



## Ketchikan Fecal Bacteria Management Outreach

Final Report  
February 2025

Prepared by Rebecca Bellmore<sup>1</sup> and Iphigenia Arvanitis<sup>2</sup>

<sup>1</sup> Southeast Alaska Watershed Coalition, project #ACWA-23-04 funded by DEC from an EPA pass-through grant.

<sup>2</sup> Ketchikan Indian Community Department of Cultural Resources

## Project Background

Thirteen Ketchikan area beaches are listed as impaired waterbodies for pathogen pollution. In 2021, a Ketchikan Area Bacteria Management Plan was completed with support from multiple community and agency partners ([SAWC, 2021](#)). The Management Plan identified potential sources of pathogen pollution that could be mitigated through changes in behavior, and this project was focused on outreach and education to address three of these sources: pet waste pollution, vessel wastewater in harbors, and septic systems. Outreach plans were developed and implemented in conjunction with project partners, including the Ketchikan Indian Community, the Ketchikan Gateway Borough Public Works Department, and City of Ketchikan Ports and Harbors, for each of these outreach areas. Outreach activities included utilizing social media, radio announcements, signage, mailers, and community engagement. Detailed outreach activities and outcomes are described below.

## Harbor Pump Out Station Outreach Activities

Boats are required to pump out on-board wastewater rather than dump it overboard in Ketchikan's harbors. Four city harbors have pump-outs that, according to harbor staff, are underutilized, and wastewater from boats is likely contributing to fecal contamination in harbors. One harbor that has been frequently monitored (Thomas Basin) is now listed as impaired for fecal bacteria that has been traced to human sources.

This project employed social media, flyers, new signage, radio PSAs, and in-person information sharing events to educate boaters about the importance of (and legal requirement to) use the pump-outs to prevent pollution. Harbor staff qualitatively assessed pump out use and kept track of any enforcement actions taken in response to dumping.

## Alaska Association of Harbormasters & Port Administrators (AAHPA) Annual Conference (September 25-29, 2023)

In September 2023, the Alaska Association of Harbormasters & Port Administrators (AAHPA) hosted their annual conference in Ketchikan, AK. A table was set up and manned by the Ketchikan Indian Community's Environmental Specialist, who distributed material and presented a poster discussing the project's outreach and education efforts (Figure 1). Special focus was given to harbor pump out station usage and pet waste reduction. The conference had approximately 100 attendees and primarily attended by members of the maritime industry.

# Bacteria Pollution Reduction in Ketchikan through Education and Outreach

The Southeast Alaska Watershed Coalition, Ketchikan Indian Community, and Ketchikan Port and Harbors are using funding from the Alaska Department of Environmental Conservation's Alaska Clean Water Actions Grant to encourage boaters to use provided pump-out stations to improve water quality.

### What's the Problem?

Illegally dumped wastewater can harm water quality and human health.

 Four city harbors\* have underutilized pump-outs.

 Water quality testing at Ketchikan's beaches and harbors has shown high concentrations of fecal bacteria, which can contaminate seafood and harm human health.

 Thomas Basin is listed as impaired for fecal bacteria (Enterococcus and fecal coliform).

### What are we doing?

We've created an outreach plan to remind boaters the importance of using pump-outs.

 We're installing wayfinding signs to help boaters easily navigate to pump-outs.

 We're broadcasting Radio PSAs to reach incoming boaters and the community at large.

 We're reminding boaters to pick up after their pets instead of disposing of waste in the harbor.



*Pumping out wastewater is convenient, free, and required while moored.*








\*As of 9/21/2023, 2 of the 4 pump out stations are operational.  
 This project has been funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant (ACWA-23-04) with support from the U.S. EPA.

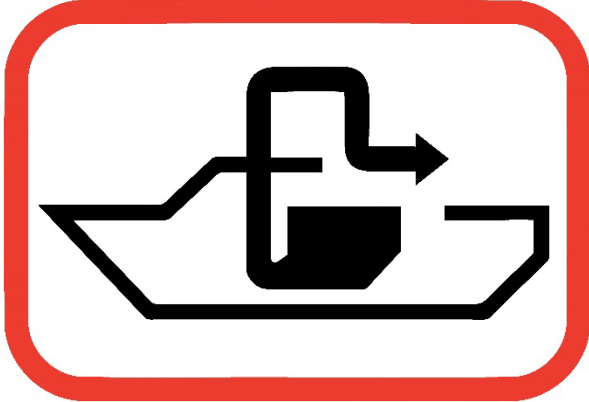
Figure 1. Poster shared at the Harbor Master's Conference.

