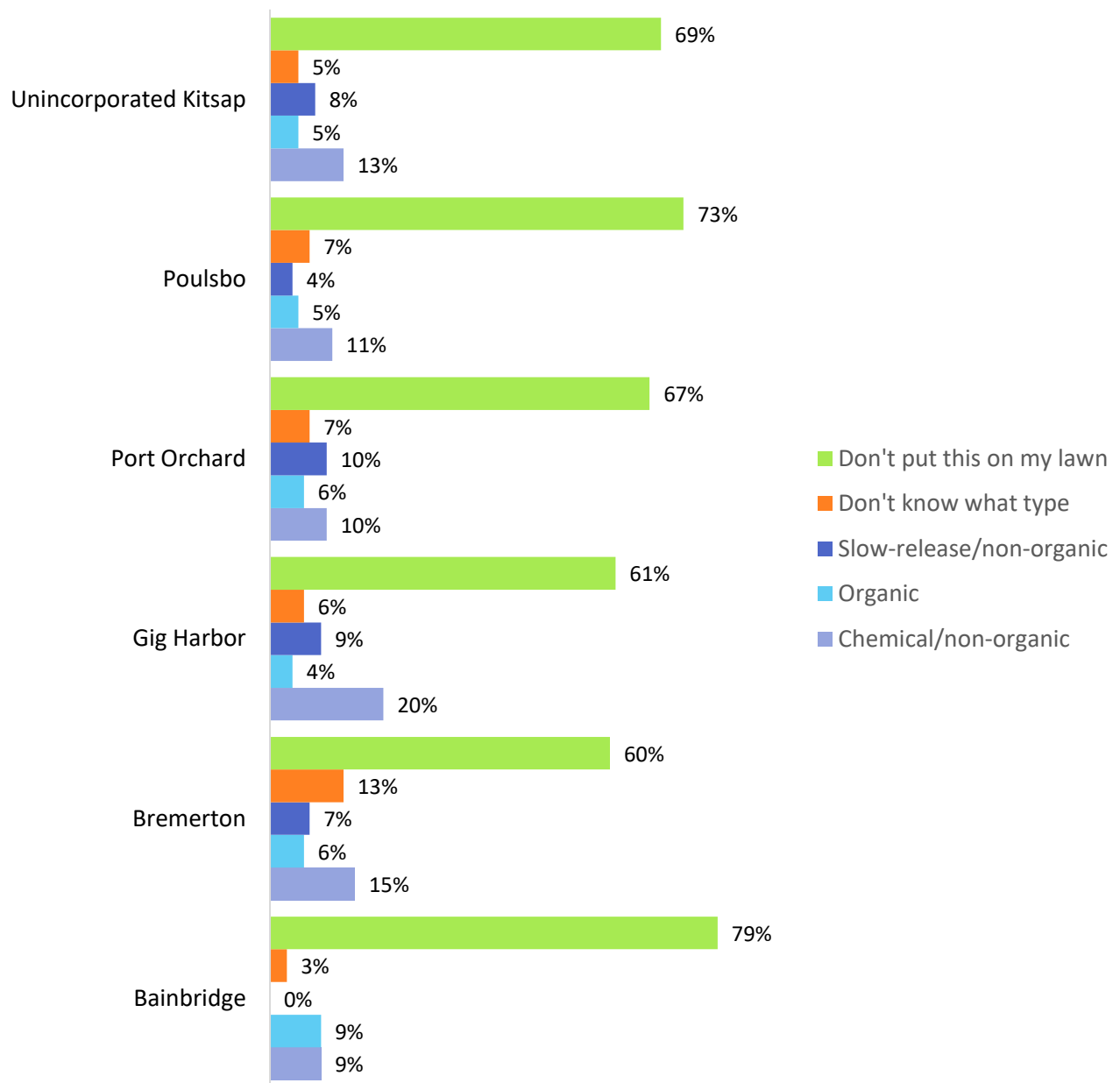


Chart 41. Self-reported use of weed killer within the past few years  
(social media respondents)

