Lower Stillaguamish Pollution Identification and Correction Phase 2 Education and Outreach Plan

Photo: Stillaguamish River Estuary (Washington Department of Ecology 2000)

WDOH-NEP Grant Contract: GVL20367

Prepared by:

Elisa Dawson, Kathryn Wells, and Sean Edwards
Snohomish County Public Works / Surface Water Management

Date: July 2018

Prepared for:
Washington State Department of Health

Page left blank for Printing

Publication Information

"This project has been funded wholly or in part by the United States Environmental Protection Agency under Assistance Agreement PC-01J18001 to the Washington State Department of Health. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use."

This plan describes the education and outreach activities that will be completed as part of the Stillaguamish PIC Phase 2 Project. After completing these activities, Snohomish County Surface Water Management (SWM) will submit a final report to the Washington State Department of Health.

Author and Contact Information

Elisa Dawson and Sean Edwards
Snohomish County Public Works / Surface Water Management
3000 Rockefeller Ave, M/S 607
Everett, WA 98201

Snohomish County Surface Water Management
http://snohomishcountywa.gov/208/Surface-Water

Kathryn Wells and Alex Pittman
Snohomish Conservation District
528 91st Ave NE, Suite A
Lake Stevens, WA 98258

Snohomish Conservation District
http://snohomishcd.org/

Accommodation Requests (Title VI/ADA): Interpreter and translation services for non-English speakers and accommodations for persons with disabilities are available upon request. Please make arrangements in advance by calling 425-388-3464. For questions regarding Public Works' Title VI Program, contact out Title VI Coordinator via email at spw-titlevi@snoco.org, or phone 425-388-6660. Hearing/speech impaired call 711.

Page left blank for printing

1.0 Table of Contents

2.0 Introduction and Background 7

2.1 Lower Stillaguamish PIC Phase 1 Summary, Successes, and Challenges 7

2.2 PIC Phase 2 Area and Surroundings 8

2.3 Target Areas 11

2.4 Target Audiences 13

2.5 Problem Tree and Solutions Tree 16

3.0 Target Audience Implementation Plan 18

3.1 Human Waste Bacterial Pollution 18

3.2 Agricultural Waste Bacterial Pollution 21

3.3 Pet Waste Bacterial Pollution 23

3.4 Partner Roles and Activities 25

4.0 Education and Outreach Tools 26

4.1 Communications Plan 26

4.2 Discretionary Fund Financial Rebate Program 27

4.3 Outreach Events 27

4.4 Outreach Materials 31

4.5 Stakeholder Engagement 31

4.6 Education and Outreach Timeline 32

4.7 Education and Outreach Resources 33

5.0 References 34

6.0 Appendices 35

6.1 Appendix A: Lower Stillaguamish PIC Phase 2 Brochure 35

6.2 Appendix B: Lower Stillaguamish PIC Phase 1 Newsletter #1 37

6.3 Appendix C: Lower Stillaguamish PIC Phase 1 Newsletter #2 39

6.4 Appendix D: Lower Stillaguamish PIC Phase 1 Scoop Pet Poop Pledge 41

6.5 Appendix E: Lower Stillaguamish PIC Phase 1 Pet Waste Poop Toss Game 42

6.5 Appendix F: Septic Care Workshop Immediate Post Survey 43

List of Figures and Tables

Figures:

Figure 1. Lower Stillaguamish Pollution Identification and Correction (PIC) Phase 2 Project Area Map 10

Figure 2. East Fork Glade Bekken Target Sub-basin 11

Figure 3. Greenwood Creek Target Sub-basin 12

Figure 4. Lower Stillaguamish PIC Phase 2 Project Area Land Use (Snohomish County Assessor) 13

Figure 5. Snohomish County Livestock Survey. Parcels with livestock by primary use (2011-2013) within the Lower Stillaguamish PIC Phase 2 Project Area 15

Figure 6. Lower Stillaguamish PIC Phase 2 Problem Tree 16

Figure 7. Lower Stillaguamish PIC Phase 2 Solutions Tree 17

Figure 8. Lower Stillaguamish PIC Phase 2 Education and Outreach Timeline 32

Tables:

Table 1. Lower Stillaguamish PIC Phase 2 Target Audience Prioritization 14

Table 2. Lower Stillaguamish PIC Phase 2 On-site Septic System Statistics 14

Table 3. Lower Stillaguamish PIC Phase 2 Education and Outreach Partners and Activities 25

Table 4. Lower Stillaguamish PIC Phase 2 Outreach Methods 26

Table 5. Lower Stillaguamish PIC Phase 2 Planned Outreach Events 30

2.0 Introduction and Background

The Lower Stillaguamish Pollution Identification and Correction (PIC) Phase 2 Project grew out of the PIC Phase 1 effort from 2014-2016 to address bacterial contamination in the Lower Stillaguamish watershed that has the potential to contaminate and downgrade recreational and commercial shellfish areas within Port Susan and South Skagit Bay. While some bacterial sources were corrected, a portion of the commercial shellfish growing area in Port Susan was downgraded in August 2017, and additional areas outside of the Phase 1 Project area were identified for targeted water quality monitoring, pollution source identification, and correction.

The PIC Phase 2 Project area encompasses the Lower Stillaguamish watershed west of I-5, a portion of the Port Susan Drainages encompassing Warm Beach and Kayak Point south to the Tulalip Reservation and the Skagit Flats and Douglas Creek sub-basins north of Stanwood to the Skagit County border (Figure 1).

2.1 Lower Stillaguamish PIC Phase 1 Summary, Successes, and Challenges

In November 2013, Washington Department of Health (WDOH) and Snohomish County Surface Water Management (SWM) finalized a $570,000 grant contract for implementation of the Lower Stillaguamish PIC project. Negotiation of the final scope of work included consultation with the Snohomish Conservation District (SCD), Snohomish Health District (SHD), City of Stanwood, Stillaguamish Flood Control District (SFCD), and the Stillaguamish Tribe. Work for Phase 1 was completed 2014 – 2018. Phase 1 education and outreach efforts focused primarily on livestock owners and landowners with on-site septic systems. Workshops and farm tours, neighborhood meetings, and referrals by regulators comprised the majority of public education and technical assistance.

Public education about on-site septic systems and other sources of fecal coliform pollution, including residential pet waste, was provided via publications, a brochure, web pages on the Snohomish County website, two Shellfish Dinners, two newsletters (Appendix B and C), and an open house.

Education and outreach lessons learned from Phase 1 include:

- Neighborhood meetings are well-attended when a respected “neighborhood champion” helps promote the outreach efforts. These champions can be hard to find in rural areas, but their help with outreach is very beneficial.
- Sound Horsekeeping events are generally well-attended. Horse owners are eager to learn and to socialize with other horse owners, and Snohomish Conservation District (SCD) has a good relationship with the community.
- Attracting non-horse owning, rural audiences with livestock to other kinds of events proved challenging. Building or rebuilding relationships with these communities is crucial to improving engagement.

- Commercial and noncommercial farm owners are not always ready to implement BMPs and take advantage of reimbursement-type funding when it is available. Business, farm, or family life priorities may delay voluntary BMP projects. It would be beneficial to reach out to landowners contacted in Phase 1 to ask if they need technical assistance (TA) and/or would like to apply for rebate funding in this grant cycle. Along the same lines, intensive outreach early in the grant period is necessary to ensure that landowners have enough time to make decisions and financial plans to implement BMPs while the current limited rebate funding is available and before the PIC Phase 2 project ends in March 2020.
- Using mailers to promote services and events to the rural, livestock-owning community resulted in low response rates. Promoting events and services more heavily via partner groups, influencers, and social media may improve response rates.

The PIC Phase 2 project will build off these lessons learned from PIC Phase 1. The first step in the process is creating the following Target Audience Implementation Plan (Chapter 3), and Education and Outreach Tools (Chapter 4). The Target Audience Implementation Plan defines three target audiences, messaging, and metrics used to assess outreach and education success. Having defined metrics to measure helps PIC Phase 2 overcome a major challenge of PIC Phase 1. Additionally, partners have been brought in throughout the education and outreach planning to ensure that we are meeting audiences where they are at (local fairs and expos), as well as leveraging resources by partnering with Snohomish County LakeWise and Savvy Septic on-site septic workshops. Finally, the Discretionary Fund Rebate program offered by Snohomish County has removed the requirement for matching funds for participants within the PIC Phase 2 area to help enable more water quality projects within the PIC Phase 2 area. Through this holistic Education and Outreach Planning, the PIC Phase 2 project will have well planned and organized events and messaging, building off of PIC Phase 1.

2.2 PIC Phase 2 Area and Surroundings

The Stillaguamish River is the fifth largest watershed in the Puget Sound region and discharges approximately 80% of its flow through Hatt Slough to Port Susan. The remaining 20% of the Stillaguamish River flows through the Old Stillaguamish Channel, which discharges primarily to Port Susan through South Pass and secondarily to South Skagit Bay through West Pass.

The PIC Phase 2 project area covers the Lower Stillaguamish River sub-basin with the majority of the area west of Interstate Highway 5 including the Skagit Flats area north of Stanwood and Warm Beach south of Stanwood (Figure 1). The total project area is 49 square miles which equates to approximately two-thirds of the Stillaguamish River main stem floodplain and includes adjacent uplands drained by various small tributary streams, including Douglas Creek, Sunday Lake Creek (a.k.a., Jackson Gulch), and Glade Bekken (a.k.a., Tributary #30). The floodplain portion of the project area also includes the Old Stillaguamish Channel and its tributary streams and drainage ditches. There are 6,805 parcels within the project area.

Commercial agriculture is the primary land use within the floodplain portion of the project area, including nine dairies and several crop farming and grass-fed beef operations. The western portion of Stanwood, including the historic downtown, is also within the project area. The adjacent uplands primarily include rural residential land uses as well as some small farms and equestrian facilities. Land cover throughout the floodplain portion of the project area is limited to grass or other seasonal crops with very limited riparian vegetation along the Stillaguamish River main stem. Land cover in the adjacent uplands includes a patchwork of second growth forest and open fields. Local jurisdictions within the project area include the Stillaguamish River Flood Control District (SFCD), Drainage District #12 (DD12), Drainage and Diking District #7 (DD7), and about half of the City of Stanwood. The rural community of Silvana is also in the project area. Snohomish County has regulatory jurisdiction for most of the project area, except for the incorporated area within Stanwood. The SFCD portion of the project area is 10 square miles, which includes 502 parcels. The City of Stanwood portion is 1.7 square miles including 1,720 parcels.

Freshwater runoff from the project area influences the marine water quality of two commercial shellfish growing areas: Port Susan (1,800 acres) and South Skagit Bay (2,200 acres). From approximately April 2010 to August 2017, both of these commercial shellfish growing areas were classified by the Washington Department of Health (WDOH) as ‘Approved’, which is the best possible classification. However, due to two fecal coliform spikes in marine water samples collected in November and December of 2016, 190 acres of the Port Susan commercial shellfish growing area was downgraded to ‘Prohibited’. Both shellfish areas are almost exclusively sand and mud flats with low salinity due to the freshwater influence of the Stillaguamish and Skagit Rivers. These conditions are suitable for Eastern softshell clams but not for most of the other popular types of shellfish grown in Puget Sound, such as Manilla clams and Pacific oysters.

As shown in Figure 1, the Port Susan shellfish area is approximately 1 mile from the mouth of Hatt Slough. Although there is currently no commercial shellfish harvesting in the Port Susan shellfish area, the Tulalip Tribes have Usual and Accustomed (U&A) harvest rights. Most of the tidelands within the Port Susan shellfish area are owned by The Nature Conservancy.

