



Pollution Identification & Correction Program

2022 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 and outreach to landowners are the core of any PIC Program. Water quality sampling sites are identified near the confluence of streams and are monitored on a regular basis. When 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, farm animals, and wildlife.

Through partnerships with the Skagit Conservation District, Skagit County Public Health Department, Craft3 Clean Water Loans, and Skagit Fisheries Enhancement Group, we offer resources to find solutions to problems property owners may have. Resources include low-interest loans and grants for septic system repairs or replacements, free and confidential farm assessments with a trained farm planner, 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. Skagit County's PIC Program



Figure 1. A PIC staff member takes a sample from under a bridge over the Samish River.

Skagit County Pollution Identification & Correction Program

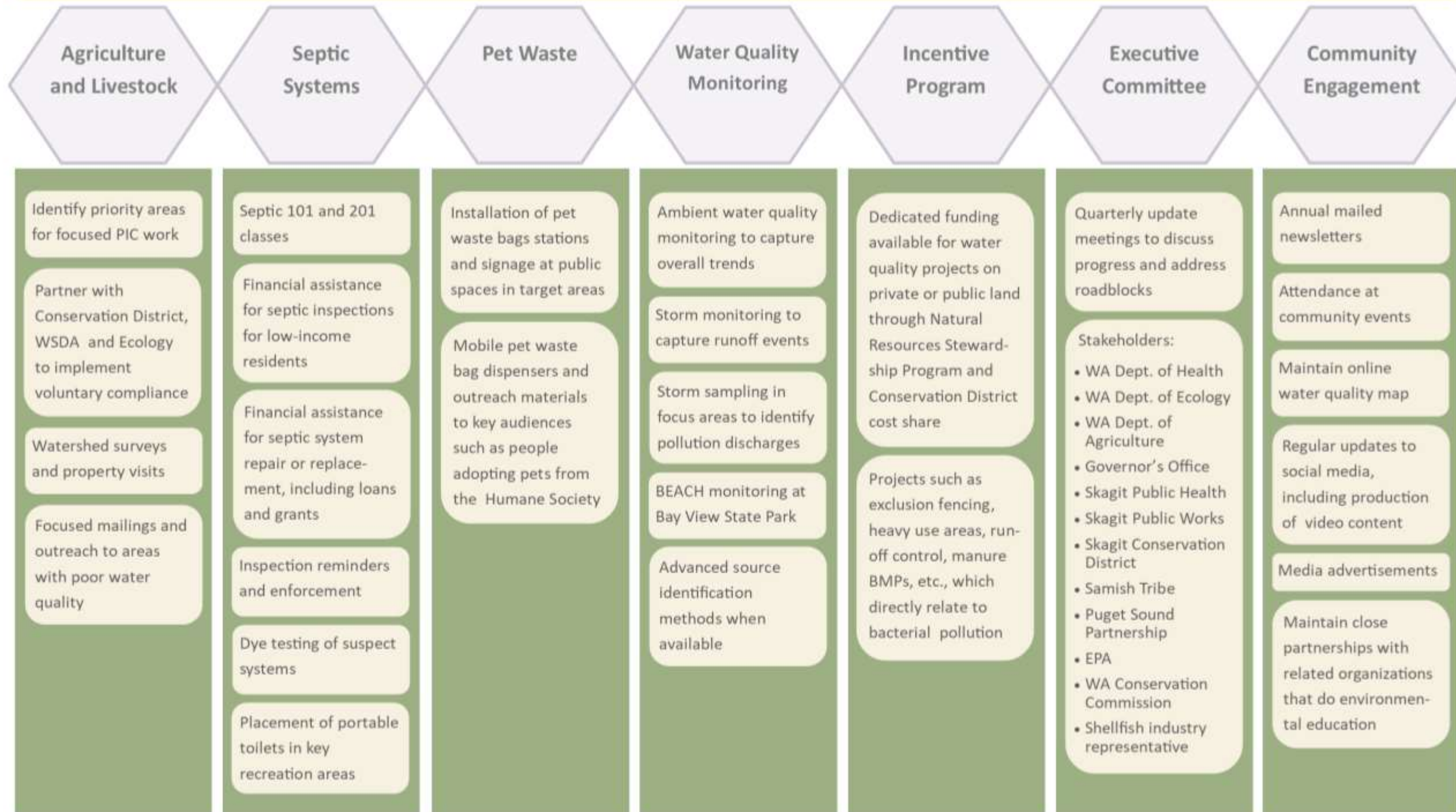


Figure 2. Skagit County's PIC Program

Areas of Focus

The Samish Bay watershed has been the major focus of the PIC Program since its inception (Figure 3. The Samish Bay watershed to the north, and the Padilla Bay watershed in darker blue to the south.). Samish Bay includes contains more than 4,000 acres of commercial shellfish beds. 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 2022