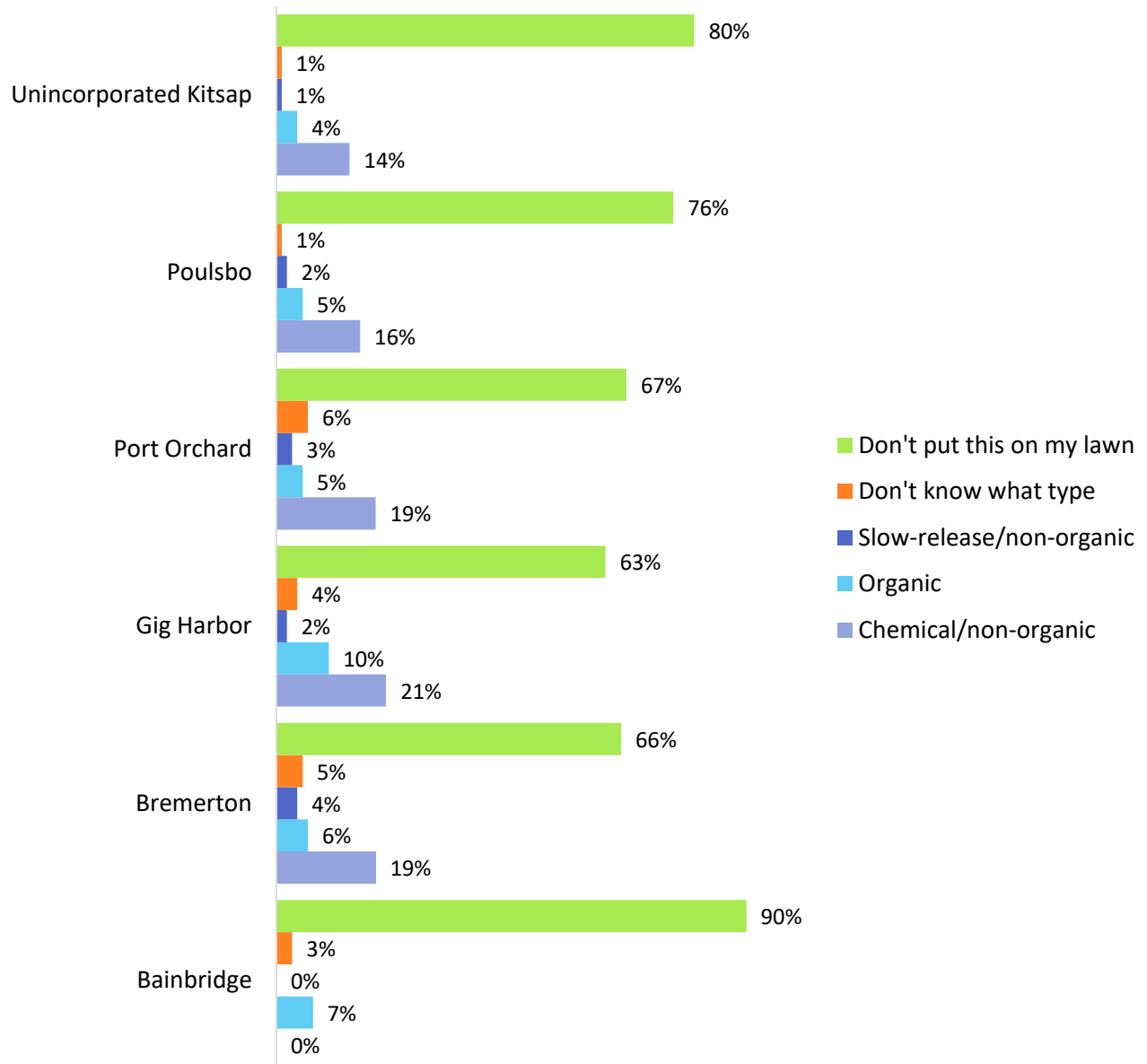


Chart 42. Self-reported use of moss killer within the past few years  
(social media respondents)

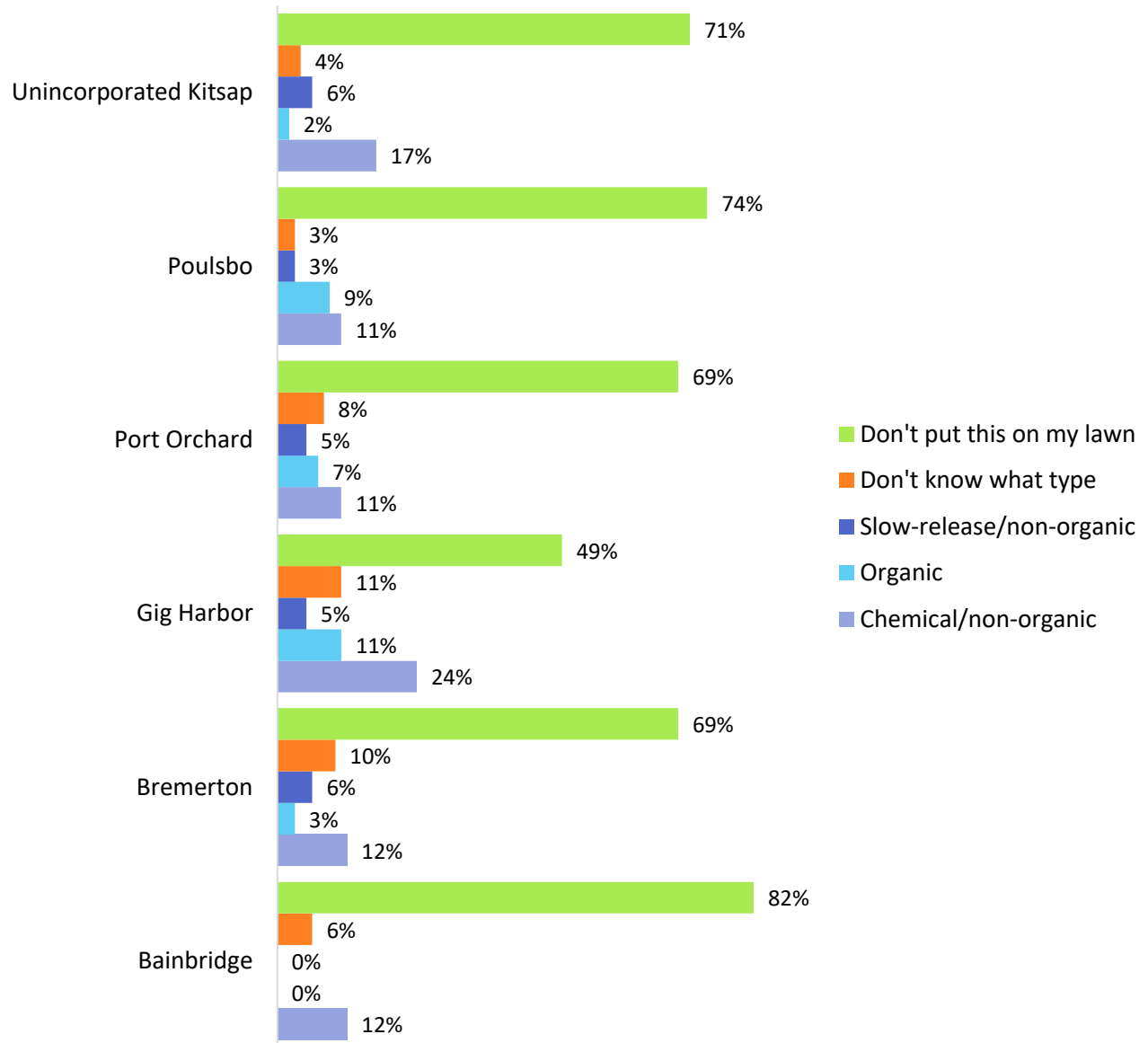


Table 13. Responses to, *“Is there anything else you’d like to tell us about your lawn care practices or the topic of natural yard care?”*<sup>45</sup>