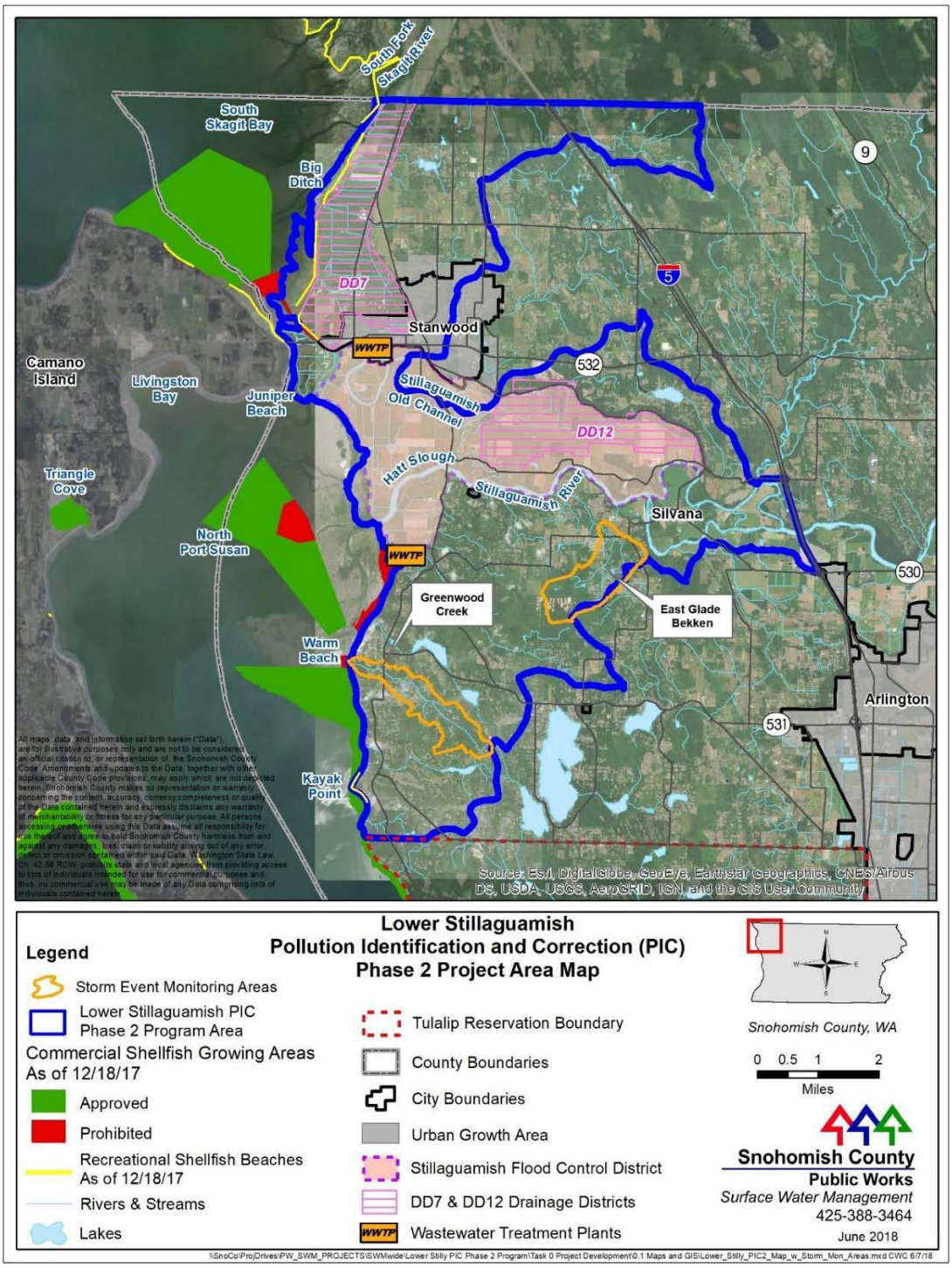

Figure 1. Lower Stillaguamish Pollution Identification and Correction (PIC) Phase 2 Project Area Map

2.3 Target Areas

In order to reduce bacterial pollution in the PIC Phase 2 area, SWM examined freshwater fecal coliform data collected between 2005 and 2015 by PIC Phase 1 partners (WDOE, WSDA, Warm Beach Camp and Conference Center, and Stillaguamish Tribe) to identify freshwater systems that are likely contributing bacteria to WDOH marine stations in South Skagit Bay, Port Susan and Possession Sound. This analysis identified the East Fork of Glade Bekken and Greenwood Creek as significant potential contributors of fecal coliform loading that Snohomish County SWM could reasonably target in the PIC Phase 2 project given existing organizational capacity constraints. These target areas will be areas of focus for some education and outreach activities.

East Fork Glade Bekken

The East Fork of Glade Bekken is a perennial stream that drains roughly 365 acres of land and flows into the mainstem Stillaguamish River at approximately river mile 5. The area is dominated by rural land use, including up to 10 animal handling properties (Snohomish County SWM, Snohomish Conservation District 2011-2013 livestock inventory) and approximately 215 on-site septic systems (Snohomish Health District 2017 septic inventory). The East Fork of Glade Bekken is one of the larger tributaries to the lower reaches of Hatt Slough.

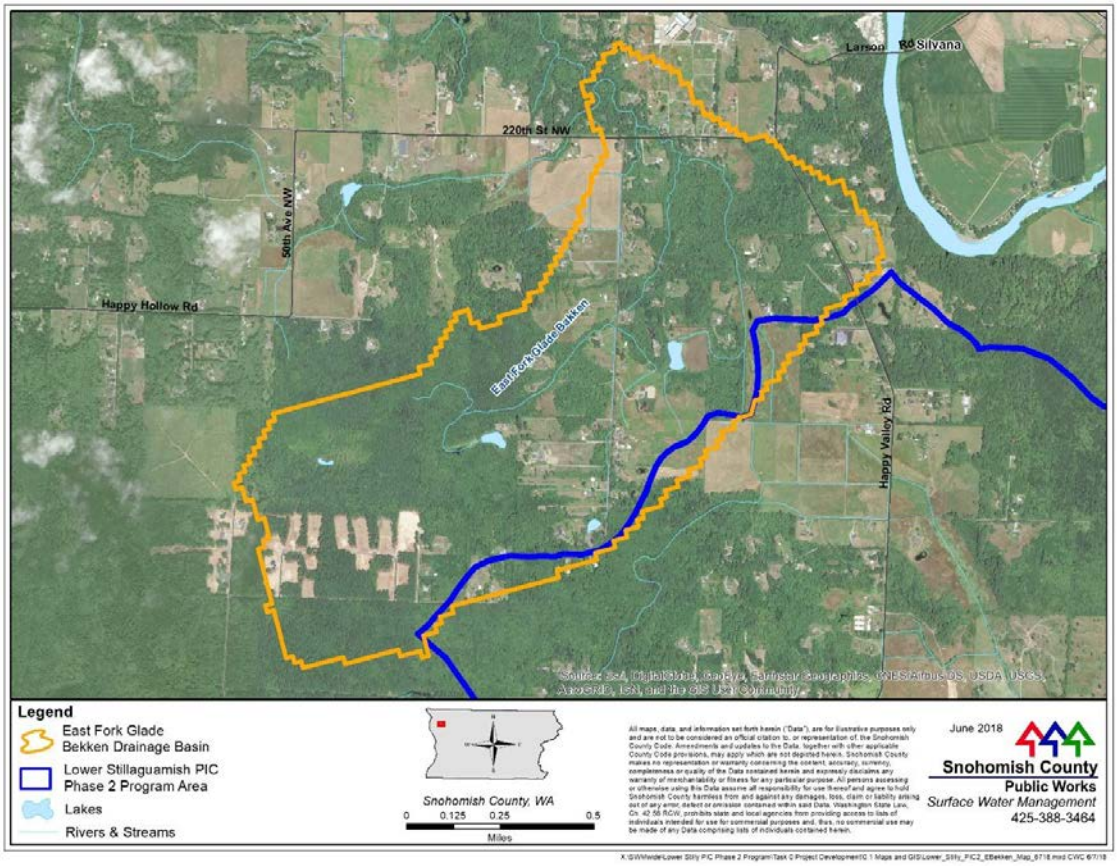

Figure 2. East Fork Glade Bekken Target Sub-basin

Greenwood Creek

Greenwood Creek drains roughly 640 acres and flows directly to recreational beaches and Port Susan. The upper reaches consist of large wetland complexes. The middle reaches are dominated by a mix of rural residential and forested parcels. The lower reaches are steeply incised, more densely populated and include vacation properties on septic systems located close to county drainage infrastructure. There are approximately 10 animal handling properties (Snohomish County SWM, Snohomish Conservation District 2011-2013 livestock inventory) and 94 on-site septic systems (SHD 2017 septic inventory) within the basin.

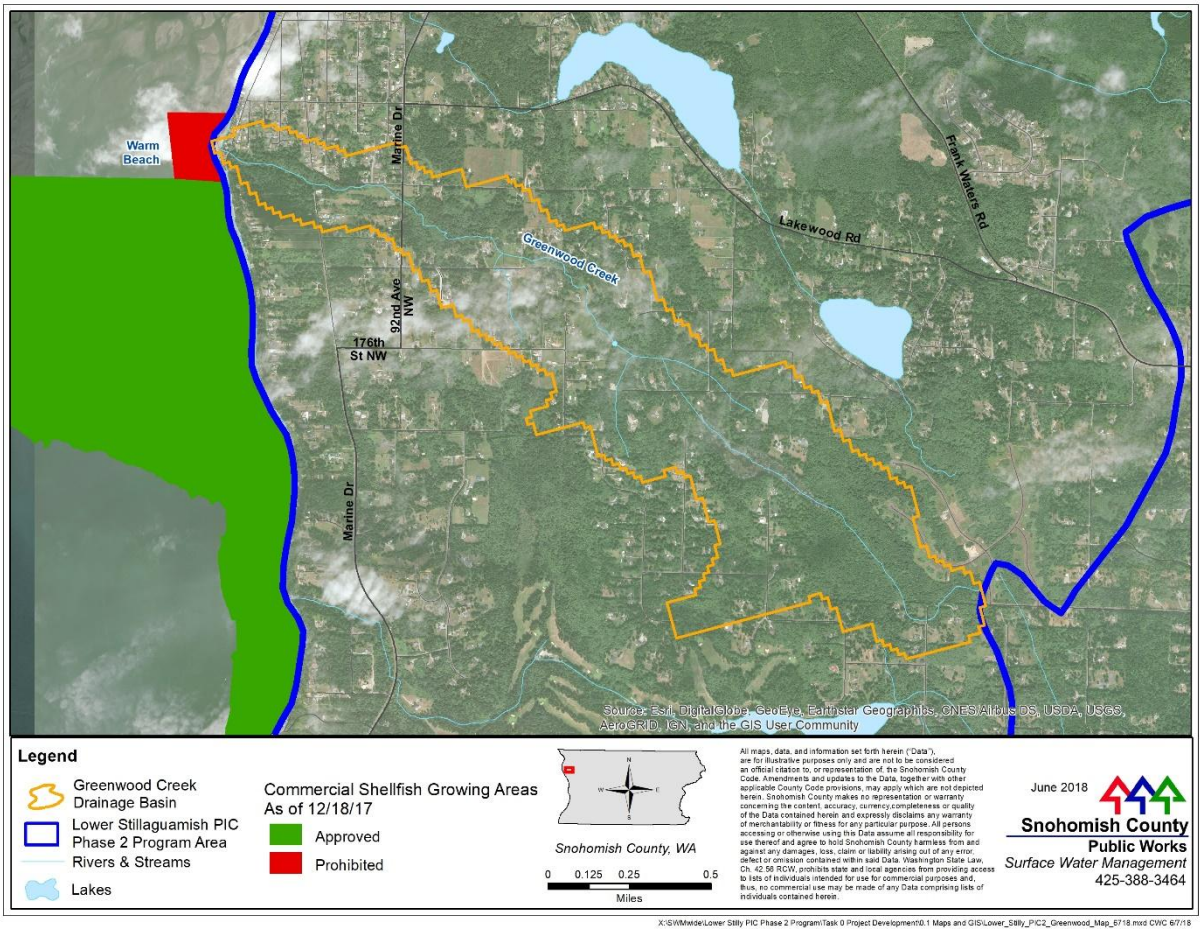

Figure 3. Greenwood Creek Target Sub-basin

2.4 Target Audiences

In order to match education and outreach activities with PIC Phase 2 area residents, target audiences were identified. A land use characterization of the area (Figure 4) shows that 37% of the 30,637 acres within the project area are residential, and 33% are agriculture (Snohomish County Assessor 2018 shapefile). Together, these two land uses make up 70% of the project area. Within these types of land uses, human waste, agricultural waste, and pet waste were identified as the three prioritized bacterial pollution sources to target. Tailoring education and outreach activities to specific target audiences enhances the likelihood that the outreach activities will lead to the desired behavior changes. As PIC Phase 2 develops education and outreach activities for each audience, each audience will be targeted with specific information.

