



# Pollution Identification & Correction Program

## *2018 Annual Report*

Skagit County's Pollution Identification and Correction (PIC) Program is a partnership between state and local agencies, tribes, local non-governmental organizations, shellfish growers, and private citizens. Skagit County is the lead agency for the program. We are dedicated to protecting the public from waterborne illness by reducing the levels of fecal bacteria in the rivers and creeks of Skagit County. The PIC Program has been operating since 2010, and has successfully reduced bacterial pollution in several watersheds in Skagit County.

Water quality monitoring is the core of any PIC Program. Traditionally, sampling sites are identified near the confluence of streams and are monitored on a regular basis. Where high levels of fecal bacteria are found, source identification sampling (sometimes referred to as "bracket sampling") occurs upstream to identify where the pollution is coming from. Staff then follow up by visiting nearby property owners to identify the source of pollution, and work with them to correct any problems that are found. Common sources include pets, leaking septic systems, livestock such as horses, cows, and pigs, and wildlife.

Thanks to our partnerships with other organizations, we are able to offer resources to property owners who may have problems on their property that need to be solved. With the help of partners like the Skagit Conservation District, the Skagit County Public Health Department, and Skagit Fisheries Enhancement Group, we can offer low-interest loans and grants for septic system repairs or replacements, free and confidential farm assessments by trained farm planners, assistance with farm management, and financial assistance for fencing, invasive plant removal, native plantings, and other projects.

A graphic representation of all aspects of the PIC Program is presented in Figure 2.



**Figure 1. A PIC staff member takes a sample for chemical tracers testing in No Name Creek.**

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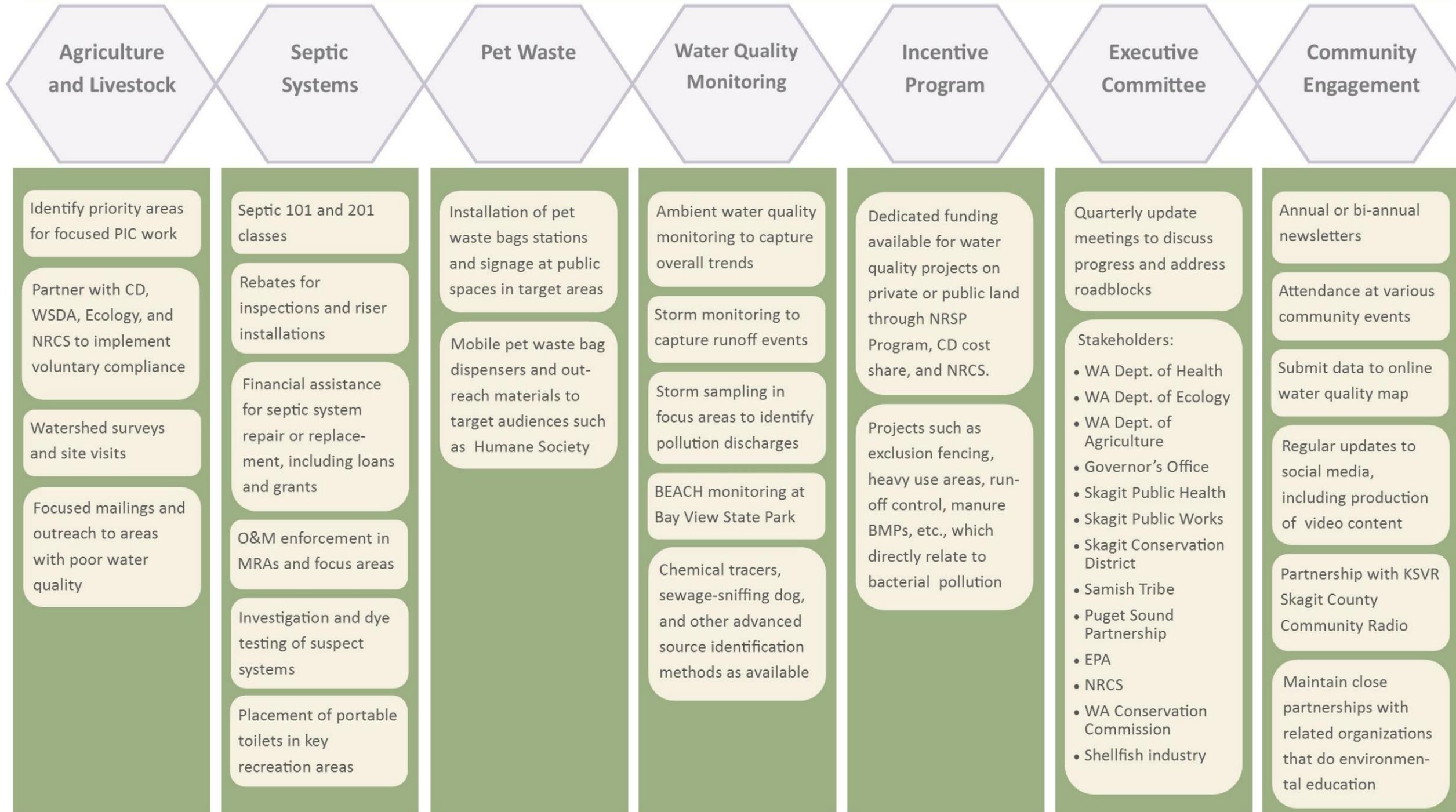