In 2022, Skagit County partnered with EPA and the Pacific Northwest National Laboratory to use the Salish Sea Model to model to analyze the circulation and transport of freshwater in Samish Bay to improve our understanding of the persistence of fecal coliform bacteria in the bay. The modeling effort was designed to help us understand what portions of the shellfish growing area are most impacted by freshwater plumes from the Samish River along with the smaller creeks that flow into Samish Bay, and for how long.

While results are still being finalized for the project, the model showed that ten days is the longest amount of time that a freshwater plume affects the shellfish beds. The longest flushing times occur during the dry season when freshwater flows are low. The model also estimated that the Samish River freshwater plume is responsible for 80% of the fecal bacteria in the bay. The Samish River's influence does not extend to the most northern portions of the bay. Because fecal bacteria levels in the northern portion of the bay are concerning, PIC partners are currently working to track down where that pollution is coming from.

Similar to the Salish Sea Model work, Skagit County also partnered with the Washington Department of Health (DOH) and Taylor Shellfish Farms to sample the waters of Samish Bay when the growing area is closed to harvest due to high levels of fecal bacteria during storms. Though the plan was conceived before the Salish Sea Model effort, the goal was the same - assess what portions of the shellfish growing areas are most impacted by fecal bacteria during storms. Following a plan created by DOH, we succeeded in sampling the bay during four closures in 2022 - two in March and one each in October and December. The data will be used by DOH to continue to evaluate whether any changes need to be made to the size of the growing area or the closure criteria used to manage it.

Every fall for the last two years, our team of field staff from the various agencies that we work with creates a plan for that year’s rainy season. We select areas to focus on where we believe we can have the most impact, and set goals for source identification work and outreach. In the Samish watershed, we focused the majority of our source identification work on the lower Samish watershed – the Edison Slough, Thomas Creek, Swede Creek, Lower Samish River, and Middle Samish River drainages. These areas continue to have water quality concerns, and a 2021 livestock survey showed higher volumes of properties that appeared to be missing best management practices like pasture rotation and the use of heavy use areas in winter. In the Padilla watershed, our efforts were focused on No Name Creek.

Figure 4 shows our progress this year. Source identification sampling and windshield surveys identified fifteen properties with confirmed pollution problems or conditions that lead to a high risk for pollution during rain events. Twelve were in the Samish watershed, and three were in the Padilla watershed. Most problems were animals in saturated pastures, overgrazed and muddy pastures, or poor manure storage practices. Five pollution problems were solved in the Samish watershed, and one was solved in the Padilla watershed. Several others



Figure 4. Overall progress by the PIC Program in the Samish and Padilla watershed focus areas.

are either working with the Skagit Conservation District or the county to develop a plan.

In the early fall, we sent letters to all farms identified as high risk for pollution because of missing best management practices. The letters identified the practices that are needed to protect soil and water resources and pointing them to resources to help them improve the management of their property.

The Onsite Septic Program continued county-wide notifications of septic maintenance reminders in 2022. A total of 7,363 reminder letters were sent, along with information about our septic inspection rebate program. Grant-funded rebates of up to \$200 per household for inspection, pumping, or installation of risers were available to homeowners throughout 2022. A total of 717 rebates were given out county-wide. A financial assistance program was also available for property owners on limited, fixed incomes. A total of 102 vouchers for a free inspection were given out to low-income property owners.

County-wide, 59% of septic systems are up to date on inspections. The septic program found 44 failed septic systems with surfacing sewage in 2022, and an additional 562 deficiencies were discovered that could lead to failure if not corrected. When a failure is found, the county requires that the septic system be fixed. When a deficiency is found, property owners are notified but are not required to fix the problem. 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 2022

Area of interest	Failures Found	Failures Fixed	Deficiencies Found
Samish Bay	12	8	108
Padilla Bay	4	1	20
South Skagit Bay	6	9	132
Greater Skagit County	22	43	302

Education & Outreach

Education and outreach are 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, 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. Figures 5 and 6 show highlights of the traditional and social media outreach efforts for Skagit County’s Clean Water Program in 2022.