(Combined sample of direct mail & social media survey respondents)

	Bainbridge Island	Bremerton	Gig Harbor	Port Angeles	Port Orchard	Poulsbo	Unincorp. Kitsap
Listed additional NYC steps they take	37%	32%	24%	27%	27%	21%	32%
Alternatives to lawns <sup>46</sup>	23%	18%	12%	26%	19%	31%	16%
Motivations for avoiding chemicals	16%	19%	24%	17%	16%	17%	19%
Identified need for learning/resources	14%	16%	18%	12%	15%	14%	19%
Don’t do anything to our yard but mow	10%	9%	0%	17%	5%	14%	9%
General agreement with/appreciation for campaign	19%	7%	6%	6%	4%	7%	9%
Barriers to using organic	3%	6%	14%	2%	0%	3%	5%
Comments on lack of agency <sup>47</sup>	1%	0%	12%	0%	4%	0%	2%
Other comments	12%	13%	8%	15%	15%	17%	12%

<sup>45</sup> Since respondents sometimes mentioned more than one topic in their response, totals may exceed 100%.

<sup>46</sup> Includes people who said they wanted to learn how to reduce or remove their lawn as well as those who said they’re in the process of doing so.

<sup>47</sup> These refer to respondents who said they didn’t have control over their lawn care decisions. The majority of these referenced HOA guidelines that dictated their lawn care; a few referenced somebody else in their household who made the lawn care decisions, like a partner or roommate.

## APPENDIX B. TOPICS THAT RESPONDENTS WOULD LIKE TO LEARN ABOUT & RESOURCES THEY'D LIKE TO HAVE

Note to readers: Respondents to both surveys had the opportunity to make any general comments they wanted regarding their own lawn care practices and/or the topic of natural yard care in general. As reflected in the table below, many people took the opportunity to mention a topic they'd like to learn about, a challenge they needed help with, or a resource they would find helpful. We have also included verbatim comments of appreciation for the campaign, which also provide a sense of the resources/knowledge respondents found helpful.

Table 14. Responses to open-ended question about lawn care that reflect need or interest in learning/resources	
Verbatim responses	Response categories
Having waterfront property, it is very important to have non-toxic alternatives for my lawn. How are these products identified and where are they sold?	<b>Questions about nontoxic weed control</b>
I need help in fixing a severe weed problem and don't know what organic products to use or where to go for help.	
Weed and feed really works for keeping the weeds under control. Would be interested to learn more about organic options that do not require many hours of manual labor to manage weeds on a lawn our size.	
I'm tempted to use a chemical to kill all the buttercup that is taking over our lawn but there don't seem to be any obvious organic options. Any suggestion?	
I use organic products when they are available. I know of no organic weed control products.	
I'd love to learn how to keep a lush green moss free yard using natural nonharmful products.	
I use organic products when they are available. I know of no organic weed control products.	
How to get rid of the blackberry shrubs at my back yard?	
I don't have kids, and I love how wildlife is safe to use my yard. Although I do mow, I have dandelions, daisies, clover, etc. instead of lush grass, mainly because I prefer to have frogs and deer. HOWEVER, lately I have gotten a bunch of Herb Robert and how do I get rid of it without products? It's everywhere.	
Natural pest and weed control are big concerns to me. We have mostly edible and ornamental plants, and I don't want to use chemicals on the food or where the dog may walk. We have lots of aphids and mosquitoes.	
Hard to control weeds, like dandelions, without weed killer.	
Can't seem to get rid of the crabgrass and others without using weed and feed	
I wish there was treatment for weeds AND moss that isn't dangerous and works the first time. I have a lot of wildlife walk through my yard. Therefore, I am trapped dealing with a huge weed problem.	

I sure like to save the wildlife from the noxious chemicals. Drat the invasive weeds.	
Concern exists over nonnative vegetation spread and what resources are available to help prevent that.	
I'd love a webinar on invasive plant management, we are struggling with that a great deal!	
Invasive plants need addressing, how to deal best with blackberries or marsh butter cup or any other common issues.	
Moss killer is the only product we use. We don't use any other lawn products, although I would be interested in organic safe weed killers.	
It's a struggle to keep flatweed in control. I also wonder if my neighbors judge me as lazy because I have a natural lawn.	
(We) mow 2.5acres weekly and about 2 acres (pasture) once a year. I don't water or fertilize but I do use brush killer to tame scotch broom and other brush. I wish there was an effective organic solution to killing that stuff.	
I'm not interested in fertilizing my lawn as much as I'm interested in getting rid of the weeds.	
Perhaps, providing a table of examples of healthier products to use in place of commonly used products. For example, weed and feed. I really haven't found anything that works as reliably, and our HOA doesn't allow weeds, so as much as we don't like to, we use the prescribed amount as necessary to keep things under control. If we win that gift card maybe we can put it to use buying some better products :)	
I'd also like to know what is most effective and natural. A few of the natural weed killers I have used either didn't work or took a really long time to get results.	
I believe most people would choose organic even if more expensive. A beautiful lawn is a gift to oneself and important - killing weeds in the most environmentally friendly way would be helpful.	
Natural yard care that I have tried does not kill weeds or moss and doesn't keep grass as green. If something great exists I'd love to know about it.	
I'm looking at ways to safely kill weeds in my non-grass areas: fence line in the woods and landscaping areas. That interests me a lot. I want the brambles and weeds gone but not kill my dog or other natural critters.	
I do not use spray weedkillers and wish to avoid toxins as much as possible. I pull weeds by hand but what an ongoing pain. Tips on keeping weeds at bay naturally are much appreciated!	