## Educational signs installed near pump out stations at docks

Signs drawing attention to the pump out stations with operation information (Figure 2) were installed at Thomas Basin, Bar Harbor North, Bar Harbor South, and Casey Moran (Figure 3). Signs were installed at all locations by the end of summer 2024. The signs are visible to the nearly 740 rentable slips across the four harbors and an additional ~135 open moorage locations. During the summer months the harbors are usually nearly at capacity.

# Pump Out Don't Dump Out

It's the law



This project has been funded in part by a Department of Environmental Conservation  
Alaska Clean Water Actions grant (ACWA-23-04) with support from the U.S. EPA.

**24 Hour Operation**

**Fee: FREE**

**Operated by Ketchikan  
Port and Harbors**

**Questions? 907-228-5632**

**Please flush water  
through the line after  
pumping to prevent clogs.**




Figure 2. Pump-out sign design.

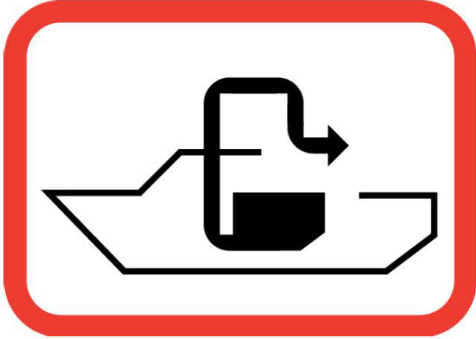


Figure 3. Images of the sign installed at Thomas Basin harbor.

## Education flyer in harbor occupant bills

Educational flyers about working pump out stations, requirements for pumping out, and reminders to pick up dog waste were included with boaters' October 2023 bills (Figure 4). (reached ~500).

**Sewage in harbors is a health hazard and can cause illness, close beaches, and contaminate shellfish beds**




**Working pumpouts  
are located at  
Bar Harbor South  
and  
Thomas Basin**

**Pumpout Tip #1:** Use onshore restroom facilities when possible.

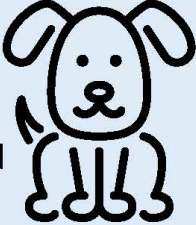
**Pumpout Tip #2:** After you finish pumping, flush additional water through the line to prevent clogging.

**Pumpout Tip #3:** Contact your harbormaster if you have questions about how to use the pumpout.



Remember, it is **ILLEGAL** to discharge untreated sewage within 3 nautical miles of shore (Clean Water Act Section 312). Dumping untreated sewage in the harbor can result in expulsion (Ketchikan Municipal Code 14.20.110)

**Fido's Fun Fact:** Just **1 dog** dropping has nearly as much bacteria as **7,000 bird** droppings combined. Please be courteous and dispose of dog waste with the rest of your garbage so it doesn't contaminate the water or get stepped on. Doggie bags are available at the tops of the ramps.



This project has been funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant (ACWA-23-04) with support from the U.S. EPA.

Figure 4. Flyer sent to resident vessels.

## Radio PSAs

Radio PSAs were read on KRBD (local Ketchikan public radio station) 3 times per week for 12 weeks (from 6/17/2024 to 9/6/2024) as part of the broader campaign that also addressed septic maintenance and harbor pump out use. The radio estimates it reaches 2000-3000 listeners per day (not unique each day).




1. Docked at one of Ketchikan's city harbors? Make sure you pump out your wastewater. It's free, convenient, and required by law while moored. Working pump-outs are located at Thomas Basin and Bar Harbor South. Boaters may contact the Harbormaster on VHF channel 73 or 16 with questions. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.
2. Attention boaters: Wastewater contains harmful bacteria and other pollutants, and dumping overboard is illegal and grounds for removal from the harbor. Use the free pump-out station at Thomas Basin or Bar Harbor South for proper disposal. Boaters may contact the Harbormaster on VHF channel 73 or 16 with questions. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.
3. In Ketchikan, we love being on the water. And we like it clean! If you're boating here, make sure you pump out your wastewater at a station in Thomas Basin or Bar Harbor South rather than dumping. Boaters may contact the Harbormaster on VHF channel 73 or 16 with questions. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.