Through a partnership with the Washington Department of Agriculture and Whatcom Conservation District, state and local agencies can share their fecal coliform and *E. coli* water quality results on a single online map. Skagit County has been sharing water quality data on the map since 2017. The map helps us visualize the data and is an excellent public outreach tool. It can be found at <http://arcg.is/1irH8i0>.

Communications Review

2022 Skagit County Clean Water

OVERVIEW

As the pandemic shifts into a phase that allows for more in-person interaction, we have begun to employ more in-person outreach tactics while maintaining use of low-contact methods.

The use of postcards has been effective in getting residents involved in our programs, and social media posts have raised positive awareness about our programs and projects.

EARNED MEDIA COVERAGE

Media news stories resulting from our work covered topics including the Skagit Regional Source Control Inspection Program, the Salish Sea Stewards Training Program, and the South Fork Restoration Project.

5

News stories in local print and online news sources



TRADITIONAL PUBLIC OUTREACH ACTIVITIES

Events, presentations, newsletters, and mailings.



12

E-newsletters
1,806 subscribers (20.2% increase)
Newsletters were opened 7,938 times (43.1% open rate)

3

Public events attended



2

Public Presentations



2

Mailed watershed newsletters



5

Mailed postcards



VSP AND FARMLAND LEGACY POSTCARD

This year our Voluntary Stewardship and Farmland Legacy Programs worked together to send out a postcard about how the programs can support farmers in the restoration and preservation of their land. The postcard led to...

33

responses

6

potential projects

BIG LAKE FERTILIZER CAMPAIGN

We partnered with Washington State University's Shore Stewards program to deliver a campaign to encourage residents around Big Lake to reduce fertilizer use. Outreach included...

4

Mailed postcards

Neighborhood door knocking which resulted in

6

Social media posts

100

Soil samples taken

Figure 6. Traditional communications highlights in 2022.

Digital Media Review

2022 Skagit County Clean Water



@SkagitCounty
CleanWater

1,614

Followers



12.6%

Follower growth

Top 6 Follower Locations:

- Mount Vernon
- Anacortes
- Sedro Woolley
- Bellingham
- Burlington
- Bow

69.7% female

male **30.3%**

126

posts



1,145

post engagements -
likes, comments, clicks



7,058

greatest reach for a
single post



Nextdoor

26,523

members, representing
19,491 households in
Skagit County

38

Total posts

11

PIC
topics

18

Other program
topics

9

Stormwater topics

114,158

impressions

131

Comments

257

Thanks and other
reactions



Skagit County
Clean Water
YouTube channel

80

Subscribers

5

Videos posted

Most popular video

**Septic System
Myths...BUSTED!**

This 2018 video received 3,094 views in 2022

15.9%

Subscriber growth



177.5

hours watched



**POOPSMART
WEBSITE**

Campaign website devoted
to connecting residents with
resources

1,961

unique sessions

110

downloads of shareable
flyers and information

89%

of visitors
were new

Figure 5. Website and social media communications highlights in 2022.

Our monthly e-newsletter audience continues to grow and has quickly become one of our most effective outlets for outreach. This year, our subscriber list grew 20% to 1,806 subscribers. The e-newsletter's open rate and link click rate regularly exceed government industry standards, indicating the content we share is valuable and relevant to subscribers.

We continue to be active on social media, posting on Facebook, Nextdoor and YouTube. Nextdoor is our largest and most engaged audience, while Facebook remains a good place to reach those who are already interested in natural resources topics.

Throughout 2022, 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 to attract attention to the subject. The PoopSmart website (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.

With the pandemic shifting into a new phase that allows for more in-person interaction, we attended the Skagit County Fair, Fidalgo Bay Day, and an event put on by a local veterinary clinic. Newsletters were mailed to about 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 the fall of 2022, we met with partners to perform a root cause analysis to help us understand how we can design our messaging to better reach farm and septic system owners. Root cause analysis is a methodical way of identifying the true causes of a problem rather than making assumptions that may or may not be true. Once we understand the true causes of a problem, we can identify an approach that works best. Using this approach, we made plans for outreach over the next year and are in the process of following through with those plans.

In addition to our own outreach, the work that our partners do helps us reach 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 2022, the Pasture Management Program offered several classes on pasture management topics such as winter heavy use areas, managing runoff, and fencing. The workshops have also been posted to WSU's Pasture Management page and the Skagit Conservation District's YouTube channel for those who could not attend the live sessions. In addition to the online courses, WSU advertised their Country Living Expo event to livestock owners in the Samish and Padilla watersheds, and Skagit County provided funding for free registration for a number of livestock owners in those areas.

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