Would love design help getting rid of my lawn and creating a yard area that is beautiful and needs only natural rain.	<b>Alternatives to lawns</b>
We're looking to minimize the amount of lawn around our home and replace with natural landscaping over the next few years.	
I'm actively trying to turn my lawn into anything but! Trees, native meadow species, etc.!	
I hate having a lawn. I think we should get rid of lawns and have meadow. But I live in an HOA.	
More information on removing or decreasing the size of a lawn would be valuable information on these mailers. For a sustainability standpoint, that's an interest for many.	
We plan to eliminate as much "lawn" from our yard as is practical. Grass is not sustainable.	
If I had the time and money I'd put in a natural meadow lawn and mow very little.	
Any thoughts on putting out info on native alternatives to lawn? Stats on mono crop grass related to watering, mowing etc. vs a native clover etc. may be helpful info. Check out: <a href="https://www.tiktok.com/t/ZT81gDVVm/">https://www.tiktok.com/t/ZT81gDVVm/</a> <a href="https://www.tiktok.com/t/ZT81gP9Wa/">https://www.tiktok.com/t/ZT81gP9Wa/</a>	
I am looking to slowly eliminate my lawn and replace it with wildflowers and native plantings.	
I'd like to transition to a meadow instead of lawn. As it is, my lawn has a lot more than just grass- moss, dandelions, clover and weeds.	
We have three lawn areas. We are letting one of them turn into a meadow. We use a small amount of fertilizer on the lawns once a year.	
Lawns are horrible and if we weren't renting, I would switch to a rain garden or landscaping with native flowers	
Transitioning away from grass to clover but would like native alternatives to better support wildlife.	
Grass lawns are time consuming to maintain, we'd rather hike and hang out so we've covered much of our lot with wood chips and gardens (ornamental, veggie and fruit trees.	
I want a lawn that is bee and butterfly friendly. We even want to turn our lawn into clover lawn instead of expensive maintenance of the grass which does not benefit anything except for aesthetic purposes. Less watering for my lawn I'd rather have tons of plants.	
I think focus should be on low maintenance, water-free lawns- such as replacing grass w clover.	
We'd like to change our lawn area into more of a natural growth area, with just paths.	
I'm intending to plant about 1000 sq.ft in the backyard in clover which will require less water and less fertilizer.	
I would like help having a non-grass yard.	
We're trying to relandscape to get rid of our lawn and minimize watering and need for chemicals.	
I hope to reduce my lawn space by adding shrubs and xeriscaping. I don't want to have to mow.	
Trying to replace grass with other growing lawn plants.	
I'm getting rid of the lawn as soon as I can afford to replace it.	

We also don't water it. More interested in reducing the mowing needed, so alternative groundcovers would be of interest.	
Why do we have lawns in the first place? Stupid mono-culture waste of energy/water/time.	
We are gradually replacing lawn with other plants and hardscape.	
I hope to move to xeriscaping.	
Provide customers with more info on growing native plants, less lawns.	
Like to replace lawn with local plants and clover. Time, money and knowledge slowing me down.	
Would prefer to get rid of grass and go with natural ground cover consistent with Western Washington conditions.	
Trying to have less grass and more rain garden and natural.	
Personally, I think that the American lawn is a strange idea, lawn care is weird when you think about it. Oh, here's a piece of land I own with a crop you can't eat and no flowers. What's the point of this? Why do we kill weeds when they don't threaten food plants, why do we try to keep the lawn a certain level of green, a certain height that's to everyone else's standards. I want to plant flowers and berries.	
We don't water our lawn! Lawns are an ecosystem abomination. I'm slowly taking over ours with garden beds and shrubs.	
I am slowly removing the grass as I am able and replacing it with as many native plants as I can.	
I have way too much lawn but can't afford native plants to switch it over to something easier to maintain. Would love to create a woodland for animals and to stop using lawn products.	
We are downsizing the lawn space with native perennials that grow in the existing soil type.	
Planning to replace grass with something more productive.	
I would honestly like to just remove our lawn altogether and replace it with native plants, a native plant meadow.	
We want to decrease size of lawn to reduce water use and add native plants.	
Would like to replace grass with clover. Would also like to use more native ground cover plants.	
Lawns in general, what a PITA. Wish there were better options that didn't require mowing, chemicals, etc. that were communicated to County residents.	
I have a mostly wooded lot and don't do anything to the small patch of grass other than occasional mowing. However, I have planted native Washington plants in my yard. I hate lawns in general, but if I absolutely had to, I would absolutely use organic lawn products and do whatever necessary to protect the watershed.	
We're planning on eliminating the lawn.	
Working towards a lawn that's full of pollinators and native plants.	
I use no chemicals on my lawn or in my garden. When needed, I use all-natural pest repellent for deer, rabbits and slugs. I am considering "smothering" the rest of the front yard and creating a meadow style front yard in addition to planted beds where I only use compost.	
We are slowly eliminating our lawn.	

