Thurston County Natural Lawn Care Education Evaluation Report

2020 Long-Term Evaluation of the 2014 Program

Prepared for:
Thurston County
City of Olympia
City of Tumwater
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Final Report

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Background and Introduction

Program History

In 2009, the City of Olympia began developing an outreach program on "yard care practices protective of water quality" in response to a requirement in its 2007–2013 NPDES Phase II permit. Olympia commissioned two research studies to identify its priority audience and the barriers and motivators to using natural lawn care practices.[1]

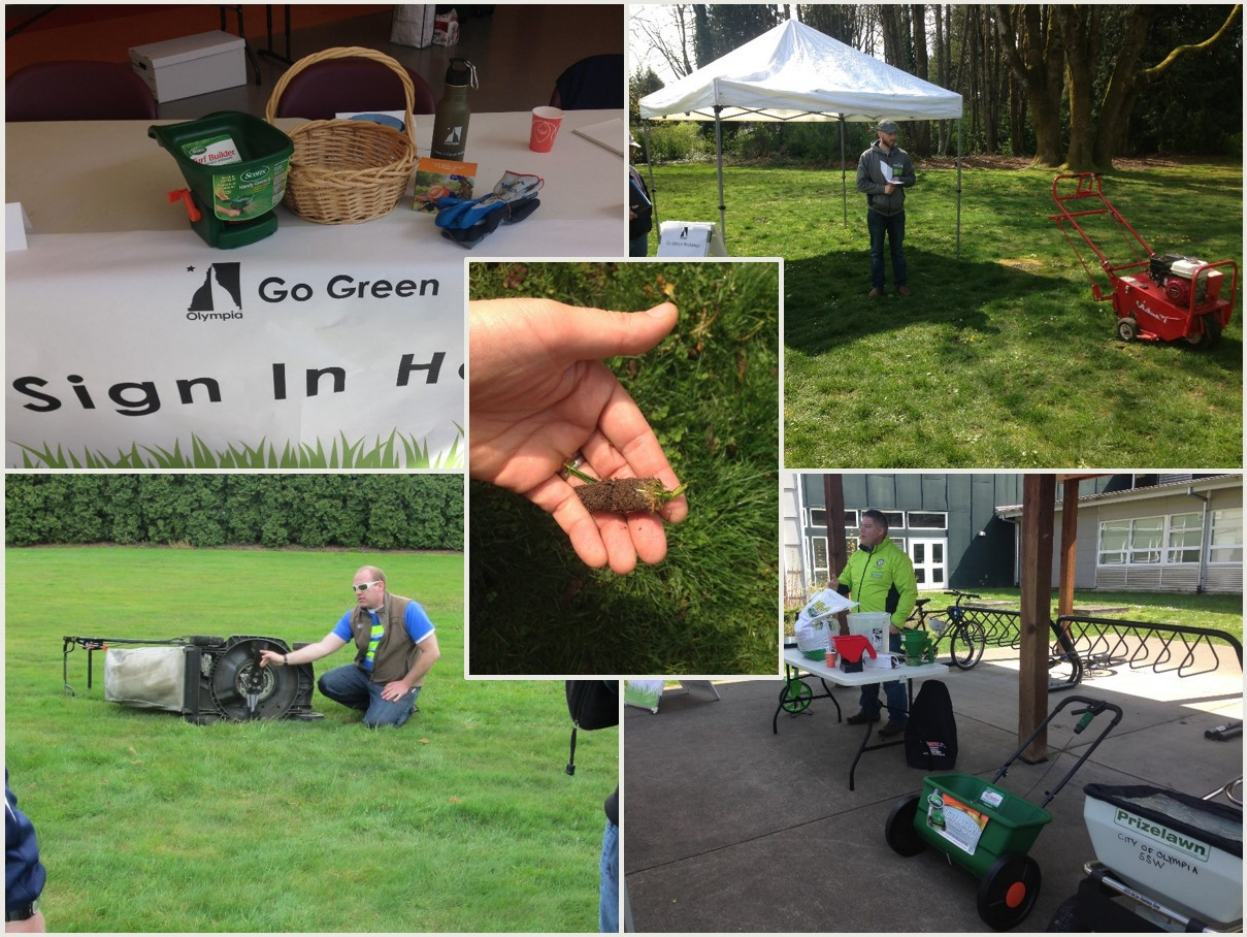
In 2012, Olympia piloted its natural lawn care education model which included home visits, demonstration workshops, and incentives before launching a full campaign in 2014.

In 2014, Olympia, in partnership with the City of Tumwater and Thurston County, implemented a natural lawn care education program using an intensive education model featuring home visits, demonstration workshops, and incentives. Olympia continued the program with a second group of participants in 2015.

The program's goal was to reduce nutrient and pesticide runoff resulting from traditional lawn care practices and to improve water quality and protect Puget Sound by promoting natural lawn care practices.

[1] City of Olympia, "Residential Community-Based Social Marketing Behavior Barriers and Motivators Research," conducted by Frause Research, 2009. City of Olympia, Homeowner Lawn and Garden Care Ethnographic Research," conducted by Ethnographic Insight, Inc., 2009.

Program Model



Before developing its strategy, the City of Olympia conducted an ethnographic blind study to identify its priority audience and barriers related to natural lawn care practices. Following this initial research, the program was developed using a social marketing approach, consisting of two home visits from a lawn care professional (referred to as a lawn coach); one or two demonstration workshops; and incentives.

During the year-long program, participants received the following education and incentives:

- Free soil test in spring.
- Spring and fall lawn coach consultations through home visits covering current lawn and soil conditions based on soil test results and visual inspection, desired results, and recommended practices to achieve those results.

- Demonstration workshop covering:
  - Lawn and soil health and water quality protection.
  - Calibrating spreaders and proper application of fertilizer and lime.
  - Aerating, top-dressing with compost, and overseeding.
  - Mowing and watering.
- Free lawn measurement
- Free slow-release fertilizer and lime in quantities based on participants' soil test results and lawn size.
- $30 rebate towards lawn aeration service or free rental of lawn aerator equipment when participants shared the equipment with two other households.

The program also included a robust evaluation to assess whether the program worked, and how well it worked compared to a workshop-based program held in Snohomish County.

Evaluation Approach and Activities

The current follow-up evaluation has two key goals:

- Understand whether participants sustained the behavior change created by the Go GREEN lawn care program in the long-term.
- Meet new requirements in the NPDES Phase II Permit 2019-2024 S5.C.2.a.ii.(c):
  - *No later than July 1, 2020, each Permittee shall conduct a new evaluation of the effectiveness of an ongoing behavior change campaign (required under S5.C.1.a.ii and S5.C.1.c. of the 2013 Permit). Permittees shall document lessons learned and recommendations for which option to select from S5.C.2.a.ii.(c).*
  - *Based on the recommendation from S5.C.2.a.ii.(b), by February 1, 2021, each Permittee shall follow social marketing practices and methods, similar to community-based social marketing, and develop a campaign that is tailored to the community, including development of a program evaluation plan. Each Permittee shall:*
    - *1. Develop a strategy and schedule to more effectively implement the existing campaign; or*
    - *2. Develop a strategy and schedule to expand the existing campaign to a new target audience or BMPs; or*
    - *3. Develop a strategy and schedule for a new target audience and BMP behavior change campaign.*

Evaluation Approach

This evaluation was designed to assess the education program in a statistically valid manner. All follow-up program evaluations were designed to be comparable to the baseline evaluation with minor changes. Participants completed surveys at four points during their participation:

- **Baseline survey** to assess participants' use of natural lawn care best practices before they received education. Registration forms incorporated these web-based surveys when possible.
- **Immediate post-outreach survey** conducted in mid-summer after the spring lawn coach visit and the demonstration workshops but before the fall lawn coach visit. This web-based survey mainly requested feedback on the program and program elements.
- **Medium-term post-outreach survey** conducted six to twelve months after receiving education to assess behavior change and participants' use of natural lawn care best practices after they received education. This web-based survey also addressed social diffusion and program feedback.
- **Long-term post-outreach survey** conducted six years after receiving education to assess whether participants sustained their adoption of natural lawn care best practices and inform future natural yard care programs.