## Facebook

12/8/23 – [pump out post](#) on SAWC Facebook; estimated reach - 115, 4 interactions; re-posted on Ketchikan Community Cycle Facebook page


**Southeast Alaska Watershed Coalition's Post** ✕

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 **Southeast Alaska Watershed Coalition**   
Published by Khrystl Starlene Brouillette-Gillam  
December 8, 2023 · 

 What happens when you dump your boat's wastewater into the harbor?  
 Diseases Spread - fecal waste can carry pathogens that can make humans sick.  
 Shellfish Contamination - Mussels, Oysters, and Clams filter feed, sucking up all the contaminants from your wastewater.  
 Aesthetic Depreciation - nobody wants to boat through a sewage mess!

We've teamed up with the [Ketchikan Indian Community](#), [Cultural Resources Dept.](#) and [Alaska Department of Environmental Conservation](#) to remind boaters to utilize pumpouts where available. In Ketchikan, using the pumpout is free, convenient, and legally required while moored. Pumpouts are located at Bar Harbor South and Thomas Basin.



## Post cards placed at Harbor office

Post cards were placed near the front desk at the harbor office alongside other informational materials (Figure 5).

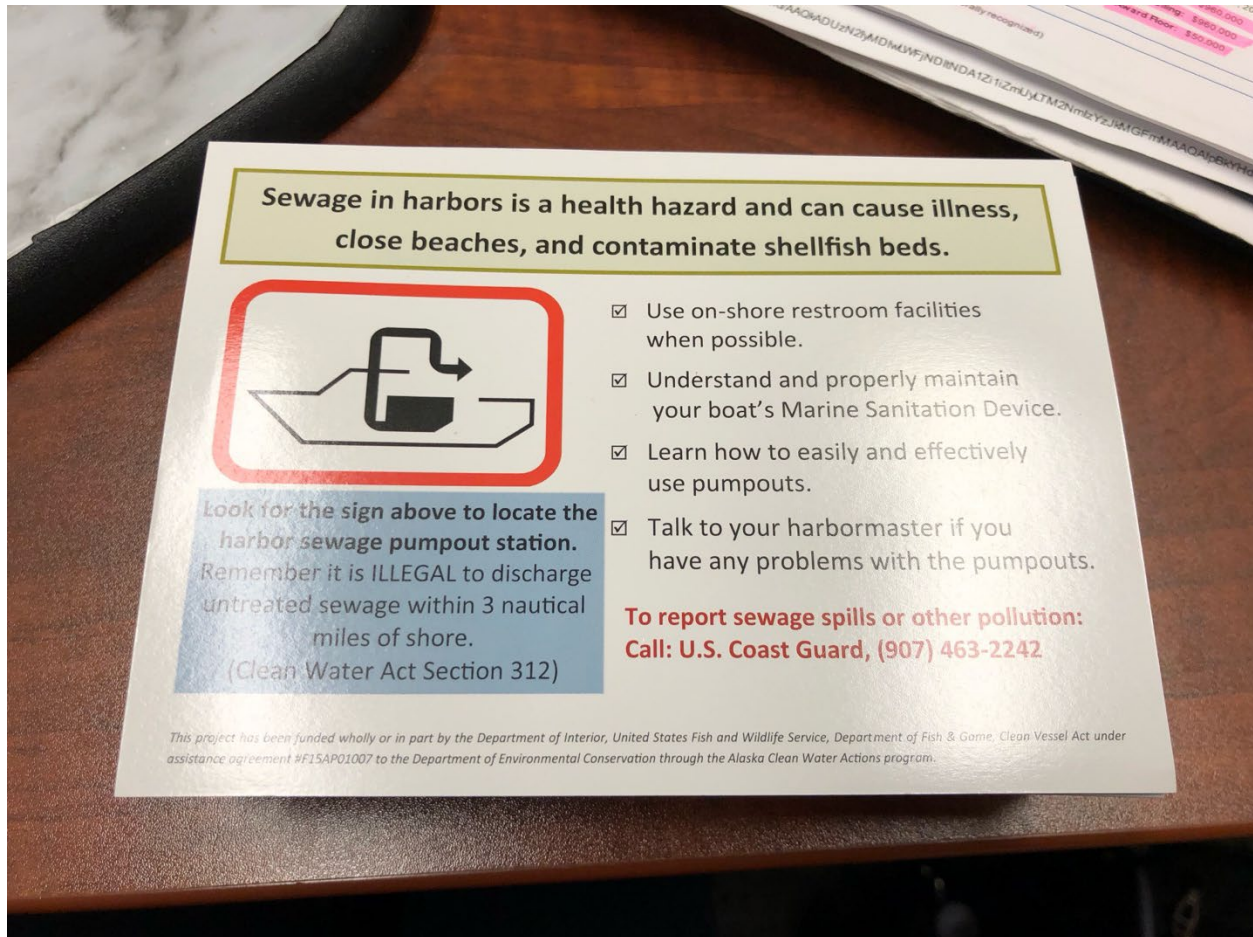


Figure 5. Post cards previously designed and printed by ADEC.

## Friday Night Insights (Jan 17, 2024) and Science Saturday (Jan 18, 2024)

The SAWC Science Director and KIC Environmental Specialist provided a Friday Night Insights talk on Jan 17 that included information about pump out station outreach. Approximately 20 people attended the live event, and 968 have viewed the recorded presentation, available at <https://www.facebook.com/share/v/1AMnNzJt3b/>.

## Outcomes

Harbor staff indicated that they appreciated all of the outreach support during the project. They did not notice a visible increase in traffic at working pump out stations, but did not have dumping violations during the project. Harbor staff are still seeking funding to repair the two out of order pump out stations at Bar Harbor North and Casey Moran.

## Pet Waste Outreach Activities

Pet waste has been a highly visible nuisance in Ketchikan – frequently left by dog walkers on sidewalks, particularly in the downtown area, on docks, and at beaches, many of which are now listed as impaired for fecal bacteria with dogs identified as a source. To promote better dog waste hygiene, this project employed social media, new signage in key locations, radio PSAs, and an in-person information sharing event. To document impacts of the outreach activities, we conducted pet waste surveys in nuisance areas before and after the outreach activities were conducted (results below).

### Pet waste nuisance area online survey

We developed a survey for the public to weigh in on nuisance areas for pet waste and provide guidance about where to direct outreach efforts. Twenty-nine people responded from 6/1 – 6/19/2023 and identified downtown, including the Creek Street area and trails, parks, ball fields, docks, Buggy Beach, Schoenbar Trail, Refuge Cove, and various neighborhood streets as problem areas (Figure 6, Appendix 1).