I have reduced my lawn in the past 3 years by 60% due to looks and cost of keeping it green during the summer. I am still looking for more ways to reduce (have replace with shrubs and flowers).	
We've been converting part of our lawn to mostly native plants that are drought tolerant. We love it and hope more people will embrace the practice.	
Moving to native foliage.	
I actually don't want a lawn since it requires too much maintenance to look acceptable but letting it grow naturally looks socially unacceptable. I'm going to put in the effort to dig up the lawn and rebuild it as a garden space. Impressing others with a perfect, flat, green lawn just isn't economically feasible anymore.	
We only mow because we have an HOA. If not for that, our yard would be a meadow.	
Less grass, more native flowering plants.	
I can't wait to pull the grass out one day.	
I would like to install artificial turf and get rid of the grass if it was affordable	
I'd like to hear more about alternatives to lawns...	
I'm going to check out the website further, but if the county can offer some information on grass alternative lawns, I would love to hear it as I'm looking into making this leap myself.	
I would be interested on what to place in my yard that is native to the area to help the bees.	
I'd be interested in information about what I can swap out for grass that still allows me to walk around. In particular, how can I encourage moss?	
I would like less lawn but don't know how.	
We're trying to eliminate portions of our lawn in favor of more native plantings.	
I think more people should be embracing a "wild" yard. I am not talking about letting it grow out of control, but this manicured landscape business is ridiculous, even with "natural" or ecofriendly products. Natural ground covers, wild flowers, and other native flora are the way to go. I liked your past promotions for xeriscaping and rain gardens.	
I actually want to get rid of most of my yard and plant native shrubbery that would not require watering and minimal upkeep.	
Looking into lawn replacement with natural plants, still want some lawn but want to minimize.	
We are replacing the grass with native and edible trees, shrubs, and ground covers as fast as we can	
It has been challenging to effectively maintain a lawn here. We have considered lawn alternatives (turf or rocks).	
We know other people would be motivated to remove their lawns if there was a financial incentive like other places are doing.	
We just had all our grass/weeds ripped up and plan to replace it with clover.	
I'd like to know how to turn part of it into a sustainable meadow.	
We are regrowing patchy areas with clover. It's going great but we have concerns about reselling value.	
We don't water or fertilize. Just mow. We are interested in eliminating some lawn area.	

I think grass lawns are rather ridiculous. If I could cultivate a lawn comprised of pure red clover for example, I would do it, and never mow it. But unfortunately these dang blackberries would take over so mowing is a necessity, at least during the spring	
I'm always trying to expand native plant garden beds and decrease lawn size. Also do minimal watering in summer.	
I'm team kill-the-lawn! Tips on converting to natural/pollinator habitat or food forest would be great.	
Trying to let areas of the estate go back to nature, only letting a certain area get cut and maintained. Turning other areas into gardens to cut down grassy areas	
I'm planting more grass area into wildflowers.	
The County's messaging should focus on how families can turn lawn into garden space.	
Many in our subdivision are considering clover lawns (less maintenance, drought tolerant, bee-friendly).	
Is it okay to plant a flower meadow in my back yard?	
We'd prefer a natural habitat vs lawn for much of our yard but the time and cost to make the change is a barrier and we aren't sure about upkeep.	
A seminar on getting rid of grass and sustainable alternatives to lawns please.	
I'd like to see a class or tutorial on landscaping to eliminate grass, using native plants and still have it friendly to birds and other wildlife.	
We are trying to shrink our lawn by removing grass and planting native plants and adding more fruit and vegetable garden space.	
I'm in the process of planting entirely native plants in my yard.	
I'd love more information to be available around converting a grass yard to a natural/more resilient yard. I am looking to convert nearly all of my grass to clover and wildflowers, so having information about the best types of clover/grass replacement/ natural ground cover specific to our area would be wonderful!	
I'm not sure this is the right place for this, but I'm more interested in learning about "no-mow" lawns, such as clover lawns, etc... so having something regarding that would be more up my alley.	
Biodiversity is important, so I've reduced unnecessary lawn areas in favor of planting flowers and herbs.	
I would like to see the county encourage lawn alternatives, like native plants/flowers instead of lawns, which are terrible for the environment for several different reasons.	
We're trying to eliminate the lawn and replace it with native wildflowers and clover.	
Watering a lawn to maintain it seems unwise to us, so alternatives to lawns are of interest.	
Lawns should be discouraged and natural, native plants that can survive without fertilizers & excessive watering should be encouraged. My plan is to do just that in the near future.	
I would love to have native plants instead of a lawn. It's what the house came with and I can't afford to change it.	
We'd like to see less lawn more natural landscape.	
I would like to move away from grass to a more natural landscape.	

I'd like more readily available info on how to replace grass with clover, natural/native grasses that don't need (to be) mowed.	
We have turned more of our lawn area back into natural habitat, with indigenous plants.	
Why not promote turf? Grass for a lawn of my size only provides aesthetic, which turf could provide without wasting water and damaging the environment with lawn care products.	
We are thinking about getting rid of the grass in our front yard and replacing it with terraced natural vegetation. We have a sloped yard and would appreciate any guidance.	
I recently moved here from California. Due to many years of drought, residents in CA have been encouraged to grow native plants instead of grass lawn which is water consuming and hard to care for. Native plants are easy to care for and make our yard more interesting and beautiful.	
Encourage electrifying lawn care equipment for 3 reasons: less pollution, less noise, fewer climate change gasses. Both individuals and lawn care companies should be encouraged to switch to battery powered machines.	Would like to see policy change
It would be helpful if the City or other local agencies could work with HOAs who put great emphasis on lawn appearance (which wastes water to keep grass green and potentially places chemicals into the environment through use of fertilizers, etc.), and promote more natural yards and landscapes that fit with the local ecosystems and encourage growth of native plants. I have only owned my home for about a year, and I acknowledge that I have not sought out our particular HOA's rules for native landscapes, however they do seem to place emphasis on simply having green grass.	
Say - this might not be the right mechanism to complain about roadside poison, but good God! Stop using it! Just mow a couple times a year, would you? that poison creates dead vegetation which looks a lot worse than the occasional overgrowth. Plus, it kills all the frogs that hang out in the drainage ditches. Despicable practice!	
I am reducing the number of times I cut the lawn and reducing the watering schedule to conserve water. I think the county should mandate organic fertilizer and prohibit the use of Round Up and other like products such as Ground Clear. Our environment is critically important, especially given unchecked development and destruction of our natural habitat.	
There shouldn't be any chemicals used on waterfront property! And string trimmers are a major plastic pollutant (where do people think that plastic line goes when it breaks?) All gas-powered lawn equipment should be banned! It's a ridiculous practice, contributing to climate change and adding more plastic, including micro particles to the environment! Only human powered equipment, e.g. push lawnmowers, should be used for regular lawn and garden maintenance. It'll never happen, but it should!	
My HOA (technically an ROA) insists that each residence have a well-kept grass lawn. I would love support from the local government to make other types of natural ground cover available and acceptable.	
My HOA (technically an ROA) insists that each residence have a well-kept grass lawn. I would love support from the local government to make other types of natural ground cover available and acceptable.	
I wish hardware stores would have to post warning signs in their lawn care section.	
We should have a rule in Gig Harbor that houses can't require lawn- would rather have low water native landscaping. Would like to see seminars on this with resources for homeowners.	