Table 1 on page 8 summarizes the participation rates, survey activities, and response rates for surveys that measured use of recommended practices.

The following appendices present additional details on evaluation methods and results.

- Appendix A—Survey instruments and summary data
- Appendix B—Summary of medium-term behavior change results
- Appendix C —Results and Recommendations from program in Snohomish County

Table 1. Respondents and response rates

	Evaluation Elements	Respondents & Response Rates
Baseline survey	Web-based survey on practices and understanding before program	Participating households: 330* Survey respondents: 300 Response rate: 91%
Medium-term post-outreach survey	Web-based survey on practices, changes in practices, and program feedback, with incentive of free lime for completing the survey	Participating households: 330 Survey respondents: 228 Response rate: 69%
Long-term post-outreach survey	Web-based survey on practices, changes in practices, and program feedback, with incentive of a free lawn aeration, lawn coach visit, bag of fertilizer and two bags of lime for completing the survey	Available addresses: 290 Survey respondents: 155 Response rates: per available addresses: 53% per original households: 47%

** For one housing development in unincorporated Thurston County, one resident coordinated all aspects of the program, including completing participant surveys.*

Behavior Change Results

This section presents behavior change results for the Go GREEN Program in Thurston County. Figures in this report are rounded to the nearest percentage point. As a result, the sum of "baseline" and "change" figures may not appear to equal the "post-outreach" and "long-term" figures, but each figure is independently the most accurate rounded amount.

In the narrative findings, two icons indicate the **level of behavior change** (**H**, **M**, or **L**) from baseline to the long-term post-outreach survey and the **long-term and medium-term use** (✔, ▲, ●) as follows:

Behavior Change

H High behavior change
20 or more percentage points

M Moderate behavior change
10 to 19 percentage points

L Low behavior change
Less than 10 percentage points

Post-Outreach Use

✔ High post-outreach/long-term use
70% or more for preferred practices
25% or less for harmful practices

▲ Moderate post-outreach/long-term use
40% to 69% for preferred practices
26% to 60% for harmful practices

● Low post-outreach/long-term use
Less than 40% for preferred practices
More than 60% for harmful practices

Appendix A presents additional details on results.

Summary of Behavior Change

Table 2 summarizes the behavior change outcomes for participants, including self-reported use of practices from the baseline (top gray bar), medium-term (middle green bar), and long-term (bottom blue bar) surveys. Table 2 also shows the change in usage between baseline and long-term surveys and backsliding between medium-term and long-term surveys.

For example, when asked directly about using weed-and-feed at baseline, 65% of respondents at baseline said they used the product compared to 38% of respondents in the long-term (representing a decrease of 28% of respondents). However, compared to the 12% of respondents on the medium-term survey who reported using weed-and-feed, the long-term use by 38% of respondents represents an increase of 26% of respondents – backsliding for this harmful practice.

Table 2. Behavior change in lawn care practices

Type	Lawn Care Practice or Understanding	Baseline Use & Medium-Term Use & Long-Term Use	Long-Term Behavior Change (vs. Baseline)	Long- vs. Medium-Term
Using Weed-and-Feed	HARMFUL PRACTICE: Use weed-and-feed*	65% 12% ✓ 38% △	-28% H	26%
Choosing Fertilizer	Use slow release, natural, or organic fertilizer	30% 86% ✓ 71% ✓	41% H	-15%
	HARMFUL PRACTICE: Use fast-release fertilizer or weed-and-feed*	67% 5% ✓ 22% ✓	-45% H	17%
	Calculate lawn area and application rate to determine fertilizer use	16% 63% △ 54% △	38% H	-10%
	Calibrate spreader when using new fertilizer	38% 62% △ 46% △	9% L	-16%
	Know how much nitrogen was applied	1% 24% ○ 14% ○	13% M	-9%
Applying Fertilizer	Always sweep fertilizer back onto lawn	39% 54% △ Not Asked		
	Fertilize in May, September, or October	63% 65% △ 70% △	6% L	5%
	HARMFUL PRACTICE: Fertilize in January or February	7% 10% ✓ 6% ✓	-1% L	-4%

* Respondents were asked two questions related to weed-and-feed. In the long-term survey, more respondents reported using weed-and-feed when they were asked about it directly than when they were asked generally about what fertilizer they used in the previous year. All these additional respondents said they use weed-and-feed "once a year or less often."

Continued on next page.

Table 2. Behavior change in lawn care practices, continued

Type	Lawn Care Practice or Understanding	Baseline Use & Medium-Term Use & Long-Term Use	Long-Term Behavior Change (vs. Baseline)	Long- vs. Medium-Term
Managing Weeds	HARMFUL PRACTICE: Weed: broadly apply weed-and-feed or weed killer	48% 9% ✓ 18% ✓	-30% H	9%
	Weeds: pull, dig, tolerate, or spot-treat	91% 96% ✓ 94% ✓	3% L	-2%
Applying Lime	Apply lime every 2 to 3 years**	34% 89% ✓ 78% ✓	44% H	-11%
Aerating	Aerate lawn every 2 years**	31% 82% ✓ 54% △	23% H	-28%
Mowing	Sharpen mower blade every year	33% 72% ✓ Not Asked		
	Sometimes or always mulch mow in dry months	56% 72% ✓ 82% ✓	26% H	10%
	Sometimes or always mulch mow in wet months	52% 64% △ 69% △	17% M	4%
	Mow 2-3" or higher	93% 99% ✓ 96% ✓	3% L	-4%

** For the medium term, these questions asked about participant intentions to aerate and use lime because not enough time had passed for them to have repeated these practices.

Long-Term Behavior Change

This section describes the long-term behavior changes by:

- Focusing on key practices that protect water quality.
- Organizing practices by how well the program worked, and where the program could use improvements.
- Identifying which practices require follow-up efforts to maintain long-term retention.
- Comparing results to long-term behavior change from the program in Snohomish County.

Key Practices that Protect Water Quality

In the long term, participants continued using several key practices that directly protect water quality, as shown in Table 3, but with some backsliding compared to the medium term. Despite backsliding, participants retained high levels of behavior change of not using fast-release fertilizer (20% non-use, up from 5% in the midterm) and not broadly applying weed killer (18%, up from 9%).

In this report, the term "backsliding" means that participants initially increased their use of natural lawn care practices after the program but did not retain the behavior change in the long term.