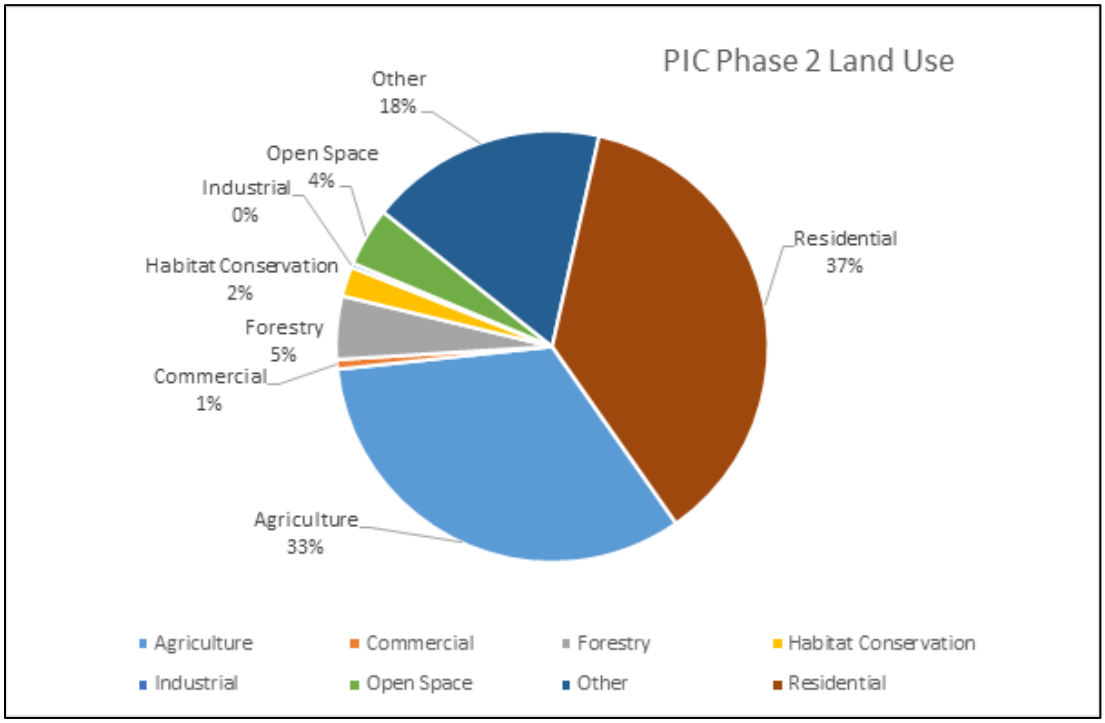

Figure 4. Lower Stillaguamish PIC Phase 2 Project Area Land Use (Snohomish County Assessor)

Education and outreach efforts will prioritize the most prominent land uses for the Lower Stillaguamish PIC Phase 2 project area. Due to the large amount of residential land and corresponding on-site septic systems, human waste will be the top priority of education and outreach efforts. Next, agricultural waste will be prioritized through education and outreach efforts to the commercial and noncommercial farms within the project area. Lastly, the Lower Stillaguamish PIC Phase 2 will work on education and outreach to pet owners on pet waste. The table below shows Lower Stillaguamish PIC Phase 2 target audience prioritization and collaborating agencies.

Table 1. Lower Stillaguamish PIC Phase 2 Target Audience Prioritization

Bacterial Source Type	Subcategory	Priority	Responsible Agencies
Human Waste	On-site septic systems, wastewater treatment plants, boaters and recreational users of waterways	1	Snohomish County Surface Water Management, Snohomish Health District, Snohomish Conservation District, City of Stanwood
Agricultural Waste	Commercial dairies, grass-fed beef cattle operations, commercial horse stables, recreational horse stables	2	Snohomish County Surface Water Management, Snohomish Conservation District, Washington Department of Ecology, Washington Department of Agriculture
Pet Waste	Pets	3	Snohomish County Surface Water Management, Snohomish Conservation District

Human Waste

Many of the rural and rural-residential parcels within the PIC Phase 2 area have on-site septic systems. Data taken from the 2017 Snohomish Health District DAVE database indicate that there are a total of 3,754 on-site septic systems in the PIC Phase 2 area. Approximate 30% of these systems were built before 1990, while 48% of on-site septic systems were built after 1990. Approximately 21% of the residential parcels have no on-site septic system records, and 1% are “unknown”. “Unknown” indicates that parcels are in the Snohomish Health District database, but the information available doesn’t include the year of installation. For “unknown” parcels, there may be information available in written records that need to be updated into the digital database. Due to the large number of on-site septic systems within the PIC Phase 2 area, on-site septic system parcels will be the primary focus of the target audience education and outreach. PIC Phase 2 also recognizes wastewater treatment plant operators, boaters, and recreational users of waterways as additional target audiences for the human waste source type. This PIC Phase 2 project assumes that the City of Stanwood and Warm Beach Camp’s wastewater treatments plants are being operated properly according to their permits administered by WDOE.

Table 2. Lower Stillaguamish PIC Phase 2 On-site Septic System Statistics

Residential OSS Installation Date	East Fork Glade Bekken (parcels)	Greenwood Creek (parcels)	PIC Project Area Not Including East Fork Glade Bekken, Greenwood Creek, or Stanwood (parcels)	Total (parcels)	Total %
After 1990 (avg. 1999)	102	36	1,651	1,789	48%
Before 1990 (avg 1979)	75	35	1,014	1,124	30%
No records	35	23	727	785	21%
Unknown	3	0	53	56	1%
Total	**215**	**94**	**3,445**	**3,754**	**100%**

Agricultural Waste
Farms and agricultural land use represent 33% of the total acres of the PIC Phase 2 project area. Many of these parcels contain horses and cattle (either beef or dairy). Without proper manure management, these livestock parcels are potential sources of the bacterial pollution impacting local waterways. The following pie chart indicates the abundance of different types of livestock on 223 livestock properties in the project area. These were identified between 2011 and 2013 by the Snohomish Conservation District as part of the 2012 Snohomish County Livestock Survey. Target audiences for manure management education and outreach include:

- commercial farms with livestock or that use manure as fertilizer
- noncommercial farms with livestock or that use manure as fertilizer

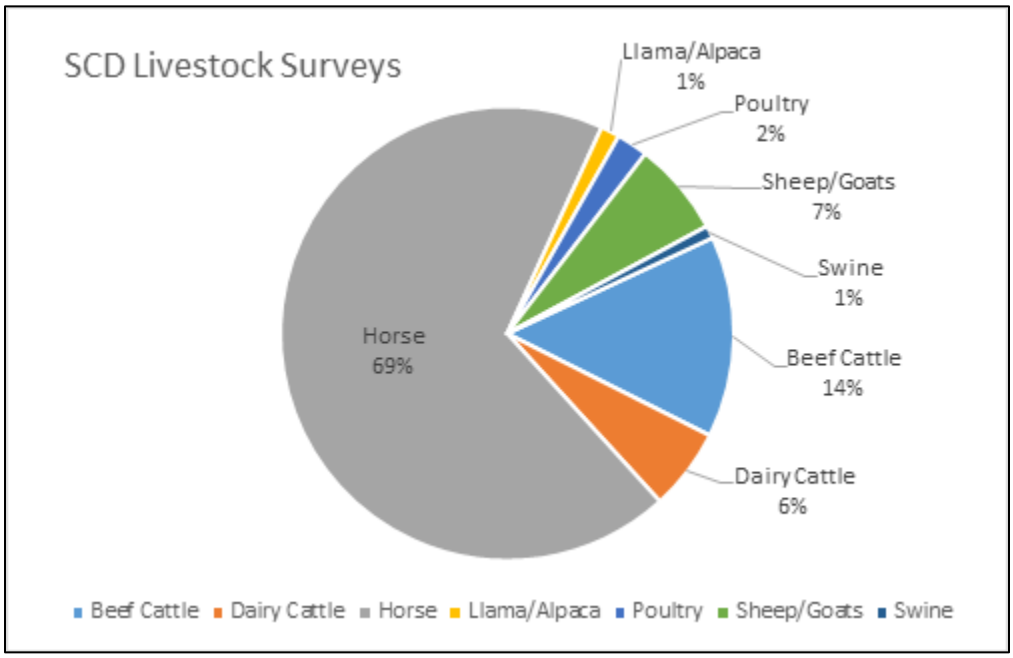

Figure 5. Snohomish County Livestock Survey. Parcels with livestock by primary use (2011-2013) within the Lower Stillaguamish PIC Phase 2 Project Area

Pet waste
Pet waste is a common source of both nutrient and bacteria pollution to streams and the Puget Sound. Pet waste contains harmful bacteria and other pathogens, which can contaminate water and make people and pets sick.

