



# Pollution Identification & Correction Program

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## *2020 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 solve problems that property owners may have. With the help of partners like the Skagit Conservation District, the Skagit County Public Health Department, Craft3 Clean Water Loans, 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 of the Samish River after a storm.**

# Skagit County Pollution Identification & Correction Program

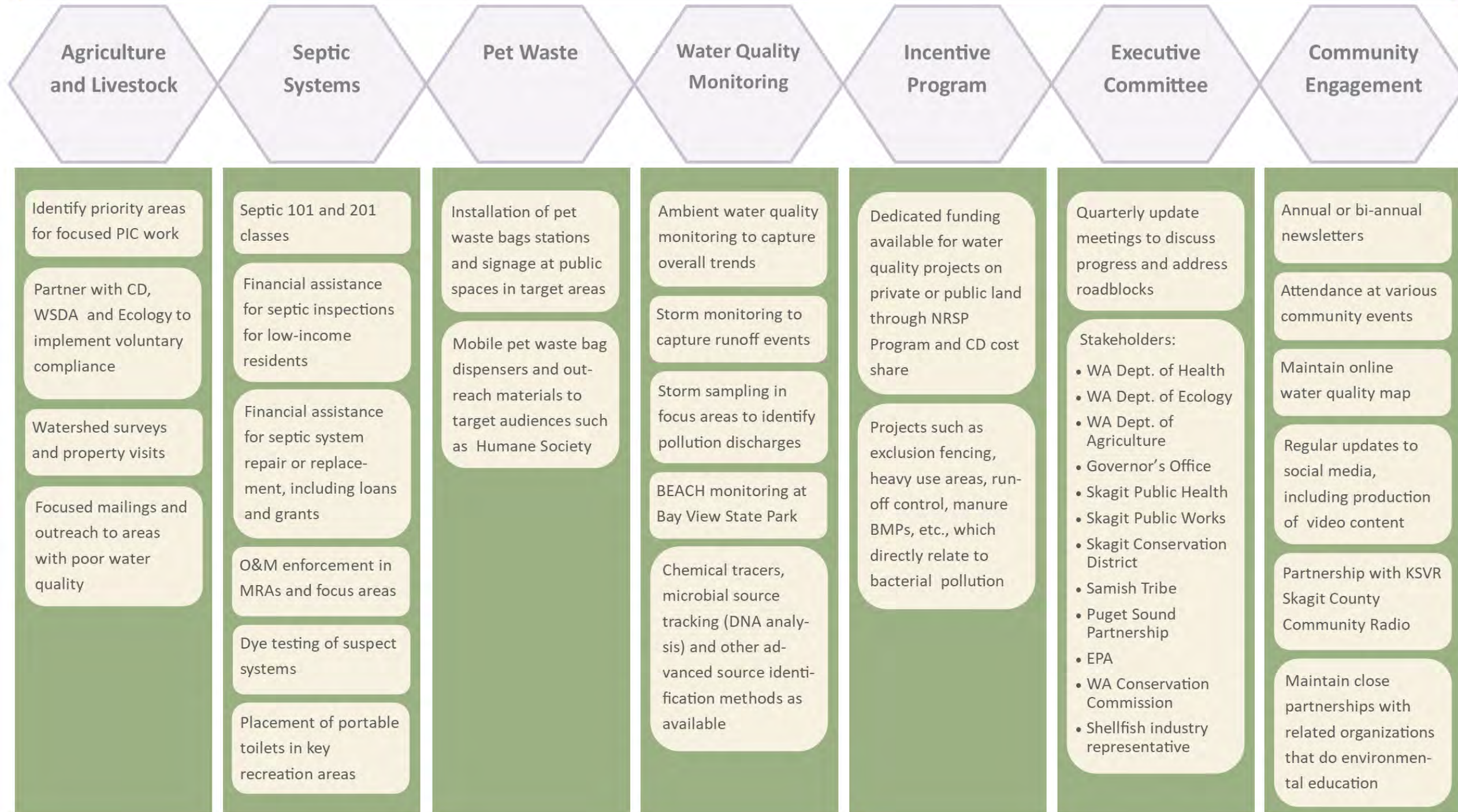


Figure 2. Skagit County's PIC Program

## 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.

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

## Progress in 2020

All sampling activities and much of our investigation work was stalled in March 2020 for about eight weeks in response to the COVID-19 pandemic. During that time, several staff members transitioned to working part- or full-time on emergency response work, assisting the county's Public Health and Emergency Management Departments with pandemic response. Spring is an important time for us to investigate and respond to water quality problems, and missing those weeks during spring has delayed some of our activities. A review of the progress made in the PIC Program in 2021 is provided in Figure 4.