With backsliding, participants retained high levels of behavior change but decreased to only moderate levels of post-outreach use for not using weed-and-feed (38%, up from 12%) and for aerating the lawn at least every two years (54%, down from 82%). Participants retained high levels of behavior change and moderate levels of post-outreach use for calculating lawn area and application rate to determine fertilizer use. Backsliding decreased behavior change to low, but the participants retained moderate levels of post-outreach use for calibrating spreader when using new fertilizer.

As described below, the program also achieved varying levels of long-term behavior change in practices that support a healthy lawn and reduce the weed, pest, and disease, common reasons people use toxic lawn care products in the first place.

Table 3. Adoption of key practices that protect water quality

Medium-term	Long-Term	Practice
H ✓	H △	Not using weed-and-feed*
H ✓	H ✓	Not using fast-release fertilizer
H ✓	H △	Aerating every two to three years
H △	L △	Calibrating the fertilizer spreader when using a new fertilizer
H ✓	H ✓	Not broadly applying weed killer
H △	H △	Calculating the lawn area and fertilizer application rate
M △	**	Sweeping fertilizer back onto the lawn

Notes:
* When asked directly about weed-and-feed, more respondents reported using it than when asked generally about the type of fertilizer they used.
**The long-term survey did not ask about sweeping fertilizer back onto the lawn.

Where the Program Worked Effectively in the Long Term

H ✓ Substantial change in behavior change

- Using slow-release, natural, or organic fertilizer *(backsliding of 15 percentage points)*
- Not using fast-release fertilizer or weed-and-feed, when asked generally about the type of fertilizer they use *(backsliding of 17 percentage points)*
- Not broadly applying weed-and-feed or weed killer to manage weeds
- Applying lime every two to three years *(backsliding of 11 percentage points)*
- Sometimes or always mulch mowing in dry months

As was the case for water quality-protecting practices, the program saw some backsliding for applying lime every two to three years (78%, down from 82%), but the long-term change from the baseline was still substantial (78%, up from 31%). The practice of sometimes or always mulch mowing in dry months continuously improved with no back sliding from the medium term to long term.

H ⚠ Substantial change with room for additional improvement

- Not using weed-and-feed, when asked directly about the product *(backsliding of 26 percentage points)*
- Aerating lawn at least every two years (*backsliding of 28 percentage points)*
- Calculcating lawn area and application rate to determine fertilizer use

Long-term behavior change was high for the practices, but final adoption levels for these practices indicate opportunities to further increase adoption. For weed-and-feed use and lawn aeration, substantial backsliding indicates that participants may need additional reminders or refreshers. Participants retained changes in calculating the lawn area and application rate to determine fertilizer use, but reminders may be helpful in increasing adoption of this practice.

L ✓ Little change because of high adoption levels before the program

- Not fertilizing in January or February
- Pulling, digging, tolerating, or spot-treating weeds
- Mowing two to three inches or higher

High baseline adoption resulted in little behavior change or backsliding for not fertilizing in January or February, applying proper weed treatment, and mowing their lawns at the right height.

Where the Program Created Moderate Long-Term Change

M **Moderate changes with moderate long-term use**

- Sometimes or always mulch mowing in wet months

Respondents retained moderate long-term behavior change for these practices with no backsliding, resulting in moderate final adoption levels.

M **Moderate changes with low long-term understanding levels**

- Knowing how much nitrogen is applied

While respondents increased their level of knowing how much nitrogen they apply (14%, up from 1% in the baseline), the respondents still had a low level of knowing how much nitrogen is applied to their lawns.

Where the Program Achieved Little Long-Term Change

L **Little change with moderate long- term use**

- Calibrating spreader when using new fertilizer *(backsliding of 16 percentage points)*
- Fertilizing in May, September, or October

In the long term, the program achieved low behavior change for several lawn, soil, and mulch-related practices as well as measuring sprinkler watering rates. Backsliding reduced previous behavior change gains in mulch mowing in dry months and top-dressing after aerating. While use of aerating did not change, more respondents reported applying lime in the long-term than in the medium-term, although the total long-term behavior change was a low five percentage points.

Long-Term Retention of Behavior Changes

For practices where the program achieved moderate or high behavior changes in the medium term, Cascadia analyzed retention of those behavior changes in the long term. Percentage point differences compare adoption levels between the medium-term and long-term surveys. Practices where backsliding occurred may require reminders, refreshers, or other additional interventions to increase retention.

↑ Behavior changes were retained or increased between medium and long term (increase of more than 5 percentage points)

- Sometimes or always mulch mowing in dry months (+10 points)

↔ Behavior changes achieved after the program were retained between medium and long term (change of less than 5 percentage points)

- Sometimes or always mulch mowing in wet months (+4 points)

↓ Adoption decreased between medium and long by 5 to 10 percentage points

- Calculcating lawn area and application rate to determine fertilizer use (-10 points)
- Knowing how much nitrogen is applied (-9 points)
- Not broadly applying weed-and-feed or weed killer to manage weeds (-9 points)

↓↓ Adoption decreased between medium and long term by 10 percentage points or more

- Aerating lawn every two years (-28 points)
- Not using weed-and-feed, when asked directly about the product (-26 percentage points)
- Not using fast-release fertilizer or weed-and-feed, when asked generally about the type of fertilizer they use (-17 points)
- Calibrating spreader when using new fertilizer (-16 points)
- Using slow release, natural, or organic fertilizer (-15 points)
- Applying lime every two to three years (-11 points)

Comparison to Program in Snohomish County

The program in Snohomish County used a workshop model to teach residents about a wide range of natural lawn care practices. Some of those practices related to lawn care, so this evaluation can compare long-term results between the two programs.

The program in Thurston County achieved better results for the following practices:

- Applying lime every two to three years
  - Thurston: 78% used in long-term (44-point change)
  - Snohomish: 34% used in long-term (5-point change)
  - Using this practice involves knowing how much lime to apply and is an extra step compared to fertilizing alone.
- Aerating every two years
  - Thurston: 54% used in long-term (23-point change)
  - Snohomish: 27% used in long-term (7-point change)
  - Using this practice involves renting, transporting, and knowing how to use an aerator, or hiring a contractor for the service. Participants commonly cite barriers to aerating.
- Mulch mowing in dry months
  - Thurston: 82% used in long-term (26-point change)
  - Snohomish: 59% used in long-term (9-point change)
  - This practice requires having a mulching mower, mowing more frequently, and tolerating grass clippings
- Avoiding fast-release fertilizer and weed-and-feed, when asked generally about the type of fertilizer they use
  - Thurston: 78% avoided in long-term (41-point change)
  - Snohomish: 66% avoided in long-term (16-point change)
  - This practice requires finding an alternative fertilizer, using alternative practice to manage weeds, or changing expectations about lawn appearance.
- Using slow-release, organic, or natural fertilizer
  - Thurston: 71% used in long-term (41-point change)
  - Snohomish: 62% used in long-term (32-point change)
  - This practice requires additional effort to purchase recommended fertilizers, which participants commonly report is difficult to find and is more costly even when found.

The two programs achieved similar long-term results for:

- Avoiding weed-and-feed, when asked directly about the product
  - Thurston: 62% avoided in long-term (28-point change)
  - Snohomish: 67% avoided in long-term (30-point change)

- Mulch mowing in wet months
  - Thurston: 69% used in long-term (17-point change)
  - Snohomish: 60% used in long-term (14-point change)

The program in Thurston County achieved more change for practices that require more effort or information. Unlike the program in Snohomish County, the Go GREEN program gave its participants hands-on training with these practices though the demonstration workshop, required them to use the practices on their properties for at least one year, and created the opportunity to experience the benefits of using these practices. Behavior change may also have been affected by the Go GREEN program's focus on a smaller set of practices and only one yard area (the lawn, not planting beds) compared to wider range of practices in the Snohomish County program.