2.5 Problem Tree and Solutions Tree

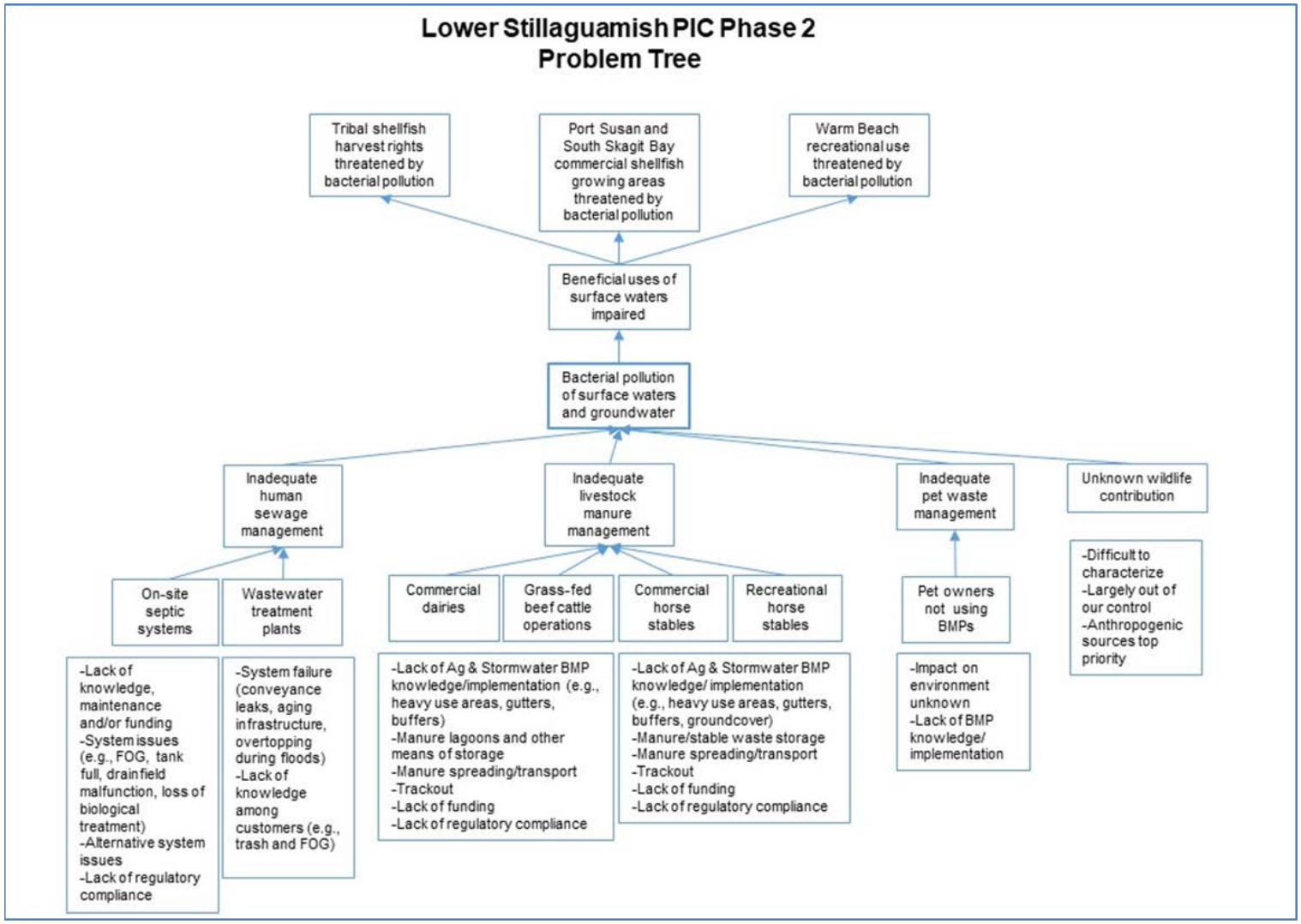

Figure 6. Lower Stillaguamish PIC Phase 2 Problem Tree

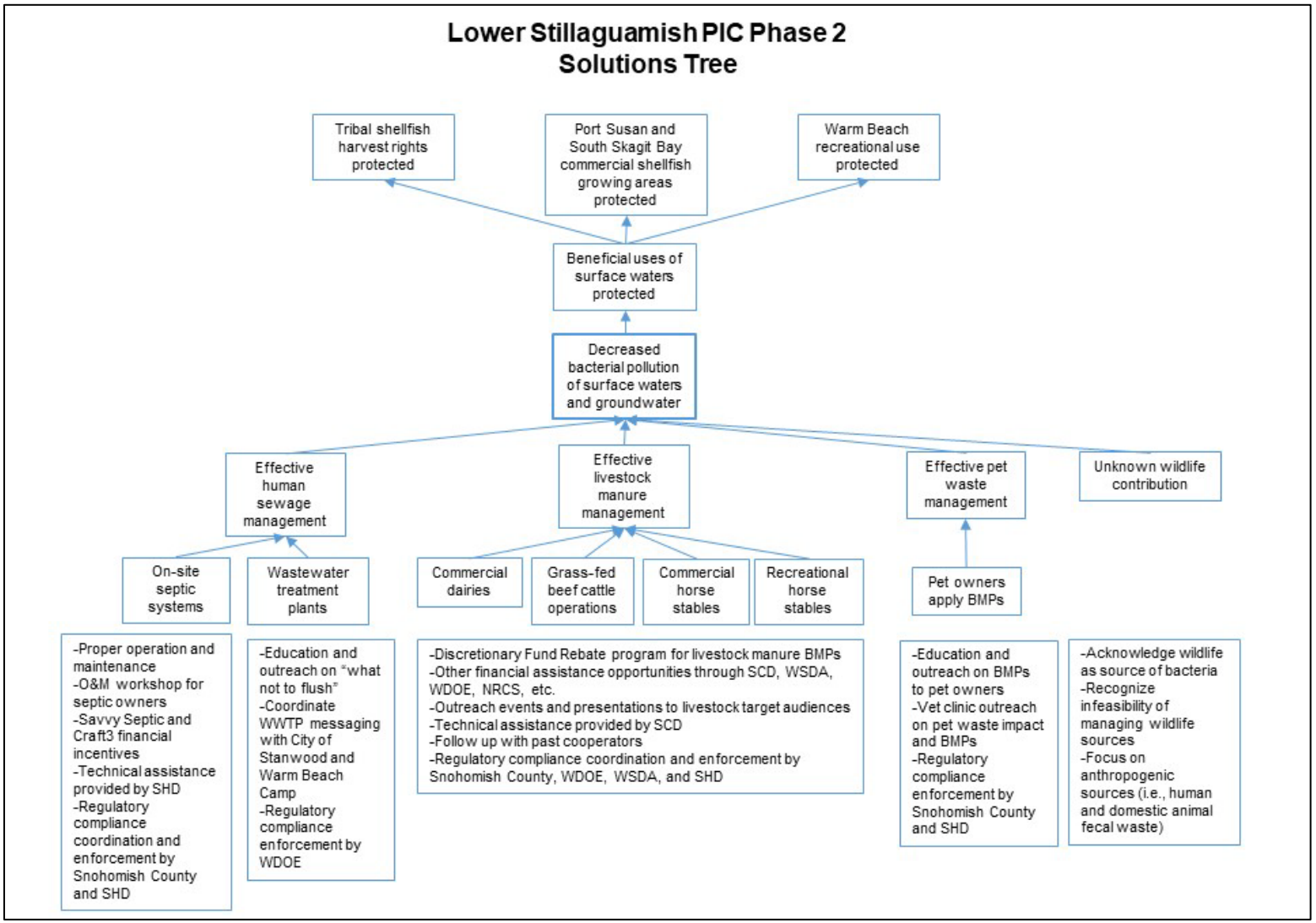

Figure 7. Lower Stillaguamish PIC Phase 2 Solutions Tree

3.0 Target Audience Implementation Plan

3.1 Human Waste Bacterial Pollution

Savvy Septic Promotion
The Savvy Septic Program (https://snohomishcountywa.gov/2812/Savvy-Septic-Home) is Snohomish County's program for financing options, incentives, and education to help on-site septic system owners maintain properly functioning septic systems. This program offers low-interest loans, rebates, and grants.

This Snohomish County program is a partnership with the Washington State Department of Ecology, Washington State Department of Health, and Craft3 (https://www.craft3.org/Borrow/clean-water-loans). The Savvy Septic Program is made possible, in part, through a Centennial Grant from the Washington State Department of Ecology and a National Estuary Program Grant. The Snohomish County Public Works Surface Water Management Division is contributing matching funds to this pilot program.

The County is also a participant in a Regional Septic Loan Program where the Washington State Department of Ecology and Department of Health selected Craft3 as the regional lender. Craft3 is a community development financial institution (CDFI) that operates clean water and energy efficiency lending program throughout the Puget Sound Region.

The Lower Stillaguamish PIC Phase 2 project will include outreach for the Savvy Septic program to on-site septic system owners in the PIC Phase 2 project area.

Septic Care Workshops
Free public workshops are an effective way for on-site septic system owners to learn how to keep their systems operating properly for years to come. The PIC Phase 2 project will partner with the current septic care workshop program hosted by Snohomish County's Savvy Septic and LakeWise program to offer a workshop within the PIC Phase 2 area in 2019. One workshop in early 2019 will be held in the southern portion of the PIC Phase 2 area to focus on the target areas of Greenwood Creek and East Fork Gladde Bekken. PIC Phase 2 will sponsor the mailer invitations which will be sent out within the PIC Phase 2 area. A location for the workshop will be secured within the southern PIC Phase 2 area. Potential venues include the Warm Beach Christian Camp and the Warm Beach Fire Station. A second workshop will be sponsored by PIC Phase 2, in partnership with Savvy Septic and Lakewise, later in 2019. The location of this workshop will be determined as needed and defined after the first workshop. PIC Phase 2 will also sponsor the mailing invitations on the second workshop. Throughout the PIC Phase 2 workshop, at least one mailer invitation will be sent to all 3,754 septic parcels within the PIC Phase 2 area.

Septic Care workshops will include an immediate post-workshop evaluation. Post-event feedback is important because it can help assess behavior change created through the workshops. Additionally, keeping track of feedback is important to progressively improve in the field of event management. A draft evaluation for the septic workshops is provided in Appendix F. This evaluation includes questions on what information was new to the attendee, whether they will implement the practices they learned, whether they would recommend the workshop to others, and whether they have any suggestions for improvement of the workshop. Evaluations will be analyzed qualitatively.

Snohomish Health District

Snohomish County will continue to partner with Snohomish County Health District for PIC Phase 2. Snohomish Health District provides technical assistance for on-site septic system owners. Septic system owners can track the status of their septic permits with Snohomish Health District through their new Online RME system (https://www.onlinerme.com/(S(ftrvtdzm4eyp2uttu5brk1qr))/contractorsearchproperty.aspx). Additionally, Snohomish Health District provides the following information on their website for on-site septic system owners:

- Basic information for on-site septic systems and wastewater can be found on the Snohomish Health District's Septic & Wastewater webpage (http://www.snohd.org/161/Septic-Wastewater).
- The Snohomish Health District offers an online database of septic system records for properties in Snohomish County. These electronic records contain septic as-built drawings, system type, and in some cases notes on septic maintenance and other permit activity. "As-built" refers the drawing on file that shows where a septic system drainfield was installed on a particular piece of property. On-site septic owners can access information on their own system on the as-built records webpage (http://www.snohd.org/159/As-Built-Records).
- The Snohomish Health District reviews septic system designs for single family homes and small businesses (systems less than 3,500 gallons per day). Information on obtaining a permit is available on their permit process webpage (http://www.snohd.org/166/Septic-Permits).
- State law (WAC Chapter 246-272A-0270) requires that homeowners inspect and maintain their septic systems to ensure they are functioning properly. The Snohomish Health District offers information on how to maintain systems on their septic maintenance webpage (http://www.snohd.org/165/Septic-Maintenance).
- Snohomish Health District offers a list of professionals who are certified in Snohomish County for on-site septic system inspection, maintenance, and installation on their certified septic system contractors webpage (http://www.snohd.org/164/Septic-Contractors).

Septic System Messaging

- Step 1: Get to know your system, on-site septic system requirements, and regulations. Attend a Septic Care Workshop, get your as-built, use our resources to learn more.

- Step 2: Maintain your on-site septic system. Inspect gravity type OSS every 3-5 years or more frequently for other alternative types of OSS. Pump tank as needed.
- Step 3: Keep your on-site septic system healthy. Don't put trash or other chemicals in your septic system.
- Inspection is a great way to quickly find out how your septic system is doing, and can prevent expensive repairs and extend the working life of your septic system.
- When there is too much fecal coliform bacteria (originating from human and animal poop) in the water it indicates that there are likely pathogens present that can make people and animals sick. Shellfish beds in the marine water are closed to harvesting when bacteria levels are too high.

Septic System Performance Measures

- Qualitative analysis of Septic Workshop immediate-post surveys
- # of OSS parcel owners receiving cost share assistance*
    - Rebates for risers
    - Rebates for inspections
    - Repair and replacement grants
    - Repair and replacement loans through Craft3

    ***** This performance measure is included in the Lower Stillaguamish PIC Phase 2 Project Evaluation Plan.

Wastewater Treatment Plants

There are two wastewater treatment plants located within the Lower Stillaguamish PIC Phase 2 area operated respectively by the City of Stanwood and the Warm Beach Camp and Conference Center. Education and outreach efforts will include promoting public awareness about Washington Department of Ecology oversight and regulation of these two wastewater treatment plants as part of the solution for bacterial pollution control in the Lower Stillaguamish PIC Phase 2 project area. SWM will work with the City of Stanwood and Warm Beach Camp and Conference Center to conduct public tours of the facilities and other education and outreach activities to increase public awareness about how these facilities are contributing to bacterial pollution control in the PIC Phase 2 project area.