Figure 2. Skagit County's PIC Program

## Areas of focus

The Samish Bay watershed has been the major focus of the PIC Program since its inception (Figure 3). Over 4,000 acres of commercial shellfish beds are located in Samish Bay. Shellfish are filter feeders and can accumulate fecal bacteria and other pollutants that can make people sick.



**Figure 3. The Samish Bay watershed to the north, and the Padilla Bay watershed in darker blue to the south.**

In the fall of 2009, the Washington State Department of Ecology (Ecology) completed a study on fecal coliform bacteria pollution in Samish Bay, along with a plan for reducing the level of bacteria. The PIC Program has been working to implement that plan since 2010. The Samish River and its tributaries continue to be a major focus of the program.

In 2015, the program expanded to include the Padilla Bay watershed. This watershed includes 151 acres of commercial shellfish beds, along with a popular beach at Bay View State Park that was regularly closing every summer due to water polluted by fecal bacteria.

In 2017, Ecology became interested in the South Skagit Bay watershed - specifically the areas that flow into Big Ditch - due to several threatened shellfish monitoring stations in South Skagit Bay. Under consultation with Ecology, Skagit County's

Public Health Department began septic system inspection enforcement in the area. Due to limited staffing, Skagit County's PIC Program has chosen to let Ecology take the lead on additional PIC activities in the area.

The PIC Program also responds to reports of problems throughout Skagit County as time and resources allow.

## Progress in 2018

Eight years into our work in the Samish watershed, proven sources of fecal coliform pollution are becoming harder to identify. In 2018, only two clear livestock problems on two properties were found. One of these resulted in a confirmed discharge of manure into the nearby creek. At least five properties in both the Samish and Padilla watersheds that were identified in previous years have required significant staff time to continue to work with the property owner to make improvements. One long-standing problem in the Padilla watershed was solved in early 2018 when the property owner's cattle were removed due to animal neglect.

Though proven agricultural sources are becoming more difficult to identify, high-risk livestock situations are still common in all of our focus areas. The most high-risk situations we see are livestock being kept on saturated pastures, poor pasture conditions that lead to runoff, and inconsistent manure collection and storage. Due to site drainage, timing of storms, and other factors, it is often difficult to prove that these sites are contributing to pollution. Many property owners are reluctant to make changes to their farm management without proof that their property is contributing to the pollution load in nearby waterways, making these situations a significant challenge for us.

During 2018, Skagit County’s Onsite Septic Program sent inspection reminders to the owners of nearly 4,700 septic systems that were overdue for inspection in Marine Recovery Areas (areas especially sensitive to failing septic systems), as well as other areas with documented water quality problems. Many areas had septic systems that had not been inspected in more than 10 years. Due to this increased enforcement of septic inspection regulations, 45 failed septic systems with surfacing sewage were discovered in Skagit County, and an additional 277 deficiencies were discovered that could lead to failure if not corrected. Thirty-four septic systems were repaired or replaced in the county during 2018 (Table 1). Note that these numbers are only for repairs requiring permits. Many more small repairs were completed in 2018 that did not require permits or reporting to Skagit County.