Other Long-Term Survey Questions

This section summarizes responses to other questions designed to inform future program decisions or that could provide context if behavior change results appeared unusual.

Useful Elements of the Go GREEN Program

Most respondents (95%) said they remembered the Go GREEN program. When asked what they found most useful, they most commonly mentioned the information on fertilizing (34%), using lime (23%), and aerating (17%), as shown in Table 4. Some respondents also mentioned program services, mainly the free soil test (16%) and the on-site visits (11%).

Table 4. Most useful elements of program

Most useful part of program	# Respondents	% Respondents
Remembers program	**152**	**95%**
Everything was useful	**21**	**13%**
Mentioned topic areas		
Fertilization	55	34%
Fertilizer types	*28*	*18%*
How to calculate fertilizer amount	*8*	*5%*
Other fertilizer topics	*21*	*13%*
Lime	36	23%
Lawn aeration	27	17%
Lawn mowing	17	11%
Mow height	*10*	*6%*
Mulch mowing	*5*	*3%*
Other lawn mowing topics	*6*	*4%*
Watering	10	6%
Other topics	6	4%
Soil test	4	3%
Mentioned program services		
Free soil test	25	16%
On-site visits	17	11%
Free supplies (fertilizer and lime)	7	4%
Workshops	4	3%
Lawn aeration rental reimbursement	2	1%
Learning materials (e.g., log sheet)	1	1%
Other response	**13**	**8%**
Does not remember program	**8**	**5%**
Total Respondents	**160**	**100%**

Sources of Lawn Care Information

Respondents answered whether they researched on lawn care topics since the 2014 program and wrote in which sources they used to research. Forty-seven respondents (29%) reported doing additional researching on lawn care, some mentioning multiple sources of information. As shown in Table 5, participants most frequently referred to online sources (18%) and companies that sell lawn care products and services (8%).

Table 5. Information sources

Source	# Respondents	% Respondents
Researched information since program	**47**	**29%**
All online sources	**29**	**18%**
City of Seattle and Thurston County websites/emails	5	3%
Other websites	4	3%
Unspecified online sources	21	13%
Company for lawn care products and services	**13**	**8%**
Word of mouth	**3**	**2%**
Library books	**1**	**1%**
Re-read materials from Go GREEN Program	**1**	**1%**
Do not remember source	**1**	**1%**
Other sources	**5**	**3%**
Did not research or did not remember	**113**	**71%**
Total respondents	**160**	**100%**

Future Desired Education Topics and Assistance

Most respondents (62%) described what future lawn care education or assistance they would like in the future or would want the program to offer to others (Table 6). They most commonly mentioned repeating the services provided during the original program (18%), especially mentioning a refresher workshop (8%), aeration rental and other incentives (4%), soil tests (4%), and lawn coach visits (4%). Respondents also commonly asked for follow-up communications such as reminders, calendars, and additional tips (11%).

They also asked for recommendations on where to find fertilizer and lawn care companies to be able to use natural lawn care practices (11%). Other requested topics included moss and weed control (10%), fertilizing (5%), and watering or low-water lawn care (5%).

Table 6. Distribution of aspired future education topics and assistance

Desired Future Services and Topics	# Respondents	% Respondents
Additional program services		
Repeat of program services	28	18%
Refresher class or workshop	*13*	*8%*
Aeration rental, fertilizer, and other incentives	*9*	*6%*
Soil tests	*7*	*4%*
Lawn coach visits	*6*	*4%*
Follow-up communication (emails, reminders, calendars, and tips)	18	11%
Information on topic areas		
Recommendations on products, where to buy products, and lawn companies	18	11%
Moss and weed control	15	10%
Fertilizing (when, how much, and personalized recommendations)	8	5%
Watering and low-water grass types and practices	8	5%
Best grass/ grass seed types for climate and soil types	6	4%
How to self-test soil and how often/ where to get soil tested again	6	4%
How to deal with moles and other wildlife	5	3%
Lime (amount needed, how and how often to use)	4	3%
Lawn care and seed types for shady and wet areas	3	2%
Harmful effects of pesticides/chemical treatments on lawns and water	2	1%
Other topics	10	6%
"Nothing" or unrelated responses	60	38%
Total	**157**	**100%**

Residency Associations and Lawn Care Guidelines

Thurston County is deciding whether to focus future efforts on working with homeowners' associations (HOAs). We asked respondents a series of questions to understand whether an outside property owner or organization influences how they care for their lawn. Over a third of respondents (36%) said that an HOA, neighborhood association, or landlord sets guidelines for the appearance of their lawn, and most of these respondents follow those guidelines (Table 7). Overall, 62% of respondents said no one sets guidelines for lawn care appearance. These responses are similar to the baseline survey, when 33% of respondents followed guidelines, 58% said no one sets guidelines, and 7% didn't know.

Table 7. Guidelines for lawn appearance and whether followed

Guidelines on lawn appearance	# Respondents	% Respondents
Someone else sets guidelines	**57**	**36%**
I follow those guidelines	53	34%
I don't follow those guidelines	4	3%
No one sets guidelines	**98**	**62%**
I don't know	**2**	**1%**
Total	**1**	**100%**

Most respondents who have lawn guidelines set by others said that an HOA sets those guidelines (Table 8). Some respondents said that a neighborhood association sets the guidelines.

Table 8. Guidelines for lawn appearance and who sets them

Guidelines on lawn appearance	# Respondents	% Respondents
Someone else sets guidelines	**57**	**36%**
HOA	51	32%
Neighborhood association	10	6%
Landlord	0	0%
No one sets guidelines	**98**	**62%**
I don't know	**2**	**1%**
Total	**157**	**100%**

Nearly half (48%) of respondents said they belong to an HOA, and nearly one-third (31%) said they belong to an HOA that sets lawn guidelines (Table 9). Considering only respondents who reported being part of an HOA, nearly two-thirds (65%) of them said their HOA sets lawn guidelines, and most of them follow the guidelines.

Table 9. HOA affiliations and guidelines

HOA Affiliation	# Respondents	% Respondents	% HOA Respondents
Part of HOA	**78**	**48%**	**--**
Part of HOA that sets guidelines	**51**	**31%**	**65%**
Follows guidelines	47	29%	60%
Does not follow guidelines	4	2%	5%
Part of HOA that does not set guidelines	**27**	**17%**	**35%**
Not part of HOA	**75**	**46%**	**--**
Does not know	**4**	**2%**	**--**
Total	**163**	**100%**	**--**

Major Changes to Lawn Care

We asked participants whether they had made any major changes in their lawn or how they care for it in the past few years, which could have provided context if behavior change responses had appeared unusual (Table 10). Two-thirds of respondents reporting making changes, most commonly reseeding or overseeding (53%), replacing lawn areas with other plants (14%), or replacing it with hardscape (10%). Several respondents had made more than one change.