Boaters and Recreational Users of Waterways

Boating, kayaking, fishing and hunting are popular recreational activities in South Skagit Bay and Port Susan. Although the amount of bacterial pollution coming from these activities in the PIC Phase 2 area is unknown, education and outreach will:

1. Promote awareness among boaters about the Washington Department of Ecology's Puget Sound No Discharge Zone (https://ecology.wa.gov/Water-Shorelines/Puget-Sound/No-discharge-zone).
2. Promote best management practices including Leave No Trace ethics (https://lnt.org/). Pack it in, pack it out. Dig a cat hole and bury human waste six inches deep 200 feet from a waterway when needed.

3.2 Agricultural Waste Bacterial Pollution

Agricultural landowners have diverse needs and must be approached with sensitivity. SCD offers audience-specific educational programs and individually tailored guidance and technical assistance to help landowners learn how their land management practices influence water quality and to implement best management practices (BMPs).

Based on social science research of agricultural landowners (Prokopy et al., 2014) and SCD Resource Planners' experiences, connecting with and earning the trust of rural agricultural landowners should include developing and strengthening relationships with influencers such as veterinarians and producer groups. Education and outreach to influencers will be increased for Phase 2 compared to Phase 1.

SCD offers farm planning; engineering design for manure, mud, and pasture management; use of and guidance on using manure spreaders; and fencing and planting plans for riparian buffers for all agricultural landowners.

Outreach to Agricultural Landowners
Educational workshops, especially when animal health intersects with BMPs, remain successful and will be continued. Incorporating influencers, such as veterinarians, into workshops will be emphasized in Phase 2.

SCD Resource Planners will connect with livestock owners and landowners at regional fairs and producer/livestock group meetings (as opportunities arise) and share information about BMPs, the PIC Project, and financial incentives available for implementing BMPs. In addition to making new contacts, SCD will follow up with those it has worked with before in the PIC Project area.

Outreach to the Horsekeeping Community
Data from the 2012 SCD Snohomish County Livestock Survey identified horses as the most numerous livestock species in the PIC Phase 2 Project area (Figure 5), therefore education and outreach activities to the horsekeeping audience will be prioritized in this PIC Project.

SCD's Sound Horsekeeping (https://snohomishcd.org/sound-horsekeeping) education and merit sign program was developed specifically for the horsekeeping audience. The horsekeeping community consists of non-commercial horse farms, commercial stables, and people who board their horses at a stable (often a training stable). The Sound Horsekeeping program focuses on the horse health and chore efficiency aspects of BMPs, offering workshops, farm tours, presentations to clubs, and an e-newsletter, in addition to the suite of services provided by SCD Resource Planners. As noted above, workshops and farm tours of model farms will, when feasible, include other influencers such as veterinarians and farriers.

The Sound Horsekeeping merit sign serves as personal pride incentive for the farm owner as well as a method to increase general public awareness about BMPs to protect water quality. To earn the Sound Horsekeeping merit sign, horse farm owners request

an on-farm visit with a SCD Resource Planner and must demonstrate that they manage their mud, manure, and pastures in ways that protect surface waters from soil erosion and fecal contamination, keep their horses off of septic drain fields, and keep their animals and manure storage areas at least 100 feet from wellheads. If a farm does not yet qualify for the merit sign, the SCD Resource Planner provides education and technical assistance to encourage the farm owner to improve their practices and earn the sign. In PIC Phase 2, the sign program will be promoted within the commercial stable community, where it can serve as a business marketing tool.

Education for horse boarders will focus on what to look for when choosing a boarding facility, with an emphasis on how land management affects horse health.

Data from the Snohomish County Parks "Horses Count" Survey may be used to further inform education and outreach. Information about the survey project may be found via the Everett Herald (https://www.heraldnet.com/news/county-parks-launches-horse-survey/) or Snohomish County Parks' Facebook page (https://www.facebook.com/SnoCoParks/posts/take-our-3-minute-survey:/1812232715749940/).

Workshops, presentations, and farm tours focused on Agricultural BMPs will be evaluated via short pre- and immediate post-event surveys focusing on:

- the attendees' response to the presenters and presentations; and
- what manure management BMPs the attendees already do and what, as a result of the event, they plan to do.

Many Agricultural BMPs cannot be implemented immediately. SCD will follow up with attendees six months after each event to learn what progress they have made or are making toward implementing the practices they indicated they would do in the immediate post-event survey.

A new online self-reporting tool called the Conservation Action Map (developed by the WA Department of Ecology and SCD to identify BMPs implemented along streams that were recently de-listed) will be used as another evaluation tool (https://snohomishcd.mapseed.org/page/about). The Conservation Action Map, a visual representation of BMP projects is SCD's service area, will be introduced to event attendees as a way to show off their BMPs and inspire and educate others who view the tool. SCD will use the data from the self-reporting tool to track and learn what practices are implemented by event attendees and other residents of the PIC Phase 2 area both in the short and long term after an event.

Agricultural BMPs Messaging

Educating livestock landowners about how to keep manure and manure runoff from waterways will be the focus of SCD's education and outreach to landowners who have livestock or use manure as fertilizer. The following practices and messages will be promoted:

- Contain and cover manure to prevent the concentrated pile from leaching and running off into the soil and waterways.
- Haul away manure at the proper frequency if composting manure is not an option.
- Compost manure to reduce pathogens in the material before spreading it on pastures or other parts of a property.
- Spread manure at proper agronomic rates and at the right times to ensure that plants use and soil filters manure nutrients before they leach out or run off into waterways.
- Maintain proper manure-spreading setbacks to prevent contaminating waterways.
- Fence livestock away from streams and ditches to prevent soil erosion and keep fecal matter out of waterways.
- Maintain a vegetated buffer or filter strip along surface waters to filter potentially contaminated runoff before it reaches waterways.
- Proper manure management, in concert with pasture and mud management, decreases livestock and horse pest and parasite problems.
- Proper manure, pasture, and mud management can reduce livestock and horse skin and hoof health conditions.
- Proper manure, pasture, and mud management can improve chore efficiency when caring for livestock and horses.
- Proper manure, pasture, and mud management can improve pasture forage quality and decrease the amount of supplemental feed needed.
- When there is too much fecal coliform bacteria (originating from human and animal poop) in the water it indicates that there are likely pathogens present that can make people and animals sick. Shellfish beds in the marine water are closed to harvesting when bacteria levels are too high.

Agricultural BMPs Performance Measures

- Qualitative analysis of pre and post workshop surveys
- # of projects implemented on the online self-reporting tool
- # of outreach events and presentations conducted*****
- # of livestock parcel owners receiving technical assistance*****
- # of livestock parcels owners receiving financial assistance*****
- # of follow ups with past cooperators
- # of attendees at each event or presentation

***** These performance measures are included in the Lower Stillaguamish PIC Project Phase 2 Evaluation Plan.

3.3 Pet Waste Bacterial Pollution

Pet waste is a common source of both nutrient and bacteria pollution to streams and the Puget Sound. Pet waste contains harmful bacteria and other pathogens, which can contaminate water and make people and pets sick.

Outreach to Pet owners
Implement a campaign to raise awareness of the environmental, public health and quality of life problems caused by not picking up and properly disposing of pet waste and how residents can be a part of the solution.

Outreach will include:

- Distribution of Snohomish County Pet Waste flyers
- Poop Toss game at public outreach events (https://snohomishcountywa.gov/DocumentCenter/View/17599/PoopTossGameInfo?bidId)
- Scoop the Poop Pledge (https://snohomishcountywa.gov/DocumentCenter/View/17597/PetWastePledge_PSSHOnly?bidId)
- Social media posts on pet waste

Outreach to Vet Clinics
To reach pet owners, vet clinics will be targeted for outreach in the PIC Phase 2 area. Veterinary offices are a point of trusted contact for pet owners. To get the message out and help teach pet owners about the importance of managing pet waste, educational materials will be distributed to vet clinics in the PIC Phase 2 area.

Pet Waste Messaging

- Carry plastic bags when taking your pet for a walk or a romp in the park.
- Pick up your dog's waste. Use a plastic bag, mechanical scoop, or disposable gloves. Remember to wash your hands afterward.
- Seal the waste inside a plastic bag (or two) and throw it in the garbage.
- Keep dog poop out of septic systems and sewer systems. These systems are designed for human waste only.
- Pick up after your dog in your yard every few days — more often if you have small children who play there.
- Pick up accumulated pet waste before heavy rain events and before the fall rainy season begins.
- Picking up your pet's waste helps keep your pet healthy.
- When there is too much fecal coliform bacteria (originating from human and animal poop) in the water it indicates that there are likely pathogens present that can make people and animals sick. Shellfish beds in the marine water are closed to harvesting when bacteria levels are too high.

Pet Waste Performance Measures

- # of pet owners who take a pledge/play poop toss game
- # of pet waste flyers handed out
- # of vet clinics reached

3.4 Partner Roles and Activities

Table 3. Lower Stillaguamish PIC Phase 2 Education and Outreach Partners and Activities

Bacteria Source	Subcategory	Participating Organizations	Education and Outreach Activities
Human Waste	On-site Septic Systems	Snohomish County Surface Water Management Snohomish Health District	● Increase awareness of on-site septic system maintenance requirements among PIC Phase 2 area residents. ● Offer technical assistance through the Savvy Septic Program ● Offer septic care workshop to PIC Phase 2 area residents ● Work with SHD to provide information and technical assistance to on-site septic system owners.
	Wastewater Treatment Plants	City of Stanwood and Warm Beach Camp	● Increase public awareness of wastewater treatment plants and their benefits to water quality. Increased coordination with the wastewater treatment plants in the PIC Phase 2 area to ensure they are reaching compliance.
	Boaters and Recreational Users of Waterways	Snohomish County Surface Water Management	● Help promote public awareness among boaters about WDOE's Puget Sound No Discharge Zone and best practices for shoreline recreational users (e.g., distance from shoreline for digging cat holes). ● Help promote "leave no trace" behavior among all recreational users of the area.
Agricultural Waste	Livestock Operations and Heifer Operations	Snohomish County Surface Water Management	● Increase public awareness of water quality complaint phone line. ● Increase inter-agency coordination to ensure follow up on complaints and regulatory compliance. ● Provide financial assistance through Discretionary Fund for livestock manure BMPs.
		Ecology	● Follow up on nonpoint source complaints. ● Refer to local authorities and Snohomish Conservation District as appropriate. ● Ensure regulatory compliance.
		Snohomish Conservation District	● Continue outreach program. ● Provide farm planning technical assistance and cost share opportunities for implementing BMPs.
	Commercial and Noncommercial Farms	Ecology and Snohomish County Surface Water Management	● Identify small farm operations near streams and ditches that lack BMPs to protect water quality. ● Respond to complaints. ● Communicate with landowners near streams and ditches regarding need for water quality protection and availability of technical assistance and cost share incentives. ● Follow up with referral to Snohomish Conservation District as needed. ● Provide financial assistance through Discretionary Fund.

Bacteria Source	Subcategory	Participating Organizations	Education and Outreach Activities
		Snohomish Conservation District	● Continue broadcast and targeted education and outreach. ● Provide farm planning, technical assistance, and cost-share opportunities.
Pet Waste	Pets	Snohomish County Surface Water Management	● Attend outreach events with information on BMPs for pet waste pick up and disposal. ● Make contact with pet owners regarding need for water quality protection and proper pet waste disposal. ● Provide information on pet waste to vet clinics in the PIC Phase 2 area.