In 2020, we embarked on a new effort to survey all properties with livestock in the Samish and Padilla watersheds. Our goal is to identify which best management practices are most lacking in the watershed so that we can direct our outreach efforts toward the practices that are most needed to improve water quality overall. As of December 31, 2020, we were about 60% complete for both watersheds. We expect to complete the survey in early 2021. We will resurvey the watersheds in a few years to see if our outreach has improved the adoption of best management practices.

The survey involves a detailed review of what best management practices are in use and which practices are deficient on each property. Assessments include pasture quality, overgrazing, the use of gutters and downspouts, heavy use areas, the presence of weeds, and more. We are limited to what we can see from the road, so the survey is somewhat limited. However, our progress thus far has confirmed our impression that pasture management is the most lacking best management practice in the area. Far too many pastures are overgrazed, muddy, and flooded with water in areas, leading to runoff of soils and bacteria from pastures.



Figure 4. Progress in 2020 finding and fixing pollution problems.

Along with the survey, source identification activities continued

in 2021. We identified four small or commercial farm properties with conditions that could lead to pollution in the Samish watershed. In upper Friday Creek, one property had a documented discharge of pollution. Another property owner in Friday Creek had to be contacted more than once when they put cattle on a wet area that they had already agreed to not graze. Two additional problems were found in the upper Samish watershed. Property owners have fixed problems on three of the properties, while the fourth is working with the Skagit Conservation District to improve the property. Three additional problems identified in previous years were also resolved.

In the Padilla watershed, source identification investigations continued in the No Name Creek, upper Joe Leary Slough and Little Indian Slough areas. In the Little Indian Slough region, problems have been found in an area with several state industrial stormwater permit holders. The Washington Department of Ecology is leading the effort in that area, with Skagit County staff providing technical assistance.

In the No Name Creek region, we are waiting for Ecology to take enforcement action on one property with a long-standing problem. We are continuing to work with property owners to fix issues on two other nearby properties. Skagit County’s Drainage Utility is working to improve drainage from properties between Josh Wilson Rd and Marihugh Rd. The project involves upsizing of several culverts under roads, and may take several years to complete. When complete, the project should help solve pollution

problems on nearby properties. In the meantime, we continue to work with the affected residents to reduce their impact on water quality.

In October, we performed a smoke test on several pipes in the upper Joe Leary Slough to try to identify contributors of several pipes that feed to Gear Rd. The pipes run through an area with dairies and an industrial area, and it was unclear where they originated and if there might be inputs from the industrial zone along the way. Using smoke bombs and a large fan borrowed from the City of Mount Vernon, we were able to identify that two pipes had their source in a nearby dairy. The dairy owner is in the process of correcting all problems found.

During 2020, two of the three Onsite Septic Program staff transitioned to pandemic management duties in support of the Public Health Department. One staff member remained to ensure the continuity of the program. With reduced staff, the program was unable to send inspection reminders or enforce septic system requirements. However, the PIC Program continued to post information about septic system maintenance on social media and in other outreach materials throughout the year. Despite the lack of reminders and enforcement, Skagit County residents continued to get their septic systems inspected at the same rate as in 2019. County-wide, 18 failed septic systems with surfacing sewage were discovered, and an additional 386 deficiencies were discovered that could lead to failure if not corrected. A breakdown of the location and number of deficiencies and failures is provided in Table 1 below.

**Table 1. Onsite septic system failures and deficiencies found and fixed in 2020\***

Area of interest	Failures Found	Failures Fixed	Deficiencies Found	Deficiencies Fixed
<b>Samish Bay</b>	2	1	83	63
<b>Padilla Bay</b>	2	1	29	21
<b>South Skagit Bay</b>	3	2	100	77
<b>Greater Skagit County</b>	11	2	174	125

\*Data for fixes are only for those problems found in 2020. Limited staff availability has reduced staff’s ability to track repairs and replacements completed for problems found in previous years.

During 2020, we also partnered with the EPA Manchester Laboratory on a project to use microbial source tracking (MST, sometimes called DNA testing) to identify sources of bacterial pollution in several areas. This method uses DNA from bacteria unique to the digestive systems of dogs, cattle, ruminants, and humans to indicate where pollution might be coming from. Sites visited in 2020 included several in Swede Creek, Thomas Creek, and Upper Joe Leary Slough. Data from four rounds of storm sampling at all sites, along with additional summer samples taken in Thomas Creek, were delivered to Skagit County in late December of 2020. In early 2021, we posted a report analyzing those results on our Clean Water News website at <http://bit.ly/CleanWaterNews>.

## 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 NextDoor social media accounts. Our goal is 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 District, Skagit Conservation Education Alliance, and Washington State University Extension 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.

Figures 5 and 6 show highlights of our traditional and social media outreach in 2020. The pandemic reduced the number of events we could attend to just one, Sedro Woolley Science Night. Newsletters were mailed to approximately 6,300 residents in the Samish and Padilla watersheds. In addition, we continue to stock pet waste bags at ten pet waste stations around the Samish watershed.