Table 10. Types of Changes Made

Types of change made	# Respondents	% Respondents
Reseeded or overseeded	86	53%
Replaced lawn area with other plants	23	14%
Replaced lawn with hardscape, like a patio, deck, or gravel	17	10%
Resodded	8	5%
Moved to a home without a lawn	6	4%
Changed grass type	3	2%
Replaced lawn area with a rain garden	1	1%
Other (Please explain)	14	9%
None of the above	54	33%
Total respondents	**162**	**100%**

Respondent Demographics

To identify whether respondents experienced major changes in demographics that may have affected their lawn care behaviors, the long-term survey included questions on three key characteristics. Comparing survey responses indicated no major differences:

- **Residence**: about 88% of respondents reported they had not moved since the program.
- **Home ownership**: 96% of respondents reported owning their home now compared to 99% in the baseline.
- **Who applies fertilizer:** 89% of respondents who fertilize reported that they or someone in their household applies fertilizer, compared to 94% at baseline.

Recommendations

This section contains recommendations that were developed based on behavior change results from the program in Thurston County, a comparison of those results to those from Snohomish County, feedback from program participants, and community-based social marketing best practices.

The program in Thurston County achieved greater behavior change on several practices, likely because it offered more incentives, customized assistance, and more participant interaction than the program in Snohomish County Because of these additional elements, the program in Thurston County cost substantially more than the program in Snohomish County: approximately $550 per household compared to $250 per household. Lawn coach home visits accounted for nearly half (49%) of program costs in Thurston County (excluding administration and evaluation costs), and the demonstration workshop accounted for nearly a quarter (23%) of costs.

If holding future programs, continue to offer the following key elements:

- **Provide a soil test and customized recommendations for fertilizer, lime, and other practices.** Explore lower cost options for developing customized recommendations that do not require a site visit, such as reviewing soil test results, photos from Google Earth to estimate lawn area, photos sent by participants, or a virtual site visit using the participant's smart phone.
- **Hold a demonstration day to provide hands-on experience with the equipment.** Although few respondents cited the demonstration workshop directly, many mentioned that learning about lime, aeration, and fertilizer were among the most useful parts of the program.
- **Help participants obtain aeration, fertilizer, and lime.** This help must include identifying sources for these products, equipment, or services. Ideally the help would also include discounts or coordination of delivery (even if products and services are full cost to participants). Obtaining recommended fertilizers and performing aeration remain a barrier even to participants who recognize their benefits, and the program in Snohomish County saw little behavior change in lime and aeration through workshops alone.

For many of the practices that had the largest backsliding, generic information and reminders are important but may not overcome the barriers to using them alone. Respondents asked for help finding recommended products, service providers, and discounts or lower cost options. They also asked for additional customized recommendations for their lawn.

- **Send annual or seasonal emails, paper mailers, and/or calendars** to past participants reminding them of key practices, providing new tips, offering additional informational

resources (such as the lawn care videos), and offering contact information to ask lawn care questions. Participants asked for:

  - General reminders about natural lawn care practices and timing.
  - Information on fertilizer types and amounts, frequency and amount of lime to use, and aeration.
  - Information on controlling moss, weeds, moles, and other wildlife.
  - Information on low-water lawn care and types
  - Information on lawn care in shady and wet areas.

- **Consider offering a refresher workshop,** which several respondents asked for. If a workshop is not feasible, share the natural lawn care videos created by the City of Olympia and provide a hotline or other way for participants to ask questions individually.
- **Encourage stores to carry recommended fertilizers and publish a list of those that do.** Respondents mentioned being unable to find the recommended fertilizers. Potentially through a STORM natural yard care work group and in partnership with incorporated cities and Snohomish County, coordinate regionally and on a local level with individual stores and store managers to regularly stock and promote slow-release fertilizer—and list participating stores, times of year these stores stock recommended fertilizer, and other fertilizer information on program webpages.
- **Distribute a list of soil testing labs.** Participants asked how to get another soil test. Snohomish County distributes a list that its partners Washington State University created in response to its participant requests.
- **Consider facilitating soil testing** through partnering with local agencies and/or Snohomish County to offer a low-cost soil test. Kits should include detailed, graphics-heavy instructions on how to collect soil samples properly. Soil test results should include an easy-to-read report that provides detailed information on actions to take based on results.
- **Provide information on deciding fertilizer and lime amounts to apply without an additional soil test**, if supporting soil testing is not feasible. The program could also promote the existing natural lawn care videos that demonstrate how to conduct a soil test and calculate fertilizer amounts. Respondents asked for information about how much to apply, in addition to asking for a soil test.
- **Explore ways to help residents find natural lawn care services, including aeration and personalized consultations**. The program could assemble and share a list of landscape companies that offer natural lawn care services, promote the ecoPRO certification program for sustainable landscape professionals, or engage with landscape companies in Thurston Counties to encourage them to offer sustainable services potentially in partnership with the Thurston Chamber of Commerce's Green Business program.

- **Implement aeration recommendations from the prior evaluation of the 2014 cohort to:**
  - Encourage neighbors to coordinate on renting an aerator.
  - Help participants hold an aeration day in which all participants in a neighborhood can jointly rent an aerator and top-dressing equipment (or can jointly hire a professional to aerate and top-dress).

When holding future yard care programs, consider partnerships for marketing:

- **Explore working with homeowners' associations (HOAs)** to promote natural lawn care practices and remove any barriers in their landscape guidelines that prevent using those practices. HOAs could be a way to reach more residents: nearly half of respondents belonged to an HOA, and one-third of all respondents said their HOA sets guidelines for lawn care.

Appendices

Appendix A. Survey Instruments and Summary Data

The following items are provided in separate documents:

- Baseline survey
- Immediate post-outreach survey
- Medium-term term post-outreach survey
- Long-term term post-outreach survey

Note that these tables present data for all respondents, while report tables comparing baseline to post-outreach use of natural yard care practices presented data only for participants who responded to both the baseline and post-outreach surveys.

- Baseline data (all respondents)
- Immediate post-outreach survey data
- Medium-term data (all respondents)
- Long-term data (all respondents)

Appendix B. Summary of Medium-Term Behavior Change Results

This section presents the original evaluation findings regarding whether the natural lawn care education created behavior change six to twelve months after the program for the 2014 cohort. Medium-term results for the 2015 cohort were not available when this analysis was originally conducted; they are included in the analysis for the main report above.

Practices that Protect Water Quality

After the program, at least 40% of participants were using all the key practices that directly protect water quality, as shown in Table 11. At least 70% were avoiding products that harm water quality: weed-and-feed, fast-release fertilizer, and broadly applied weed killer.

Notably, the program achieved a high level of behavior change in reducing weed-and-feed use: the share of participants who used this product decreased from 63% to 16%. As described below, the program also achieved varying levels of behavior change in practices that support a healthy lawn and reduce the weed, pest, and disease reasons people use these toxic lawn care chemicals.

Table 11. Medium-term adoption of practices that protect water quality

H ✓	Avoiding weed-and-feed use
H ✓	Avoiding fast-release fertilizer use
H ✓	Aerating every two to three years
H ✓	Calibrating the fertilizer spreader when using a new fertilizer
H ✓	Avoiding broad application of weed killer
H △	Calculating the lawn area and fertilizer application rate
M △	Sweeping fertilizer back onto the lawn

Where the Program Worked Effectively

H ✓ Substantial change resulting in high post-outreach use

- Applying lime.
- Using slow-release or organic fertilizer.
- Aerating.
- Avoiding weed-and-feed use.
- Avoiding fast-release fertilizer use.
- Always calibrating spreaders when using a new fertilizer.
- Avoiding broad application of weed killers.
- Mulch mowing in dry months.