4.0 Education and Outreach Tools

4.1 Communications Plan

Communicating to target audiences will be a priority of the PIC Phase 2 project. Through planning multiple layers of communication, the PIC Phase 2 project Education and Outreach Plan will help ensure that stakeholders are equally informed of how, when, and why the PIC Phase 2 project is working to reduce fecal coliform in the Lower Stillaguamish watershed. Outreach will be done in print, electronic media, and by personal contact. The matrix below describes the different methods the PIC Phase 2 project will use to reach target audiences.

Table 4. Lower Stillaguamish PIC Phase 2 Outreach Methods

Print	Electronic	Personal Contact
Posters	Radio PSA	Face-to-face
Everett Herald Article	Radio Interview/Spot	Stakeholder Meetings
Flyers	WSDA Story Map	Site Visits
	Social Media	
	Web Site	
	Press Release	
	List-serves	

4.2 Discretionary Fund Financial Rebate Program

The Discretionary Fund Rebate Program is a financial incentives program offered by Snohomish County to property owners in the former Stillaguamish Clean Water District (CWD). The program is funded through Surface Water Management fees which were assessed prior to 2017 in the Stillaguamish Clean Water District. Snohomish County Surface Water Management manages the Rebate Program. The program became available in July 2018. The program dedicates $120,000 towards reimbursing landowners, community groups, or non-profit organizations who carry out small-scale projects to improve water quality on private or public property anywhere in the former CWD, which includes the PIC Phase 2 project area. The program is voluntary and non-regulatory.

The rebate program is intended to help landowners overcome financial barriers for projects that reduce bacterial pollution. Examples of eligible projects for reimbursement include livestock heavy use areas, livestock exclusion fencing, riparian buffer planting, manure storage bins, and education and outreach projects related to reducing bacterial pollution. More information is available at the Discretionary Fund Webpage (https://snohomishcountywa.gov/1208/Discretionary-Fund-Grant-Program).

4.3 Outreach Events

Events and Presentations

Outreach events will vary from broad to highly targeted. At least eight events or presentations will be conducted, with the majority occurring in the first half of the grant period to maximize the amount of time landowners have to take advantage of financial incentives available from the Discretionary Fund and Savvy Septic programs before the PIC Phase 2 project ends in March 2020.

Fairs provide a particular opportunity to connect with landowners new to the area and new to rural living (including on-site septic systems). Resources and information will be provided in booths and outreach staff and SCD Resource Planners will be present to engage fair-goers, including youth.

Workshops and presentations typically encourage engagement with participants during the event and afterwards. When possible, events will be “brought to the audience” within established community group meetings to boost participation, or paired with partners/influencers with overlapping audiences and messages.

Table 4. Lower Stillaguamish PIC Phase 2 Planned Outreach Events

Event	Date	Location	Target Audience	Outreach Objectives
Silvana Community Fair (SCD booth and Resource Planners meeting fair participants with livestock)	July 28, 2018	Silvana	● Commercial and noncommercial crop farmers ● Livestock and horse owners ● Local area residents with OSS	● Increase awareness of the Lower Stillaguamish PIC Project and water quality issues in the Project area. ● Increase awareness of the contribution of manure to water quality issues. ● Increase awareness of SCD's services to commercial and noncommercial farmers, with or without livestock. ● Increase awareness of Sound Horsekeeping program. ● Increase awareness of upcoming workshops related to manure management. ● Encourage participants to sign up for site visits with Resource Planners and to attend upcoming workshops. ● Increase awareness of how to access OSS education and financial resources.
Stanwood-Camano Community Fair (SCD booth and Resource Planners meeting fair participants with livestock)	August 3-5, 2018	Stanwood	● Commercial and noncommercial crop farmers ● Livestock and horse owners ● Local area residents with OSS	● Increase awareness of the Lower Stillaguamish PIC Phase 2 Project and water quality issues in the project area. ● Increase awareness of the contribution of manure to water quality issues. ● Increase awareness of SCD's services to commercial and noncommercial farmers, with/without livestock. ● Increase awareness of Sound Horsekeeping program. ● Increase awareness of upcoming workshops related to manure management. ● Encourage participants to sign up for site visits with Resource Planners and to attend upcoming workshops. ● Increase awareness of how to access OSS education and financial resources.

Event	Date	Location	Target Audience	Outreach Objectives
Warm Beach Summerfest (SCD/SWM booth)	August 11, 2018	Warm Beach	● Pet owners ● Local area residents with OSS	● Increase awareness of the Lower Stillaguamish PIC Project and water quality issues in the Project area. ● Increase awareness of how human and pet waste contribute to water quality issues in the area. ● Increase awareness of how to best dispose of pet waste. ● Increase awareness of how to access OSS education and financial resources.
Stillaguamish Festival of the River (SCD booth)	August 11-12, 2018	Arlington	● Pet owners ● Local area residents with OSS	● Increase awareness of the Lower Stillaguamish PIC Project and water quality issues in the Project area. ● Increase awareness of how human and pet waste contribute to water quality issues in the area. ● Increase awareness of how to best dispose of pet waste. ● Increase awareness of how to access OSS education and financial resources.
Stillaguamish Shellfish Dinner (PIC partner agency presentations and booths)	November 2018	Stanwood	● Commercial and noncommercial crop farmers ● Livestock and horse owners ● Pet owners ● Local area residents with OSS	● Increase awareness of the Lower Stillaguamish PIC Project and water quality issues in the Project area. ● Increase awareness of how commercial shellfish business impacts the local economy. ● Increase awareness of how fecal coliform bacteria affect shellfish harvests. ● Increase awareness of the contribution of human, livestock, and pet waste to water quality issues. ● Increase awareness of all local resources to help residents take steps to improve and protect local water quality. ● Increase awareness of how to access OSS education and financial resources.

Proposed Outreach Events

The events and presentations listed in Table 5 are being planned as of July 2018. Other events and presentations will be conducted as opportunities arise and needs dictate.

Table 5. Lower Stillaguamish PIC Phase 2 Planned Outreach Events

Event	Date	Location	Target Audience	Outreach Objectives
Sound Horsekeeping Farm Tour (SCD Resource Planners)	October 2018	TBD	● Horse owners	● Increase awareness of the Lower Stillaguamish PIC Phase 2 Project and water quality issues in the project area. ● Increase awareness of the contribution of manure to water quality issues. ● Increase awareness of how manure management BMPs protect water quality, and horse health and soundness. ● Increase awareness of Snohomish Conservation District's services to horse owners. ● Increase awareness of Sound Horsekeeping program. ● Encourage participants to sign up for site visits with SCD Resource Planners.
OSS Care and Maintenance Workshop (SWM and Savvy Septic staff)	TBD	TBD	● Local area residents with OSS	● Awareness of the Lower Stillaguamish PIC Project and water quality issues in the Project area. ● Awareness of how human waste from poorly functioning or failing OSSs contribute to water quality issues in the area. ● Awareness of how to properly care for OSS. ● Awareness of how often OSS must be inspected. ● Awareness of how to access financial resources (Savvy Septic).
2019 Country Living Expo (SCD booth and presentation)	January 2019	Stanwood	● Commercial and noncommercial crop farmers ● Livestock and horse owners	● Awareness of the Lower Stillaguamish PIC Project and water quality issues in the Project area. ● Awareness of the contribution of manure to water quality issues. ● Awareness of Snohomish Conservation District's services to commercial and noncommercial farmers, with/without livestock. ● Awareness of Sound Horsekeeping program. ● Awareness of how manure management BMPs protect water quality and animal health. ● Encourage participants to sign up for site visits with Resource Planners and to attend upcoming workshops. ● Increase awareness of how to access OSS education and financial resources.

4.4 Outreach Materials

Outreach materials will be created to reach target audiences and will include the following:

- SWM's Lower Stillaguamish PIC webpages to be updated (https://snohomishcountywa.gov/3344/Lower-Stilly-PIC-Program)
- SCD's Lower Stillaguamish PIC project webpage to be updated (https://snohomishcd.org/stilly-pic)
- One-page summaries of Discretionary Fund projects
    - Example: Cayford Livestock Exclusion Fencing Project (https://www.snohomishcountywa.gov/DocumentCenter/View/53620/DF-Cayford-1-pager?bidId=).
- Lower Stillaguamish PIC Phase 2 brochure
- Tri-fold display for table/booth events
- Large map of PIC Phase 2 project area for easel at tabling events

4.5 Stakeholder Engagement

The Stillaguamish Watershed Council (SWC) will serve as the primary stakeholder engagement forum for PIC Phase 2. The SWC will receive quarterly updates from PIC Phase 2 project staff. The confirmed schedule for these updates is as follows:

- October 24, 2018
- January 23, 2019
- April 24, 2019
- July 24, 2019
- October 23, 2019
- January 22, 2020

4.6 Education and Outreach Timeline

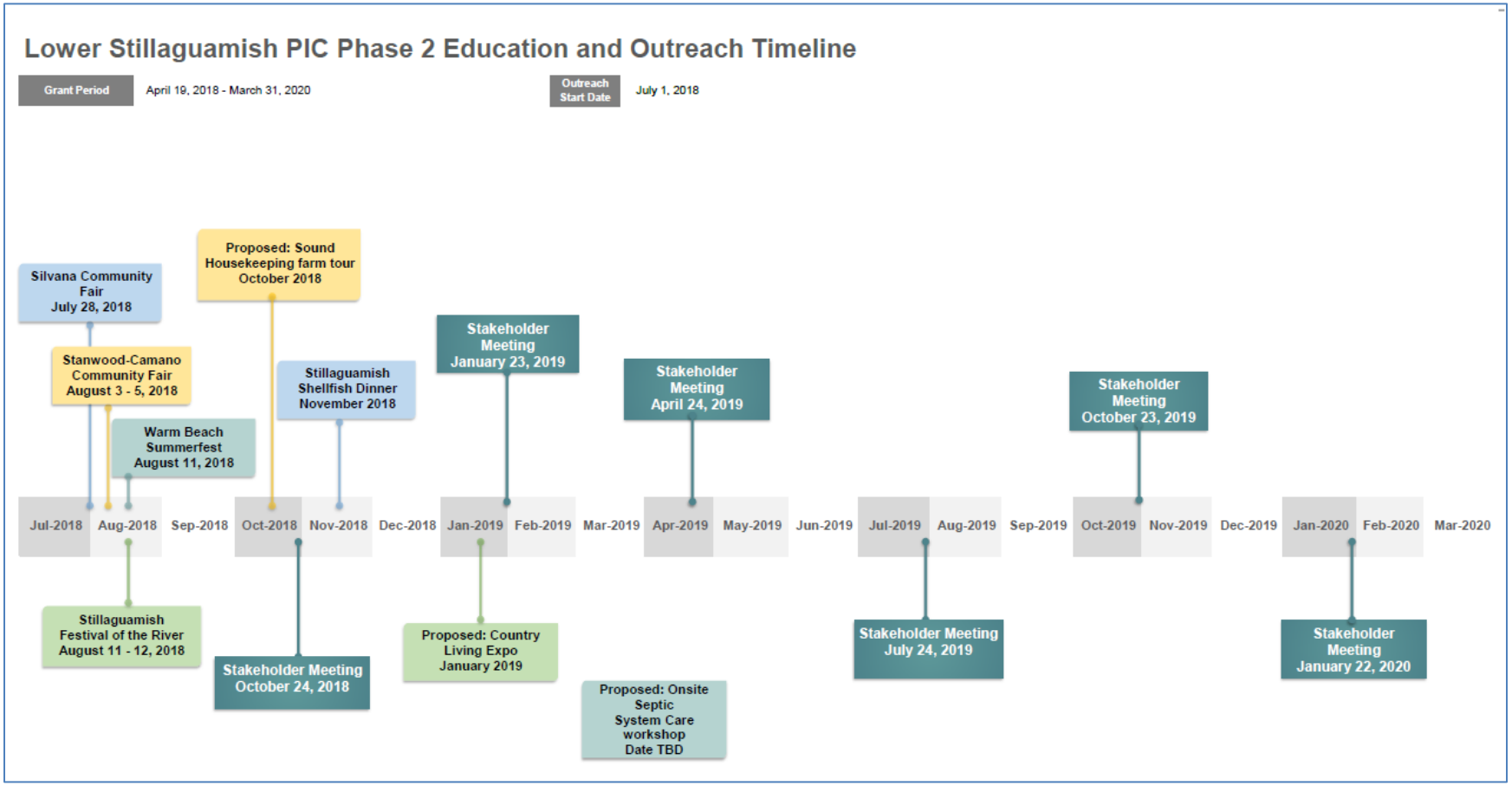

Figure 8. Lower Stillaguamish PIC Phase 2 Education and Outreach Timeline

4.7 Education and Outreach Resources

Chan, K., Chapman, M., Chen, C., Enelow, N., Hesselgrave, T.,& Klain, S. (2015) Place based study: Aesthetics, Sense of Place and Landowner Attitudes Towards Riparian Buffers in Snohomish County. In The Values of Place: Recreation and Cultural Ecosystem Services in Puget Sound (Chapter 4). https://www.eopugetsound.org/sites/default/files/features/resources/ValuesOfPlace_20150921.pdf