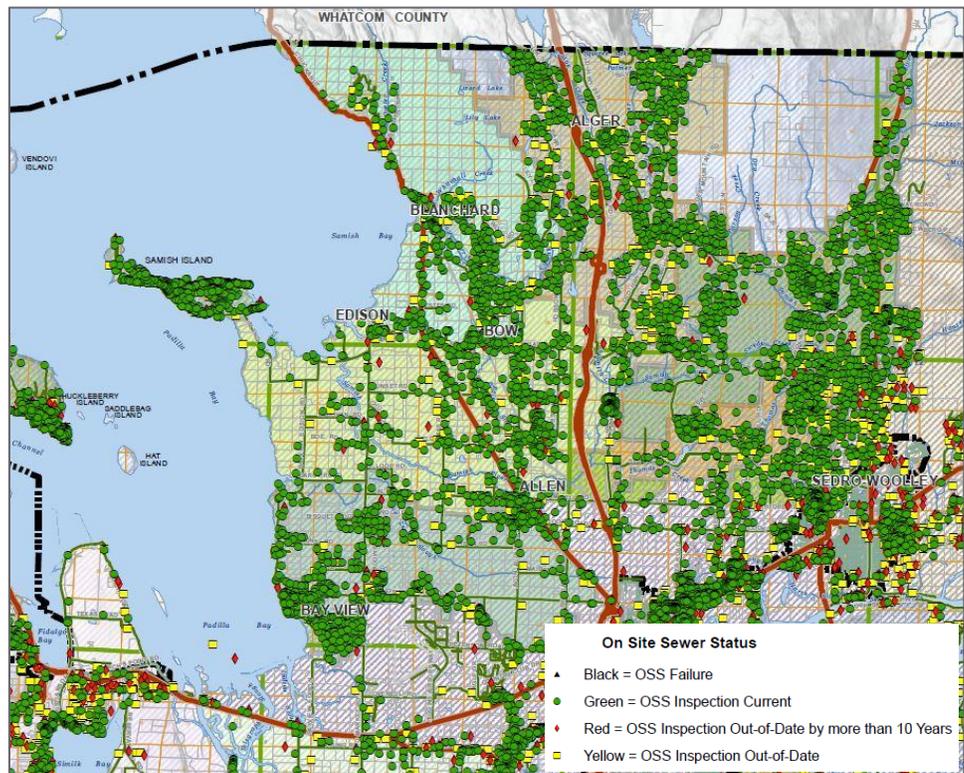


Figure 4. Samish and Padilla watershed inspection status map, produced in October 2018.

Table 1. Onsite septic system permitted repairs or replacements in 2018

Area of interest	Number of repairs
Samish Bay	8
Padilla Bay	3
Big Ditch	4
Greater Skagit County	19

A significant new challenge that has emerged in recent years is identifying the source of pollution in areas where we find no obvious septic or agricultural sources of pollution and few or no high-risk situations that would cause the pollution we see in the waterways. These areas include those that drain to the South Edison pump station, Butler Creek, Swede Creek, upper Joe Leary Slough, and Little Indian Slough.

In an attempt to identify whether issues were from a human source, we brought in a sewage-sniffing dog to Skagit County in February. We also collaborated with the University of Washington (UW) during the spring and fall to look for chemicals in the water that might indicate the source of pollution. A report on the sewage-sniffing dog visit can be found in the *News and Reports* section of our website at [skagitcounty.net/cleanwater](http://skagitcounty.net/cleanwater). Chemical tracers work with the UW is ongoing, and a report should be complete in March 2019. We also joined an attempt by the Whatcom Conservation District to use citizen science to track the prevalence of wildlife during the winter due to concern from farmers in the lowlands that winter migratory birds might be the cause of fecal coliform pollution in these areas. That project is ongoing, and is providing valuable information about where wildlife might be influencing water quality.