L ✓ Little change because of high adoption levels before the program

- Mowing two to three inches or higher.
- Using at least one least-toxic weed management technique.
- Lawn watering frequency (recommended frequency is once or twice a week; the dry weather in 2015 may have affected watering practices).
- Fertilizing in the proper months.

H △ Substantial change with room for additional improvement

- Intending to test soil within three years.
- Calculating lawn area to determine fertilizer use.
- Measuring sprinkler watering rates.
- Sharpening mower blades.

Where the Program Achieved Some Change but Room for Improvement Remains

H ● High change with low post-outreach use

- Knowing how much nitrogen they apply per year.

M △ Moderate changes with moderate post-outreach use

- Mulch mowing in wet months
- Always checking for and sweeping fertilizer back onto the lawn.

Appendix C. Results and Recommendations from Program in Snohomish County

These sections are pasted from the "Snohomish County Natural Yard Care Education Evaluation Report: Follow-up Evaluation to the Evaluation of the 2014 Program." The full report contains details on the evaluation, behavior change results, and enhancements that Snohomish County made and tested with the 2018–2019 version of the program. The program

This section presents recommendations to improve future workshops and events by Snohomish County. Overall, the new elements used in Snohomish County, including the outdoor Lawn and Garden Fair as well as changes to the education workshops, appeared to be helpful and appreciated by participants; however, connecting them directly to behavior change was difficult due to the differences in baseline usage and in presenters between the 2014 program and the enhanced 2018–2019 version of the program.

Summary of Behavior Change in Snohomish County

Table 12 summarizes the behavior change outcomes for participants from 2014 (called the "2014 cohort"), including self-reported use of practices from the baseline, medium-term, and long-term surveys as well as the change in usage between baseline and long-term surveys and between medium-term and long-term surveys.

Table 12. Behavior change in yard care practices in Snohomish County

Type	Yard Care Practice or Understanding	Baseline Use & Medium-Term Use & Long-Term Use	Long-Term Behavior Change (vs. Baseline)	Long- vs. Medium-Term
Using Weed-and-Feed	HARMFUL PRACTICE: Use weed-and-feed	64% 13% ✓ 33% △	-30% H	20%
Fertilizing	HARMFUL PRACTICE: Use fast-release or weed-and-feed fertilizer	50% 26% △ 34% △	-16% M	9%
	Use slow release, organic or natural fertilizer	30% 59% △ 62% △	32% H	3%
Managing Weed and Pests	HARMFUL PRACTICE: Pests/diseases: broadly apply product	11% 6% ✓ Not asked		
	Pests/diseases: remove, prune, use netting or collars, or tolerate	78% 92% ✓ Not asked		
	HARMFUL PRACTICE: Weeds: broadly apply weed killer	25% 6% ✓ 12% ✓	-13% M	5%
	Weeds: pulled, smothered, tolerated, spot-treated	97% 96% ✓ 99% ✓	1% L	3%
Applying Lime	Apply lime at least every 2 to 3 years	29% 24% ○ 34% ○	5% L	10%
Aerating	Aerate at least every 2 years	20% 25% ○ 27% ○	7% L	2%
	Top-dress with compost, if aerated	27% 57% △ 26% ○	-1% L	-31%
Applying Mulch	HARMFUL PRACTICE: Bed cover: landscape fabric, plastic, or bare soil	35% 22% ✓ 27% △	-8% L	5%
	Bed cover: mulch, grass clippings, or plants	90% 90% ✓ 90% ✓	0% L	0%

Continued on next page.

Table 12. Behavior change in yard care practices, continued

Type	Yard Care Practice or Understanding	Baseline Use & Medium-Term Use & Long-Term Use	Long-Term Behavior Change (vs. Baseline)	Long- vs. Medium-Term
Mulch Mowing	Sometimes or always mulch mow in dry months	49% 70% ✓ 59% △	9% L	-12%
	Sometimes or always mulch mow in wet months	46% 66% △ 60% △	14% M	-6%
Mowing Height	Mow 2-3" or higher	91% 96% ✓ 91% ✓	0% L	-5%
Choosing Plants	Always match plant to where it thrives	19% 59% △ 35% ○	16% M	-24%
	Always look for a plant's soil drainage needs	24% 53% △ 40% ○	15% M	-14%
	Always look for whether a plant is native to Pacific Northwest	17% 43% △ 34% ○	17% M	-9%
	Always look for a plant's pest and disease resistance	12% 39% ○ 26% ○	15% M	-12%
	Always look for a plant's full-grown size	52% 73% ✓ 66% △	14% M	-6%
	Always look for a plant's cold temperature tolerance	29% 51% △ 44% △	14% M	-7%
	Always look for a plant's watering needs	42% 57% △ 52% △	10% L	-5%
	Always look for a plant's sun/shade needs	65% 84% ✓ 73% ✓	8% L	-11%
	Has sketched a map of the yard	Not asked 25% ○ 27% ○		3%

Continued on next page.

Table 12. Behavior change in yard care practices, continued

Type	Yard Care Practice or Understanding	Baseline Use & Medium-Term Use & Long-Term Use	Long-Term Behavior Change (vs. Baseline)	Long- vs. Medium-Term
Preparing Soil	Know to prepare soil with compost	67% 92% ✓ Not asked		
	Know to mix materials into soil 6-8 inches deep	24% 38% ○ Not asked		
Watering	Measure sprinkler watering rate (tuna can test), if waters	29% 36% ○ 32% ○	4% L	-3%
	Water lawn once a week or less	69% 64% △ Not asked		
	ACCEPTABLE PRACTICE: Water lawn two to three times per week	25% 31% ○ Not asked		
	HARMFUL PRACTICE: Water lawn daily or every other day	6% 5% ✓ Not asked		

New Workshop Elements Recommendations

Fertilizing and Avoiding Weed-and-Feed

The workshops did not include new elements focused on fertilizing, fertilizer choices, or avoiding weed-and-feed. Both the 2014 and 2018–2019 programs achieved high behavior change and similar final adoption levels related to avoiding fast-release fertilizer and weed-and-feed. However, only 53% of respondents from 2018–2019 who fertilize said they used recommended fertilizer, indicating more assistance is needed.

- **Add a fertilizer tabletop display** with empty bags of slow-release, organic, and natural fertilizers to show attendees how to identify them. The display could be combined with the lime tabletop display recommended below.

Recommendations from the prior evaluation of the 2014 cohort to increase the use of recommended fertilizer included:

- **Show participants how to identify and choose slow-release fertilizer**, including how to read the guaranteed analysis (NPK numbers) and how to identify words that signal the fertilizer contains slow-release nitrogen. Information could be provided in lectures, videos, and a webpage.
- **Offer a coupon with a discount** on slow-release fertilizer redeemable at stores that have agreed to promote this product. In addition to providing a discount, the coupon is intended to inform participants how to identify slow-release fertilizer and which stores carry the product. Consider asking retailers and manufacturers of slow-release fertilizer if they would fund the coupon values while the local jurisdiction funds the design, printing, and distribution costs. *Note: this and the following recommendation may not be feasible in Snohomish County because large chain stores typically do not partner with public agencies in this way, and only one independent nursery remains in the county at this time.*
- **Encourage stores to carry recommended fertilizers and publish a list of those that do.** Through a STORM natural yard care work group and in partnership with incorporated cities, coordinate on a local level with individual stores and store managers to regularly stock and promote slow-release fertilizer—and list participating stores and fertilizer information on program webpages.