In February of 2020, we launched an e-newsletter that quickly gained popularity, with the subscriber list growing 258% in eleven months. The newsletter has been well-received, with an open rate and link click rate exceeding government industry standards. In September, the Skagit Health Department added Septics 201 to the online class lineup. This addition allows residents to complete all training to inspect their own septic systems completely online.

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 since 2017. The map has revolutionized our ability to visualize the data, and has been an excellent public outreach tool. It can be found at <http://arcg.is/1irH8i0>.

Throughout 2020, we continued to promote our grant-funded PoopSmart campaign, designed to use social marketing tools to encourage residents to change their behaviors to improve water quality. The campaign takes a lighthearted approach in order to attract attention to the subject. The PoopSmart website ([poopsmart.org](http://poopsmart.org)) is the centerpiece of the campaign, and serves as a central location for links to information and resources from multiple agencies. The site is available in Spanish and English. In 2020, social media posts on NextDoor, Facebook, and Twitter drove the majority of traffic to the website.

The PoopSmart page was visited 3,993 times in 2020. Eighty-six percent of those visitors had not visited the site before, so the campaign is still reaching new audiences. With the help of advertisements on Facebook, our message has reached more than 52,000 people in and around Skagit County. Our Facebook following increased by 19% in 2020. Four PoopSmart videos created in 2019 were advertised on streaming services in 2020, and have been viewed more than 428,000 times.

We plan to continue to expand the PoopSmart outreach campaign into 2021. Plans for new materials currently include creation of a radio advertisement, more advertising with additional content created from existing resources, continued posting on social media, and attendance at the Skagit County Fair, if it is held this year.

# Communications Review

# 2020

## Skagit County Clean Water

### OVERVIEW

2020 was marked by a major shift in our outreach. Without the ability to perform outreach in person, we focused our efforts on digital media. We launched an e-newsletter in February, which has proven to be a great addition to our offerings. Our reach on social media has dropped somewhat as pandemic news took precedence over all else.

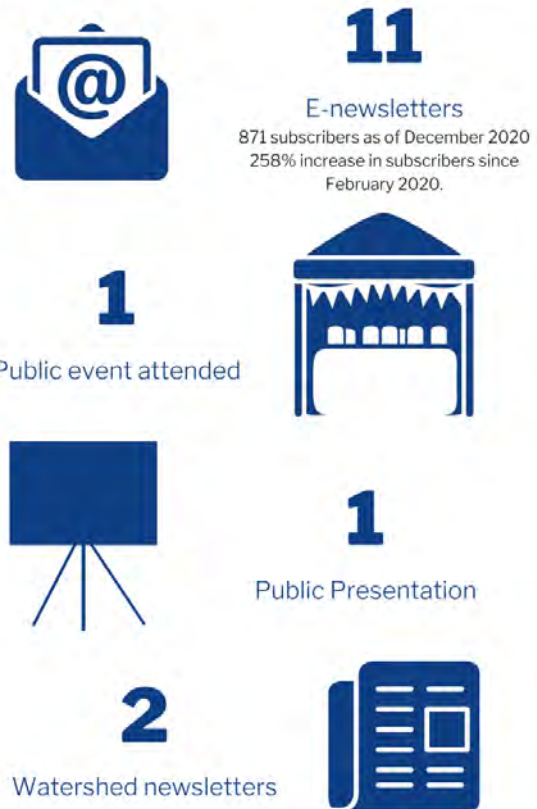
### EARNED MEDIA COVERAGE

Media news stories resulting from our work. Topics included the PoopSmart, campaign and the Padilla Bay TMDL.



### TRADITIONAL PUBLIC OUTREACH ACTIVITIES

Events, presentations, newsletters, and mailings.



### SOCIAL MEDIA OUTREACH

**4**  
Platforms

Skagit County Clean Water has our own Facebook, Next Door, and YouTube accounts. We sometimes use the Skagit County Government Twitter account.



Figure 5. Traditional communications highlights in 2020.

# Digital Media Review

## 2020 Skagit County Clean Water



Figure 65. Social media communications highlights in 2020.



In addition to our own outreach, the work that our partners do helps to get us to our shared clean water goals. With the help of an EPA National Estuary Program grant, Washington State University Skagit Extension and Skagit Conservation District have created the Pasture Management Program. The program is intended to provide information to small farmers to help them better manage their pastures, both for water quality, pasture and animal health, and to save farmers time and money.

In 2020, the program offered virtual classes that were attended 68 times. The workshops have also been posted to WSU's Pasture Management page for those who could not attend the live sessions. As a result of attending these classes, six property owners requested technical assistance from the Skagit Conservation District, and two farm plans were written.

In addition to the online courses, WSU advertised their Country Living Expo event to more than 80 livestock owners in the Samish watershed. The Country Living Expo focused on livestock management this year, and WSU staff reported that nine people from the Samish watershed attended. We look forward to the Pasture Management Program continuing and growing in 2021.

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