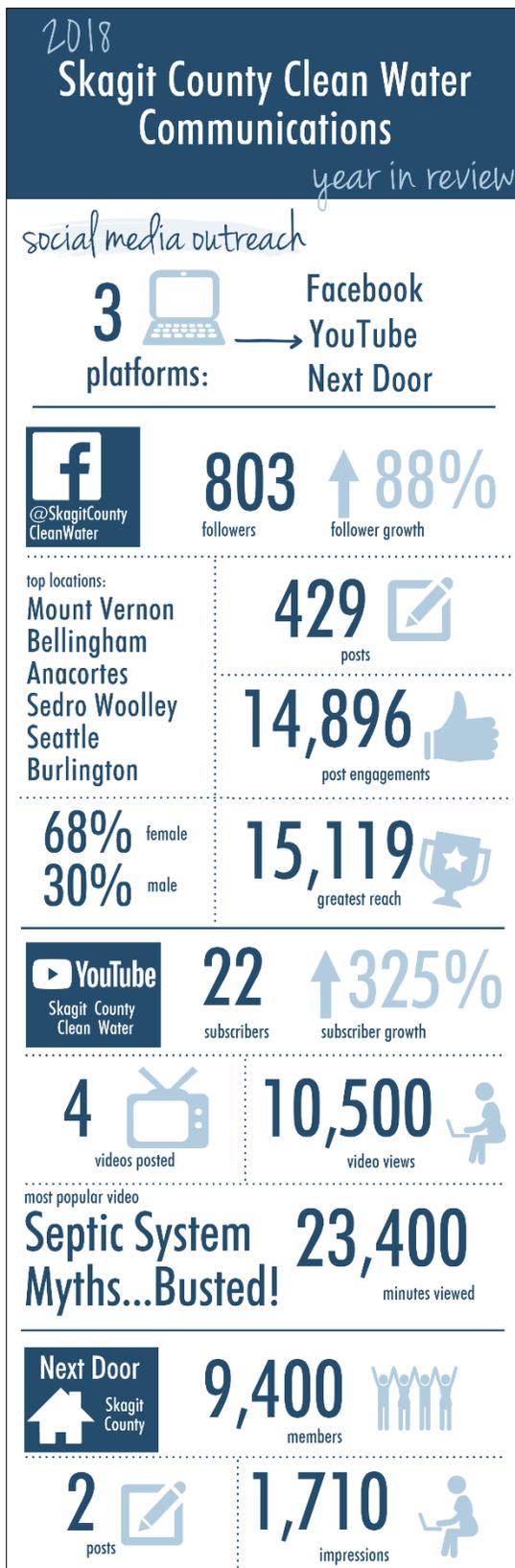
Despite the challenges, a significant amount of progress has been made in our focus areas over the years. In the Samish watershed, bacteria levels have been reduced by 60% in the Samish River, and several key areas have improved enough that they now meet state water quality standards. Before we began working in the Padilla watershed in 2015, the swimming beach at Bay View State Park was regularly closed for up to thirty-five days during the summer swimming season. In 2018, the beach was closed for only three days. As we continue to find and fix problems, we expect the trend of improving water quality to continue.

### Education & Outreach

Education and outreach is a major part of our PIC Program. Skagit County Clean Water staff regularly talk with local news outlets, send mailings, attend events, and manage Facebook, YouTube, and Next Door social media accounts to update the public about our activities and inspire behavior change for clean water. We also work with other organizations such as Skagit Fisheries Enhancement Group, Coastal Volunteer Partnership, Skagit Conservation Education Alliance, Washington State University Extension, and Taylor Shellfish to ensure that our messages are being shared by a variety of trusted information sources. Quarterly meetings are held with our education and outreach partners to foster collaboration on messaging to the public.



Figure 5. Traditional communications highlights in 2018.



**Figure 6. Social media communications highlights in 2018.**

Figures 5 and 6 show highlights of our traditional and social media outreach in 2018. The PIC Program attended six events such as the Skagit River Salmon Festival and Mount Vernon Science Night. Newsletters were mailed to approximately 6,300 residents in the Samish and Padilla watersheds, and we also produced three videos on the topics of septic systems, pasture management, and streamside restoration. In addition, we continue to stock pet waste bags at ten pet waste stations around the Samish watershed.

Through a partnership with the Washington Department of Agriculture and Whatcom Conservation District, state and local agencies can share their fecal coliform water quality results on a single online map. Skagit County has been sharing water quality data on the map for over a year now. The map has revolutionized our ability to visualize the data, and has been an excellent public outreach tool.

In April 2018, we released our grant-funded PoopSmart campaign, designed to use social marketing tools to encourage residents to change their behaviors to improve water quality. Our goal is to take a lighthearted approach in order to attract attention to the subject. We created a website at [poopsmart.org](http://poopsmart.org) with links to various county and other websites so that important resources can be found all in one location. We put up posters promoting the website at 43 local businesses, and shared with 13 other government and non-governmental partners. We also produced and distributed more than 1500 stickers to promote the website.

The PoopSmart campaign relies heavily on social media, specifically the Skagit County Clean Water Facebook page and the Skagit County Government Facebook and Twitter pages to get people to visit the website. The PoopSmart page has been visited over 4,000 times between April and December 2018. With the help of advertisements on Facebook, our message has reached more than 15,000 people in and around Skagit County.

Our social media following increased by 88% in 2018, and our PoopSmart posts were shared more than 450 times on Facebook and Twitter.

We plan to continue the PoopSmart outreach campaign into 2019 with more videos, radio public service announcements, translation of materials and the website into Spanish, and continued posts on social media. We also plan several surveys in early 2019 and later in the year to measure the effectiveness of the campaign.



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