Snohomish Conservation District Lower Stillaguamish PIC Phase 2 webpage http://snohomishcd.org/stilly-pic

Snohomish Conservation District Farm Planning webpage http://snohomishcd.org/sound-farms

Snohomish Conservation District Sound Horsekeeping webpage http://snohomishcd.org/sound-horsekeeping

Snohomish County Discretionary Fund Grant Program https://snohomishcountywa.gov/1208/Discretionary-Fund-Rebate-Program

Snohomish County Lower Stillaguamish PIC Phase 2 webpage https://snohomishcountywa.gov/3433/About-PIC

Snohomish County Lower Stillaguamish PIC Phase 2 Program Resident Involvement and Resources webpage https://snohomishcountywa.gov/3347/PIC-Resident-Involvement

Snohomish-Stillaguamish Local Integrating Organization Ecosystem Recovery Plan https://snohomishcountywa.gov/DocumentCenter/View/44939/Sno-Stilly-LIO_Ecosystem-Recovery-Plan_Final_Rev-06-2017

Washington Department of Health Healthy Communities webpage http://hcplan.doh.wa.gov/

5.0 References

Prokopy, Towery, and Babin. 2014. Adoption of Agricultural Conservation Practices: Insights from Research and Practice. Purdue Extension FNR-488-W, 8 pp.

Snohomish Conservation District. 2012. Snohomish County Small Watershed Livestock Survey. 82 pp.

Snohomish County Assessor. 2018. Snohomish County parcels data shapefile. https://snohomishcountywa.gov/2934/Assessor.

Snohomish County Parks and Recreation. Horses Count Project. Described in:

- Haglund, Noah. June 18, 2018. County Parks Department Launches Online Horse Survey. *HeraldNet*. https://www.heraldnet.com
- Snohomish County Parks and Recreation. 2018. TAKE OUR 3-MINUTE SURVEY: Horses Count project is an undertaking to better understand equestrian needs in Snohomish County. This effort is being pursued so that we can better provide recreation facilities to support your needs [Facebook]. https://www.facebook.com/SnoCoParks/posts/1812232715749940

Snohomish County Surface Water Management and Snohomish Conservation District. (2011-2013) Snohomish County Livestock Survey.

Snohomish Health District. 2017. Snohomish County on-site septic systems information extracted from DAVE database.

6.0 Appendices

6.1 Appendix A: Lower Stillaguamish PIC Phase 2 Brochure

(https://snohomishcountywa.gov/DocumentCenter/View/29389/PIC-Program-Brochure?bidId)

Help Keep Our Water Clean for You & Your Neighbors

July 2018

Lower Stillaguamish River Pollution Identification and Correction (PIC) Phase 2 Project

On-site septic system maintenance

Water quality monitoring

Horse manure composting

You Can Make a Difference!

Keep your local surface waters clean by preventing fecal coliform bacteria reaching streams, rivers, lakes, and the Puget Sound. Your actions can help your family, pets, livestock, and neighbors stay healthy.

- **Livestock and horse owners** – Use these livestock "big three" best management practices: (1) Fence livestock away from streams and ditches; (2) Install a heavy use area to protect pastures from damage in winter months, and (3) Install a covered manure storage structure to prevent contaminated runoff from reaching waterways. Learn more or request assistance at snohomishcd.org.
- **Septic system owners** – Maintain septic systems and have them inspected regularly to make sure they are functioning properly. Financial assistance and resources are available through the Snohomish County Savvy Septic Program (savvyseptic.org) and the Snohomish Health District (snohd.org).
- **Pet owners** – Whether at home or out with your pets, make sure to scoop the poop, bag it, place it in the trash, and wash your hands.
- **Streamside landowners** – Keep waterways healthy by maintaining or planting native vegetation along shorelines, and preventing chemicals and other pollutants from entering waterways.
- **Recreational users** – Follow "Leave No Trace" ethics. Pack it in, pack it out. Dig a cathole and bury human waste 6 inches deep 200 feet from a waterway when needed. Learn more at lnt.org.

Water Quality Conditions

For more than 20 years, Snohomish County and partner organizations have been working to protect and restore water quality in the Stillaguamish River watershed. Even with these efforts, various portions of the Stillaguamish River Basin and adjacent marine waters in South Skagit Bay and Port Susan continue to exceed Washington State water quality standards for fecal coliform bacteria.

In the Pacific Northwest, abundant rain can lead to runoff containing fecal coliform bacteria flowing into rivers and Puget Sound. If septic systems are not maintained or manure is not adequately contained, the sewage or manure that contain the bacteria can run off the property during storms and drain into local waters.

Water Quality Monitoring

Water quality monitoring is used to identify top priority areas with high levels of fecal coliform bacteria which affect water quality and shellfish. Datasets collected from 7 locations between 2005 and 2015 by Snohomish County and partner agencies were used to identify priority areas based upon the percentage of samples that exceed water quality standards for recreational water, knowledge of existing work, public access, potential human and animal sources, and other factors. Based on this evaluation, the East Fork Glade Bekken and Greenwood Creek sub-basins were chosen for priority monitoring and bacteria source identification and elimination efforts to improve water quality in Port Susan and South Skagit Bay.

About the Lower Stillaguamish PIC Phase 2 Project

The Lower Stillaguamish River Pollution Identification and Correction (PIC) Phase 2 Project is led by the Surface Water Management Division of Snohomish County Public Works to help find and clean up sources of fecal bacterial pollution in the Lower Stillaguamish River Basin. This project is one of the primary ways the county is working to restore water quality in the Stillaguamish River watershed and adjacent lands that drain to the South Skagit Bay and Port Susan commercial shellfish growing areas. Lower Stillaguamish PIC Phase 2 is a continuation of the Lower Stillaguamish PIC work conducted from November 2013 through September 2016.

Let the PIC Phase 2 Project Be Your Resource

To protect and restore water quality in the Lower Stillaguamish River Basin and adjacent waters, Snohomish County Public Works and partners are providing technical and financial assistance for agricultural best management practices and on-site septic system maintenance and repairs. Since the launch of the Lower Stillaguamish PIC work in 2013, this has included working with property owners and farmers to remove manure piles and implement better manure management practices. You can help ensure cleaner and healthier water for your family and neighbors. Visit www.snohomishcountywa.gov/LowerStillyPIC.

Learn More

www.snohomishcountywa.gov/LowerStillyPIC

Questions?
Contact Sean Edwards
Senior Planner
Snohomish County
Surface Water Management
425-388-3024
Sean.Edwards@snoco.org

PIC Partners:

Snohomish County Public Works
Surface Water Management

This project has been funded wholly or in part by the United States Environmental Protection Agency under Assistance Agreement PC-01J18001 to the Washington State Department of Health. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

Interpreter and translation services for non-English speakers are available upon request. Call Elisa Dawson 425-388-466. For questions regarding Public Works' Title VI Program, contact our Title VI Coordinator via email at spw-titlevi@snoco.org, or phone 425-388-6660. Hearing/speech impaired call 711.

A solicitud, se dispone de servicios de intérprete y traducción para personas que no hablan inglés. Llame a Elisa Dawson 425-388-466. Para preguntas concernientes al Programa del Título VI de Obras Públicas, póngase en contacto con nuestro Coordinador del Título VI mediante correo electrónico a spw-titlevi@snoco.org, o llame por teléfono al 425-388-6660. Las personas con deficiencia auditiva o del habla, llamen al 711.

SWM-4275-1.B.6718

6.2 Appendix B: Lower Stillaguamish PIC Phase 1 Newsletter #1

https://snohomishcountywa.gov/DocumentCenter/View/36349/PIC-July-2016-Newsletter?bidId

Help Keep Our Water Clean for You & Your Neighbors

Learn about resources and incentives for livestock, pet and septic system owners

Bring your family, friends, and neighbors to the Resources for Healthy Water—Lower Stillaguamish Basin Area event to ensure clean water for you and them.

Why You Should Attend

- Resources – technical information for agriculture best management practices, pet owners, and on-site septic system repairs
- Financial assistance – multiple financial resources for livestock, agriculture and septic system owners
- Giveaways – collect freebies (while supplies last) and the latest information on managing waste for livestock, pets and on-site septic systems

Contact with water or eating shellfish polluted with fecal coliform bacteria can cause illness in family members and pets such as upset stomach, diarrhea, and ear infections or more serious diseases such as hepatitis and salmonella.

Cleaner water provides a healthier environment for swimming, fishing, shellfish harvesting, and boating; as well as better habitat for fish. Whether you live in a town, on a farm, or near a stream or storm drain, there are many ways to prevent bacteria and other pollutants from getting into the waters near you.

You're Invited!

Resources for Healthy Water—Lower Stillaguamish Basin Area

Saturday, November 14, 2015
2 p.m. to 4 p.m.
Stanwood High School
7400 272nd Street NW
Stanwood, WA 98292

Complimentary refreshments and giveaways available.

Additional Information

Learn more about the Lower Stillaguamish River PIC Program and resources at www.snohomishcountywa.gov/LowerStillyPIC.

Questions?
Contact Sean Edwards
425-388-3024
Sean.Edwards@snoco.org

What's Going On

The level of bacteria found in the Lower Stillaguamish River Basin area currently exceeds Washington State water quality standards. This pollution, fecal coliform bacteria, is found in the feces of humans, livestock, pets, and wildlife, and can get into rivers and Puget Sound.

Snohomish County Public Works Surface Water Management

Install livestock manure composting bins

Maintain your septic tank

Resources for Healthy Water– Lower Stillaguamish Basin Area

Saturday, November 14, 2015 – Stanwood High School

Hosted by the Lower Stillaguamish River Pollution Identification and Correction (PIC) Program

The PIC Program helps identify and correct sources of bacterial pollution in the Lower Stillaguamish River Basin. It is one of the primary ways Snohomish County is restoring water quality in the Stillaguamish River Clean Water District.

Come learn about resources to help you manage:

- Livestock manure
- On-site septic systems (OSS)
- Pet waste

PIC Partners:

Stillaguamish River Flood Control District (SFCD)

Stillaguamish Clean Water District Advisory Board (CWDAB)

Scoop the poop, bag it, and place it in the trash

Free family event–

First 50 attendees receive a pet waste scooper or pasture stick!