If HOA's were no allowed to dictate no clover lawns, we could plant more environmentally sound yards.	
We think natural lawn care (including chemical free weed management) is VERY important, but we live in an HOA that sprays roundup on every common surface. We need resources to share with the HOA board to convince them that there are better alternatives that will work.	
I would love to see a push towards allowing more natural yards instead of the cookie cutter 1950s green lawn. I don't mean for it to look bad, but I think it's ridiculous that my HOA won't allow clover when it is extremely beneficial and now it's even a trend to replace your grass with it.	
I see more and more neighbors put in in-ground sprinkling systems, and wonder if this is better than careful hand watering.	Questions & comments about watering
More info on watering guidance.	
I think water use also needs to be a topic of conversation. An Airbnb is by our house and they excessively water the very small yard.	
More education around watering and grass types best suited for the PNW.	
It consumes too much water. I don't want my yard to look bad and dead, but I also don't want to consume so much water watering it. Catch 22.	
Organic always sounds good but why is it safer/better than inorganic? Don't just say it's better, teach me why.	Questions about organics & labeling
Hard to find things that are truly organic.	
I would like to do what is right for the environment. I just wish it was more obvious on lawn treatment packaging to be able to tell if it's harmful to the environment, insects, animals, etc.	
I've always preferred organic treatments, but they are often ineffective so a lot of research on effectiveness has to be done before purchases are made.	
I would be absolutely excited to use organic products to fertilize and kill weeds in my yard if I were sure they were actually "organic", better than the currently used products, and priced commensurate with non-organic products.	
Sometimes it is difficult to find organic products that work well.	
I would be more inclined to purchase natural/organic lawn care products if I knew which ones were effective.	
I have to educate myself about organic lawn care. I have a rain garden and I am interested in organic lawn care.	Need general guidance on organics
I'm very interested in anything that supports our goal of maintaining plants on our property that take less water and feed wildlife or our family and are healthier for the local water systems (no chemicals).	
I'd like to learn more about what to use!	
We prefer natural lawn care but are just unsure how it will affect the lawn we are trying to grow.	
Education on ways to do better is most helpful.	

Knowing where to easily access information about natural remedies for moss and weeds and general grass care as well as reducing grass and replacing with alternatives would be helpful.	
I think you should also address chemicals put on flower/shrub areas. I am guessing many areas, especially along roads, use a fair bit of fertilizer.	Education needed (for other people)
I don't use any chemicals because I have honeybees. I think that using pollinators for an advert like this could also be very effective.	
Please educate the community on the principles of permaculture, no dig and using native grass or other annuals to reduce water usage and not need to spray weed kill or synthetic fertilizer.	
Prefer organic methods, but efficacy often leads to the use of non-organic methods. Not only lawns, but beds, vegetable gardens, plant pests, etc. Knowledge and improved products will increase use of organic methods.	
I wish people REALLY knew the dangers of products like Round-Up; our neighbors use has made our dogs sick. I can smell it when she sprays. I've seen her spray plants, pull them up, and throw them in the ocean (we live at the beach). It's just horrible. She told me once "it just goes away." So she clearly doesn't understand the impact. Also, I wish people would understand the importance and fragility of bees and other pollinators.	
I've converted more than half the "lawn" (yard grass) to food + ornamental native and other perennial plans. Certified as Backyard Wildlife Habitat by the state of WA. Neighbors let weeds spread, which is frustrating, because their seeds infest my yard, and I weed by hand/tools. They also let a weed grow on sidewalks and easements that is dangerous for dogs, and we all walk dogs there and on street.	
A large portion of our "lawn" is devoted to planting beds that are focused on native plants or on plants that provide food, nectar, or shelter to bees, birds, butterflies, etc. We never use insecticides or herbicides. There needs to be more education about not dumping plant refuse in wild areas, as our neighbors often do, as it can start invasive plants growing in native areas. Bainbridge Disposal's program to accept lawn refuse is a terrific option.	
I'd rather everyone replace their lawn with other, more sustainable vegetation altogether. I hope this is encouraged even more so than "more natural" lawn care practices.	
Rain gardens or edible gardens should be encouraged. Better for our environment.	
Consumers are oversold on weed and feed. The big box stores could do more education on issues with it.	
Consumers are oversold on weed and feed. The big box stores could do more education on issues with it.	
I wish less emphasis was placed on having a green lawn and more on creating rain gardens. Watering grass can be a waste of water and its usage should be very targeted to specific areas like outdoor parks.	
City of Bremerton needs to encourage resilient lawns, not perfect lawns. Climate future unknown. No need for large water bills to maintain grass in summer. Not safe to apply most products	
Let's also try to address leaf blowers—so many reasons and I do not think people understand how terrible they are for our environment-they think about the air quality issues but don't realize the effects the quality of the soil, the things that grow in and around our garden beds and of course the noise.	