Soil Testing

The program should continue using the soil test tabletop display. While 19% of 2018–2019 follow-up survey respondents had a soil test (and 78% of those households used the results), additional assistance may be needed to expand use. The program could consider implementing the recommendation from the prior evaluation of the 2014 cohort to:

- **Distribute the resource list of soil testing labs** that partners from Washington State University created in response to workshop participant requests.
- **Facilitate soil testing** through partnering with local agencies to offer a low-cost soil test in conjunction with the workshops and Lawn and Garden Fair. Kits should include detailed, graphics-heavy instructions on how to collect soil samples properly. Soil test results should include an easy-to-read report that provides detailed information on actions to take based on results.

Aerating and Applying Lime

As in 2014, the program achieved little behavior change in aerating (presented in a tabletop display) and applying lime (presentation video) among 2018–2019 workshop participants. These practices were also presented in the Lawn and Garden Fair, but few participants from

2018–2019 workshops attended the event. Low behavior change may also be due to non-knowledge barriers such as the effort required to rent an aerator or and the timing of workshops (after the ideal time to aerate) and the follow-up survey (before the ideal time to aerate). Recommendations include:

- **Implement recommendations to increase participation in the Lawn and Garden Fair**. The Lawn and Garden Fair included live demonstration of aerating and applying lime.
- **Modify the aeration tabletop display** to:
  - **Add still images of someone using an aerator**. Continue to show the aeration video while adding still images of the practice in use for workshop attendees who do not stop to watch the video.
  - **Separate the video from the staffed display by a few feet.** This could allow more space for some participants to watch the video and whole others are able ask questions of the person staffing the display.
  - **Include samples of plugs**.
- **Implement recommendations to increase soil testing**. Of the 18 participants who used their soil test results, 12 people added lime.
- **Continue to emphasize the benefits** of lime and communicate that it is as easy to apply as fertilizer (which most participants already apply themselves).
- **Add a lime tabletop display** that includes stills from the lime video showing how to apply lime and connecting it to the already-used practice of fertilizing.
- **Implement recommendations from the prior evaluation of the 2014 cohort to:**
  - Encourage participants who live in the same neighborhood to coordinate on renting an aerator and compost top-dressing equipment.
  - Help participants hold an aeration day in which all participants in a neighborhood can jointly rent an aerator and top-dressing equipment (or can jointly hire a professional to aerate and top-dress).

Applying Mulch

Education regarding applying mulch worked well. Overall, 63% of respondents said they added mulch to cover bare soil, 40% said they used sheet mulching to smother weeds, and 22% used sheet mulching to convert lawns. In addition, 91% of respondents reported keeping beds covered with mulch or plants, an increase from 77% at baseline.

- **Continue to use the new workshop elements**:
  - Live demonstration on sheet mulching to convert a lawn.
  - Live demonstration on using mulch or compost on existing plants and gardens.
  - Tabletop display on choosing and applying mulch, including real samples of mulch types.

- **Continue to distribute a list of local suppliers of mulch.**

Smart Watering

Education regarding smart watering worked relatively well: more respondents in 2018–2019 reported measuring sprinkler rates and starting to use at least one smart watering practice. However, opportunities remain to increase sprinkler measuring from the current level of 32%.

- **Continue to show the smart watering methods video.**
- **Distribute the rule gauge for measuring sprinkler output** that was given out at the Lawn and Garden Fair. The rule lists steps for measuring sprinkler output and the County's natural yard care website.
- **Implement recommendations to increase participation in the Lawn and Garden Fair**. The Lawn and Garden Fair included live demonstration of measuring sprinkler rates and using smart watering methods.

Choosing and Planting Plants

It is unclear why the level of behavior change in plant choices decreased substantially in 2018–2019 compared to 2014. In particular, it is counterintuitive that fewer participants from the 2018–2019 workshops would say they always look for sun/shade needs and full-grown size after attending the workshops compared to before they attended. Potential explanations may be that the quality of the presentation differed between the two programs, the time spent on demonstrating the online native plant guide reduced emphasis on the importance of other plant characteristics, or the discrepancy is due to sampling error.

Recommendations to improve plant choices include:

- **Refocus presentation demonstration on looking for key plant characteristics**. Walk participants through the *Choosing the Right Plants* guide, which includes a template with instructions on how to identify and sketch a map of wet versus dry, sunny versus shady, and heat sink areas of their yard. Also consider showing side-by-side picture of how well and poorly plants grow in right and wrong places.
- **Expand the matching plant to place tabletop display with a poster showcasing recommended plants** showing photos, plant names, and key characteristics (full-grown size, sun/shade needs, drainage and watering needs, pest/disease resistance, native status, and cold tolerance). The display would both provide plant names (requested by some participants) and emphasize the importance of looking for these characteristics. A laptop station next to the display could show and allow participants how to use King County's online native plant guide.

Recommendations to improve planting practices include:

- **Ensure participants can see the live demonstration** on how to plant and water in new plants by using a video or phone camera to project the live demonstration onto the presentation screen.
- **Expand the planting right** tabletop display with images and numbers for recommended compost depth and with containers showing live plants planted at correct and incorrect depths.

Natural Pest, Weed, & Disease Control

Overall, the workshops worked as well as in 2014, but usage of the "Grow Smart, Grow Safe" website is still very low (17%) and creation of crop rotation plants is also somewhat low (39%). Recommendations include:

- **Continue using the new program elements:**
  - Demonstrate use of the "Grow Smart, Grow Safe" website and "Stop Before You Spray" good bug guide.
  - Demonstrate how to create a crop-rotation plan for a food garden.
  - Present a tabletop display on how to identify and control plant problems with least-toxic methods.
- **Add time to the lecture demonstrations** in response to participant comments that the presenter moved too quickly.
- **Email participants the day after the workshop with links to the online resources.** Consider creating a small, useful item that lists selected links, such as the "Grow Smart, Grow Safe" website, the County's natural yard care website, and contact information for the local Washington State University extension. Potential items include a bookmark or a magnet.

Long-Term Retention of Behavior Change Recommendations

For several practices, backsliding indicates that reminders or refreshers may be needed. These practices include not using weed-and-feed or fast-release fertilizers, top-dressing with compost after aerating, mulch mowing, choosing appropriate plants for yard conditions, and not broadly applying weed killer.

Participants in the 2014 program previously expressed interest in obtaining follow-up assistance and continuing to participate in the program. Participants in the 2018–2019 program also request a way to ask follow-up questions.