(1 per household)

Interpreter and translation services for non-English speakers are available upon request. Call Allison Tabiando 425-388-3126. For questions regarding Public Works' Title VI Program, contact our Title VI Coordinator via email at spw-titlevi@snoco.org, or phone 425-388-6660. Hearing/speech impaired call 711.

A solicitud, se dispone de servicios de intérprete y traducción para personas que no hablan inglés. Llame a Allison Tabiando 425-388-3126. Para preguntas concernientes al Programa del Título VI de Obras Públicas, póngase en contacto con nuestro Coordinador del Título VI mediante correo electrónico a spw-titlevi@snoco.org, o llame por teléfono al 425-388-6660. Las personas con deficiencia auditiva o del habla, llamen al 711.

Printed October 2015 (R)

Snohomish County
Public Works
Surface Water Management
3000 Rockefeller Ave., M/S607
Everett, WA 98201

PRSRT STD
US Postage
PAID
Seattle, WA
Permit No. 593

6.3 Appendix C: Lower Stillaguamish PIC Phase 1 Newsletter #2

Protecting Local Water Quality for You & Your Neighbors

FREE Shellfish Dinner!

You're invited to the fourth annual Shellfish Dinner

Saturday, August 13, 2016
3 p.m. to 4 p.m. open house
4 p.m. to 7 p.m. presentations and dinner

Floyd Norgaard Cultural Center
27130 102nd Ave NW
Stanwood, WA 98292

RSVP at www.soundsalmonsolutions.org/shellfishdinner2016

Questions? Contact Martha Moritz:
425-252-6686
Martha@soundsalmonsolutions.org

PIC Program

Additional information is available at www.snohomishcountywa.gov/LowerStillyPIC.

Questions?
Contact Sean Edwards:
425-388-3024
Sean.Edwards@snoco.org

What's Happening in the Lower Stillaguamish Basin?

Your local rivers and streams may look clean and inviting, however the Lower Stillaguamish River Basin falls short of the State of Washington water quality standards for fecal coliform bacteria.

The bacteria, an indicator of other pollutants and micro-organisms that can make people and animals sick, primarily comes from human sewage, livestock manure, pet waste, and wildlife. It is washed into the Stillaguamish River and Puget Sound by rain and stormwater runoff.

What's Being Done

In 2014, Snohomish County Public Works, in coordination with local and state partners, launched the Lower Stillaguamish River Pollution Identification and Correction (PIC) Program.

The program included water quality sampling in the Lower Stillaguamish River floodplain and adjacent uplands. Based on the sampling results, inter-agency cooperation, and citizen input, the PIC Program identified several significant sources of pollution in both the floodplain and adjacent uplands.

Clean-up of most of these sources is either underway or complete. Efforts have included working with several landowners to design and implement agricultural best management practice (BMP) projects to help reduce water pollution coming from their properties.

Additionally, the Snohomish Conservation District, one of the PIC Program partners, conducted five educational workshops/tours and 10 community meetings to promote BMPs for on-site septic systems and livestock manure. They also responded to 78 site visit requests, primarily related to livestock.

You Can Make a Difference

Whether you live in town, on a farm, or near a stream or storm drain, there are many ways to prevent bacteria and pollutants from getting into local waters. The PIC Program provides resources to help protect your local lakes, streams, rivers, and marine waters, as well as keep your families, livestock, and pets healthy.

Attend the Shellfish Dinner or visit the PIC Program website for more information on what you can do to help protect and restore local water quality.

Mainstem Stillaguamish River

Stillaguamish Estuary

Join Snohomish County, partner agencies, and your neighbors at the **Fourth Annual Free Shellfish Dinner,** Saturday, August 13, 2016 in Stanwood

The event will include:

- A **free** shellfish buffet dinner
- Guest speaker Snohomish County Executive Dave Somers
- An update on water quality in the Stillaguamish River Basin
- Resources for homeowners to protect water quality in their area
- An update on the Lower Stillaguamish Pollution Identification and Correction (PIC) Program

Look inside for more information!

The PIC Program helps identify and correct sources of bacterial pollution in the Lower Stillaguamish River Basin. It is one of the primary ways Snohomish County is helping to protect water quality in the Stillaguamish River Clean Water District.

PIC Partners:

Stillaguamish River Flood Control District (SFCD)

Stillaguamish Clean Water District Advisory Board (CWDAB)

This project has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement PC-00J32601 to Washington Department of Health. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

RSVP to attend the free Shellfish Dinner today! Space is limited.

Interpreter and translation services for non-English speakers are available upon request. Call Alison Tabiando 425-388-3126. For questions regarding Public Works' Title VI Program, contact our Title VI Coordinator via email at spw-titlevi@snoco.org, or phone 425-388-6660. Hearing/speech impaired call 711.

A solicitud, se dispone de servicios de intérprete y traducción para personas que no hablan inglés. Llame a Alison Tabiando 425-388-3126. Para preguntas concernientes al Programa del Título VI de Obras Públicas, póngase en contacto con nuestro Coordinador del Título VI mediante correo electrónico a spw-titlevi@snoco.org, o llame por teléfono al 425-388-6660. Las personas con deficiencia auditiva o del habla, llamen al 711.

SWM 4 1 N 0716

Snohomish County
Public Works
Surface Water Management
3000 Rockefeller Ave., MS607
Everett, WA 98201

PRSRT STD
US Postage
PAID
Seattle, WA
Permit No. 593

6.4 Appendix D: Lower Stillaguamish PIC Phase 1 Scoop Pet Poop Pledge

Take the pledge to protect Puget Sound & receive a free gift!

I pledge to

Scoop the poop, Bag it, and Place it in the trash

in my own yard and in public places.

	First Name	City	Zip Code
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Puget Sound Starts Here

6.5 Appendix E: Lower Stillaguamish PIC Phase 1 Pet Waste Poop Toss Game

The Poop Toss Game

A fun and simple game to teach responsible pet waste disposal

Overview

Pollution from pet waste is a problem across the Puget Sound region – but it can be prevented. Pet waste carries e-coli, fecal coliform and giardia among other contaminants. We developed the poop toss game to engage a wide audience and start conversations about backyard waste disposal. The game is also a tool to encourage participants to sign a "Scoop the Poop" pledge, and an effective opportunity for distributing point-of-contact promotional "prizes" that encourage long term behavior change.

Three Central Elements

1. **The Game**: This is the hook that will draw interest.
2. **The Message**: For healthy pets, healthy kids, clean yards, clean shoes dog lovers should Scoop the Poop, Bag it, and Place it in the trash. **(notice that we're not asking dog owners to Scoop for the benefit of Puget Sound)**.
3. **The Pledge**: A written commitment to pick up pet waste. This reinforces the message and gives you a chance to talk about the impacts of unmanaged pet waste on pet health.

How to Run the Game

Two people are needed to operate the three central elements of the game.

Person 1: Draws attention and invites people to play the game, then shows participants how to play:

A. Take a plastic bag from the mini trash can.
B. To make it feel more like a backyard activity have players use the hand trowel to scoop up a "poop" and place it in a plastic bag.
C. Ask participants where *they* think pet waste should go. No matter what their answer, tell them it is legal to put poop in the trash.
D. Player tosses bagged poop into the trash. (The player is modeling the behavior we want them to do at home. Depending on number of people waiting, give participants a few tries or suggest they move closer.)

Person 1 will also have to replenish the "poops" and plastic bags when the backyard lawn runs out. It's important for the participant to "win" if possible; this aligns a positive emotional response to picking up pet waste and putting it in the trash.

Person 2: Leads those who finish the game (and those who don't want to play) to the pledge and "prize" table. This is a great opportunity to talk about the pledge and the reasons why picking up dog waste is important. Remind participants that pet waste should be thrown in the trash, not buried, not thrown in the yard waste/compost, or left on the lawn – it's not fertilizer!

Setting Up the Backyard

Materials

1. Pledge table (includes prizes and promotional materials)
2. Yard waste bin (attach laminated "Do not compost" sign)
3. Trash can (attach laminated "We Scoop" sign)
4. "Hole" (a box under artificial lawn) and shovel (attach "Do not bury" sign to the artificial lawn.)
5. Artificial lawn
6. Bean-bag poops
7. Mini trash can with plastic bags
8. "Come Play the Poop Toss Game" sign (display on an easel or A-frame)
9. Hand trowel
10. "Do the Right Thing" poster (doubles as backboard)

6.5 Appendix F: Septic Care Workshop Immediate Post Survey

Septic Care Workshop Evaluation

Please fill out this evaluation candidly to help us improve our program for others.

1. **How did you hear about today's workshop (circle all that apply)?**

   ☐ Mailer ☐ Website ☐ Email ☐ Neighbor ☐ Other_____

2. **What is the primary reason you attended the workshop?**

   ☐ Septic Care Rebate ☐ Learn more about my septic system ☐ Other_____

3. **How was the technical level of the session?**

   ☐ Too basic ☐ About Right ☐ Too technical

4. **Overall, did the techniques described in the session seem practical?**

   ☐ Definitely not ☐ Probably not ☐ Not sure ☐ Probably yes ☐ Definitely yes

5. **Do you feel this session gave you the knowledge you need to properly care for you septic system?**

   ☐ No, I have a lot of questions ☐ Somewhat, yet I have questions ☐ Yes, I know what to do

6. **How would you rate the usefulness of the take-home resources?**

   ☐ Very Poor ☐ Poor ☐ Average ☐ Good ☐ Very Good

7. **How would you rate the instructor?**

   ☐ Very Poor ☐ Poor ☐ Average ☐ Good ☐ Very Good

8. **How much of the following information was new to you?**

	Not New	Somewhat New	New
If not maintained properly, septic systems can pollute lakes, streams, rivers, wetlands, and Puget Sound.			
Septic systems drain into local groundwater.			
Septic tank additives are not recommended.			
Unused medications should be kept out of septic systems where they may disrupt a septic system's ability to function properly or may pollute local waters. They can be disposed of at local medication return stations.			
Products with "Danger" or "Poison" on the label may harm a septic system.			
Using less water will prolong a septic system's life.			
A septic system inspection is different than a septic tank pumping.			
Experts recommend having your septic system inspected at least every 3 years, and pumped as needed.			
The drainfield should not be paved, driven or parked on, covered with plastic, built upon, or used for livestock.			

PLEASE SEE OTHER SIDE OF PAGE

9. **Will you try the following practices to care for your septic system?**

	I already do it	Yes, I will try it	No, I won't try it
Learn where my septic tank and drainfield are located.			
Walk my drainfield to check for soggy spots.			
Have my system inspected within the next 3 months and pump the tank as-needed.			
Plan to have my septic system inspected at least every three years.			
Use sink strainers to keep solids (food scraps, fat, hair, etc.) from going down the drain.			
Use toilet dye strips (provided) to check if my toilets are leaking.			
Take my unwanted medications to a drop off location.			
Take my unwanted and leftover hazardous products to the Household Hazardous Waste facility in Everett.			
Tell my neighbors about this workshop and encourage them to attend an upcoming workshop.			

10. **Which, if any, of the Savvy Septic financial assistance programs are you most likely to use?**

☐ Rebate ☐ Loan ☐ Grant

11. **Would you recommend this workshop to others?**

☐ Definitely not ☐ Probably not ☐ Not sure ☐ Probably Yes ☐ Definitely Yes

12. **Are you interested in having your property LakeWise Certified?** (for properties located in a lake watershed)

☐ No ☐ Not Sure ☐ Yes

13. **Do you have any suggestions or comments to improve the workshops?**

Name:_____**Phone:**_____

THANK YOU!