It's not just about lawn care- think about those who mow and the clippings are all out on the street- or those who blow their leaves out on the street- don't people have any common sense.	
I wish you would spend money educating people about how many options there are for no-grass lawns using more diverse, native plants. I do appreciate you are doing harm reduction but does organic fertilizer actually do less harm to our waterways than non-organic? Doesn't it all have a negative impact?	
I allow my grass to go dormant when the temperatures rise. I wish more homeowners would adopt this practice to conserve resources.	
How to get rid of moles.	Help with other challenges
We have a lot of moles in our area so it would be nice to know about how to control them.	
Can't think of anything right now, except for the moles are becoming a problem.	
I would be more likely to learn more about natural garden products, for example, natural ways to keep slugs away from dahlias.	
Info on how to landscape over our septic drain field which is now grass.	
Didn't really address moss control.	
I would love to use a product that could improve the health of my lawn as it's full of moss and definitely could use some fertilizer. Would like recommendations for homes with pets and, more importantly, backyard chickens, rabbits, goats, etc.	How to improve lawn health in general
I'd like to learn about composting and natural nutrients lawns/gardens need.	
Our soil is super sandy. Like a sandbox. How do we fix that?	
My lawn is very compacted and not in very good shape. We purchased this house 5 years ago and want to improve the curb appeal and overall lawn health.	
The webinar was very helpful, because we've been concerned about our impact on water, and I came away with very practical things to try.	Appreciation for campaign
I appreciate the efforts to educate & help homeowners make better decisions that will reduce harmful runoff!	
I applaud natural yard care.	
I support you in anything you can do to support healthy lawn practices, appreciate your efforts very much, and hope they are effective!! Thank you!!!	
For us, it was a bit of "preaching to the choir," and it doesn't really take much to convince us to go organic (because) we already do, and we use zero pesticides, etc. But! We are so glad you are spreading this message - I hope it connects with people who haven't considered it in the past. Thank you!	
Thank you for trying to make households more aware of how the practices they use to maintain their lawn affect other humans and animals.	
I support you in anything you can do to support healthy lawn practices, appreciate your efforts very much, and hope they are effective!! Thank you!!!	
Love this offer, the webinar was helpful too.	
I think this is a good topic to get people to think about the undesirable effects of fertilizers and pesticides for lawn care.	
Thank you for trying to educate residents. Be very explicit about how terrible weed and feed products are.	

Thanks for trying to influence our community to learn healthy environmental practices.	
Thanks for making me aware that there are natural fertilizers out there. I don't normally fertilize, but good to keep in mind. I'm all for organic stuff and know the hazards of the bad stuff.	
I appreciate the County's efforts!	
We do the cheap and natural things for lawn care, and it works so far. But it takes a lot of personal hours (versus an afternoon of spraying) so we understand that not everyone has that availability; good effort that the County is doing.	
I appreciate that Kitsap County offers these types of resources for homeowners! They are not only good for homeowners but for our environment as well!	
We in your audience are all adult learners, so in an awareness / action campaign like this, giving us “adult learners” the why and repeating the message for us is needed to get us to adopt new SOPs on anything. Everything about this campaign is really well done and has probably created the most engagement and influence on me as any other outreach campaign. Nice job!	
I would appreciate receiving a coupon for organic fertilizer or mulch that I can use to apply twice a year (Spring and Fall).	Other suggestions for resources
Be like California and pay us to rip out our lawns and put in natural, native plants. It would save us, and you, a lot of money spent on watering!	
It was a terrible loss losing the 2 yard waste pickups that City of Port Orchard used to provide its citizenry.	
It would be helpful if yard waste was picked up more in the spring.	
Would love more support for removing noxious weeds, like free disposal.	
We put items in our composting trash can. It would be nice if we had options to pick up some of the composted material for yards.	
I would like to see a natural fertilizer pickup location in Port Orchard.	
More information on local plants and things that are native to the area.	
I would love free classes taught in our community.	

## APPENDIX C. INSTRUMENTS

### DIRECT MAIL SURVEY: TREATMENT & CONTROL VERSIONS

Thank you for taking the time to complete this short survey. Your responses will be confidential, and we will only share combined (not individual) responses when reporting results.

As you read the questions, please answer for your household as a whole. And be sure to enter your email at the end if you'd like to enter the drawing to win a \$100 Amazon gift card.

\* 1. First of all, what is your current zip code?

\* 2. Do you have a yard with grass at your home?

- ☐ Yes
- ☐ No

3. Do either of these apply to your current household? (Check any that apply)

- ☐ We have children living at home (not including adult children)
- ☐ We have a pet dog or cat with access to the yard
- ☐ None of the above

4. What size is your lawn? (Either in square feet or acres. A rough estimate is fine.)

\*5. Do you maintain the grass yourself or use a lawn care company?

- ☐ Maintain it ourselves
- ☐ Use a lawn care company

\* 6. Which of these products, if any, have you used on your lawn in the past few years? (Check all that apply)

- ☐ Natural or organic fertilizer
- ☐ Non-organic fertilizer
- ☐ Fertilizer & herbicide combination (weed & feed)
- ☐ Weed killer
- ☐ Moss killer
- ☐ Other (please describe)
- ☐ None of the above

\* 7. In terms of using natural/organic products on your lawn, which of these best describes you right now?

- ☐ I am not interested in using natural/organic lawn products
- ☐ I've never thought about using natural/organic products on my lawn instead of non-organic
- ☐ I am thinking about using natural/organic products on my lawn instead of non-organic
- ☐ I am planning on using natural/organic products on my lawn in the near future instead of non-organic I sometimes use natural/organic lawn products
- ☐ I only use natural/organic lawn products
- ☐ I am not interested in using any products on our lawn

Comments

\*8. Within the past couple of months, did your household receive this postcard in the mail?