Recommendations include:

- **Sending monthly or quarterly emails** with seasonal tips and updates, particularly mentioning fertilizer choices, top-dressing with compost and applying mulch, mulch mowing, and looking for key plant characteristics.
- **Sending one or two annual paper mailers** to past participants reminding them of these key practices.
- **Creating a one-page calendar** on waterproof paper and online that shows proper months, frequency, and reminders about key practices.
- **Providing a program contact email or phone number** for when participants have questions or need reminders.
- **Continuing to invite past participants** to the Lawn and Garden Fair.
- **Organizing one annual refresher workshop session** open to all past participants that features all the tabletop displays staffed by yard care experts to answer questions, a Master Gardener table, and possibly one presentation or panel discussion on a new or popular topic. Potential topics to expand on workshop lessons include rain gardens, plant choices for specific conditions, or additional time on weed and pest control.
- **Sending a dedicated invitation to past participants** to invite them to attend current workshop series if they want a refresher and encouraging them to refer their friends and family. One option is to include these events on the quarterly email sent by Snohomish County's Surface Water Management to people who opt in. Adding an opt-in option to the registration form could increase sign-ups.

Lawn and Garden Fair Recommendations

Lawn and Garden Fair participants who provided feedback rated the workshop highly. All of them would recommend it to others, including 91% who said they would definitely recommend it. Among 2018–2019 participants who said they did not attend the event, only 6% said the reason was that they had already learned everything at the workshops.

Snohomish County should repeat the event, considering the following recommendations.

Marketing and Logistics

- **Continue conducting extensive planning and partnering** before the event to ensure enough staffing and presenters as well as a smooth set-up and logistics during the event.

  - Partnership with jurisdictions and WSU Extension were vital to the event's success. Approximately two-thirds of presenters were Master Gardeners from the WSU Extension, and most partner agencies provided at least two staff to support the event.
  - Presenters commented positively on the level of pre-planning, clarity of instructions, and the pre-event walkthrough of the site.
- **Expand marketing** to increase attendance with the following elements:
  - Direct mail focused on people who moved to or within the County in the previous two years.
  - Improved webpage addressing participant comments related to clarity.
  - Promotions on social media, community event calendars, and partner websites.
  - Press release or other news media engagement.
  - Street signs and/or a welcome tent next to the entrance to attract passersby.
- **Continue messaging that no prior gardening experience** is needed in event promotional materials. Presenters said that the communication materials and graphics were effective at attracting new gardeners.
- **Select the event date as early as possible** to be able to promote the event to workshop attendees on the registration form and at each workshop so they can save the date. Half (54%) of 2018–2019 workshop participants who said they did not attend the event cited schedule conflicts while one-third (32%) said they did not know about the event in time.
- **Start the event later** at 10 a.m. instead of 9 a.m. If possible, extend the length for the event to 4 p.m. so attendees who are interested can attend more sessions. A longer event would require recruitment of a food truck or other refreshment options.
- **Consider holding the event in autumn**. A September event might provide warmer weather, more participant interest in smart watering and drought-tolerant plants, and the opportunity to recruit a food truck. An autumn event would not have the lawn-use restrictions since the venue rental season is during the summer and not the autumn.
- **Explore alternative parks or reconfigure the layout to:**
  - Consider wind-tunnel effects lest the weather be windy and cold again.
  - Group all stations closely, ideally within sight of each other.
  - Instead of using picnic shelters, consider using tents arranged in rows similar to a farmer's market or street fair.
- **Expand and better organize the information booth:**
  - Consider creating two separate booths: a welcome booth and a booth to fill out the exit survey.
  - Ensure the booth offers empty table space for filling out forms.

Sessions and Topics

- **Continue the most popular sessions:**
  - Based on the event survey, the following sessions were highly attended: Hand-Tool Sharpening, How Long to Water for 1 Inch, Mulch Matters, and Problem Pests & Natural Controls.
  - Other well-attended sessions were Matching Plant to Place, Getting to Know Your Soil, Managing Moss, and Meet the Beneficials & Pollinators.
  - While the survey suggested lower attendance, program staff reported that Mowing Tips and Blade Sharpening were also very popular.
- **Provide more experts or opportunities to answer questions, particularly on weed, pest, and disease management**. One workshop attendee commented on the long line to talk to pest management experts. When asked why they would recommend the event, several participants commented on the ability to ask questions. Options include:
  - Recruit more presenters or schedule sessions so each area has at least one person who is not presenting and can answer questions about the topic.
  - Encourage presenters to present for only a portion of their session time, leaving substantial time for questions.
  - Consider reducing the number of lecture-style sessions and replacing them with question-and-answer sessions on focused topics.
  - To engage attendees, consider bringing the tabletop spinning wheel of questions that Snohomish County uses at other events. The wheel has natural yard care questions for attendees to answer, and the presenter has the list of correct answers.
- **Ensure presenters are prepared to be flexible regarding the schedule.** Many attendees did not follow the schedule. Instead, they moved between sessions at their own pace. As a result, most sessions did not stay on schedule as the presenters adapted their demonstration to accommodate attendees.
  - Consider encouraging presenters to create self-contained mini-modules that can be conducted in about 10 minutes, so attendees do not need to follow a schedule in order to benefit from the sessions.
- **Reduce sessions in Plant Right for Your Site.** Plant choice sessions were less popular, although participants liked being able to ask questions. Event staff, including Master Gardeners, recommending reducing these sessions.
  - Keep the sessions Matching Plant to Place and Planting it Right.
  - Replace Native Plants and Plants for Wet Soil with a question-and-answer booth that includes information resources with photos. Consider creating a notes template that booth staff or participants can use to record plant recommendations that also emphasizes best practices. In addition to recording common and/or Latin plant names, the template should include space or checkboxes to record key plant

characteristics (e.g., full-grown height, sun/shade needs, soil drainage needs, drought tolerant, pest-resistant). If space allows, include brief planting instructions (ideally using simple line drawings) on amending soil with compost, planting to the proper depth, and watering plants in.

- **Modify the aeration session if needed due to venue restrictions to keep all sessions groups closely**. Because the venue prohibited using the aerator on the main lawn during the event season, the lawn care area was located away from other areas; however, event staff report that participants did not generally choose to see the aerator operating. Showing the machine and plugs from elsewhere provides more location flexibility.
- **Provide a session on rain gardens**, given the current interest in them. While rain gardens are not a natural yard care topic and one session may not provide enough information to help someone install a rain garden, it could increase interest in the event. The session should connect rain gardens to natural yard care, such as a session on choosing the right plants for rain gardens with varying conditions (e.g., the bottom of the garden versus the top, rain gardens in sunny versus shady areas) or managing rain garden weeds and pests. Alternatively, the County could consider combining the Lawn and Garden Fair with its RainScaping Expo (focused on solutions that include rain gardens).

Fair Evaluation

- **Conduct a follow-up survey of event participants** to learn what changes they made as a result of the event.
- **Revise the event evaluation form in the following ways:**
  - Place the session rating question next to each session by name and not time slot. Participants often did not write the session name or fill out the survey by time slot.
  - Remove the request for session-specific comments and suggestions. Most comments consisted of general praise. Instead ask event-wide questions about what questions they still have, what topics they would like to learn about, and/or what changes they would make to the sessions or event.
  - Consider asking a multiple-choice question about what elements of the event they value highly: demonstrations, booths, opportunity to ask questions, and other elements as appropriate.
  - Consider adding a "pledge" question asking for one action they plan to take as a result of what they learned.
- **Continue to offer small products that encourage participant use of natural yard care** best practices for participants who complete surveys and who answer questions at the end of the session, with some refinements:
  - Improve messaging to ensure participants understand they must complete the feedback form to receive products.

- Consider offering a grand prize that consists of one large item instead of a collection of small items. Ideas from partners included plants or a rain barrel.