- ☐ Yes, we received it
- ☐ Not sure
- ☐ No, I don't remember receiving it

9. When you received it, do you recall doing any of the following? (Check all that apply.)

- ☐ Read it over
- ☐ Skimmed it
- ☐ Signed up for one of the webinars on natural lawn care
- ☐ Used the coupon for discounted natural/organic lawn fertilizer
- ☐ Planning to use the fertilizer coupon before it expires on 6/18/23
- ☐ None of the above

Comment

*The two question below was substituted for questions 8 and 9 in the control version of this survey.*

*\* 8a. Within the past couple of months, do you remember seeing either of the ads below on social media or elsewhere?*

- ☐ *Yes*
- ☐ *Not sure*
- ☐ *No*

9a. After seeing the ad(s), did you do any of these actions? (Check any that apply)

- ☐ Signed up for one of the webinars on natural lawn care
- ☐ Used the coupon for discounted natural/organic lawn fertilizer
- ☐ Planning to use the fertilizer coupon before it expires on 6/18/23
- ☐ None of the above

\* 10. Looking at the ads now, how likely is it that this this messaging will influence your lawn care practices?

Very unlikely

Unlikely

Not sure

Likely

Very likely

☐☐☐☐☐

10a. Why do you think this message is unlikely to influence your household's lawn care practices?

- ☐ The message isn't aimed at us, because we don't use fertilizer of any kind on our lawn.
- ☐ The message isn't aimed at us, because we only use organic/natural fertilizers on our lawn.
- ☐ Because we're not interested in switching from weed & feed to natural/organic lawn fertilizer.
- ☐ Other (please describe)

11. What's the primary reason you are unlikely to try natural or organic fertilizers on your lawn? (Check all that apply.)

- ☐ They don't work as well as chemical fertilizers
- ☐ I don't think the products we're currently using are harmful to my household's health
- ☐ I don't think the products we're currently using are harmful to the environment
- ☐ The natural/organic products are too expensive
- ☐ Other reason (please describe)

11. Is there anything else you'd like to tell us about your lawn care practices or the topic of natural yard care?

12. If you'd like to enter the drawing to win a \$100 gift card, please provide your email. Your email will only be used for this purpose.

Email Address

Thanks very much for your feedback. We truly appreciate it.

## SOCIAL MEDIA / OTHER ONLINE SOURCES SURVEY

Thank you for taking the time to complete this short survey. Your responses will be confidential, and we will only share combined (not individual) responses when reporting results.

As you read the questions, please answer for your household as a whole. And be sure to enter your email at the end if you'd like to enter the drawing to win a \$100 Amazon gift card.

\* 2. To make sure we are receiving responses from real people - not robots - please **select B** as your answer choice below.

- ☐ A
- ☐ B
- ☐ C
- ☐ D

\* 3. Which of the following best describes your residence?

- ☐ Single family home
- ☐ Townhome or duplex
- ☐ Multi-unit condominium or apartment

\*4. Does your property have a yard that includes grass?

- ☐ Yes
- ☐ No

\*5 Do you maintain the grass yourself or use a lawn care company?

- ☐ Maintain it ourselves
- ☐ Use a lawn care company

6. Do either of these apply to your current household? (Check any that apply)

- ☐ We have at least one child under 18 living in the household
- ☐ We have a pet that sometimes or regularly goes into the yard
- ☐ Neither of the above

\*7. For each of the following products, please indicate which, if any type, you put on your lawn.

	Chemical/non-organic	Organic	Don't know what kind	Don't put this on my lawn
Fertilizer				
Weed killer				
Weed & feed				
Moss killer				
Other (please list)				

8. What size is your lawn? (Either in square feet or acres. A rough estimate is fine.)

\* 9. In terms of using natural/organic products on your lawn, which of these best describes you right now?

- ☐ I am not interested in using natural/organic lawn products
- ☐ I've never thought about using natural/organic products on my lawn instead of non-organic
- ☐ I am thinking about using natural/organic products on my lawn instead of non-organic
- ☐ I am planning on using natural/organic products on my lawn in the near future instead of non-organic
- ☐ I sometimes use natural/organic lawn products
- ☐ I only use natural/organic lawn products
- ☐ I am not interested in using any products on our lawn

Comments

\* 10. Within the past couple of months, do you remember seeing either of the ads below on social media or elsewhere?

- ☐ Yes
- ☐ No
- ☐ Not sure

11. After seeing the ad(s), did you do either of these actions? (Check any that apply)

- ☐ Signed up for one of the webinars on natural lawn care
- ☐ Used the coupon for discounted natural/organic lawn fertilizer
- ☐ Neither of the above

Comment

\* 12. Looking at the ads now, how likely is it that this this messaging will influence your lawn care practices?

Very unlikely

Unlikely

Not sure

Likely

Very likely

☐☐☐☐☐

13. Why do you think this message is unlikely to influence your household's lawn care practices?

- ☐ The message isn't aimed at us, because we don't use fertilizer of any kind on our lawn
- ☐ The message isn't aimed at us, because we only use organic/natural fertilizers on our lawn
- ☐ Because we're not interested in switching from weed & feed to natural/organic lawn fertilizer

Other

14. What is it about the messaging (the words and/or pictures) that you think will influence your household's lawn care practices?

15. What's the primary reason you are unlikely to try natural or organic fertilizers on your lawn? (Check all that apply.)

- ☐ They don't work as well as chemical fertilizers
- ☐ I don't think the products we're currently using are harmful to my household's health
- ☐ I don't think the products we're currently using are harmful to the environment
- ☐ The natural/organic products are too expensive
- ☐ Other reason (please describe)

16. Is there anything else you'd like to tell us about your lawn care practices or the topic of natural yard care?

17. If you'd like to enter the drawing to win a \$100 gift card, please provide your email. Your email will only be used for this purpose.

Email Address

Thanks very much for your feedback. We truly appreciate it.