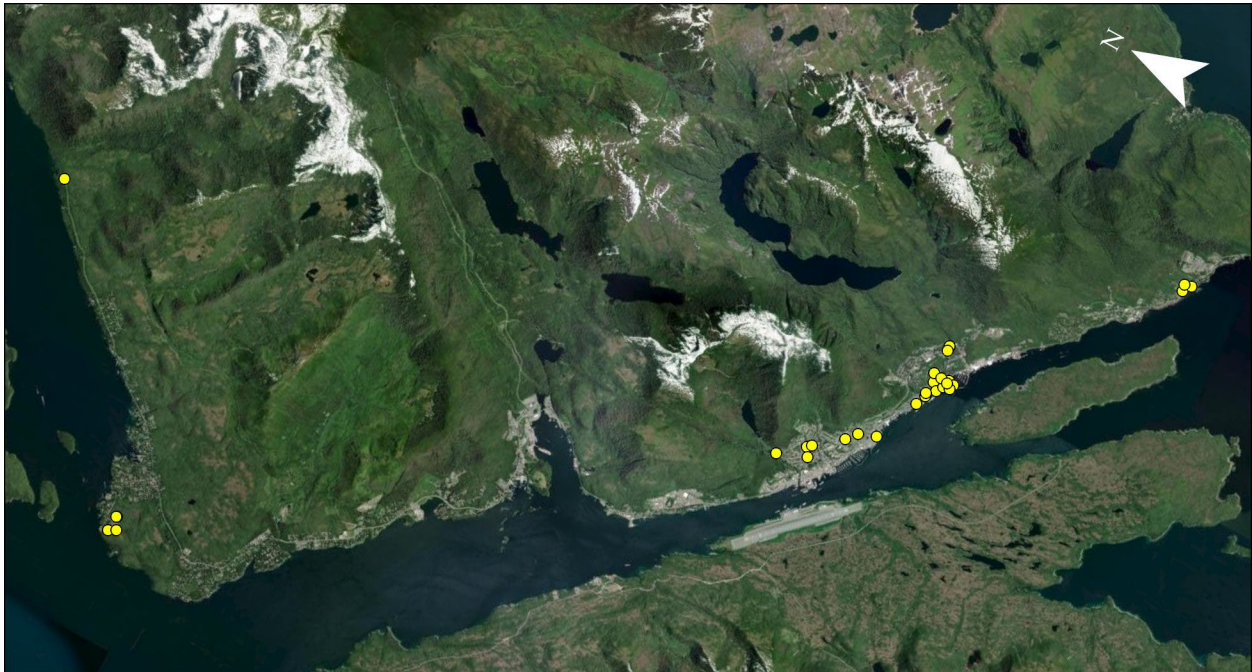
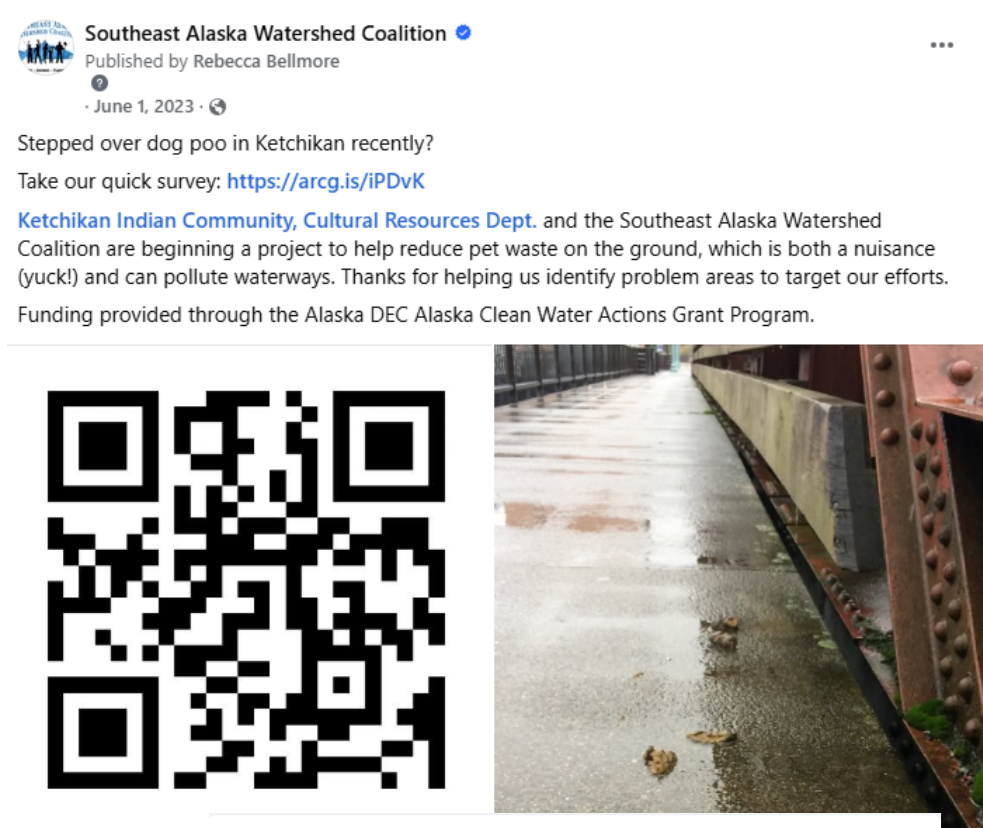


Figure 6. Nuisance area locations identified by public respondents to an online survey from 6/1-6/19/2023.



## Facebook

6/1/23 – [pet waste survey posted](#) on SAWC Facebook page and KCC Facebook pages; reached 327, engaged 44:

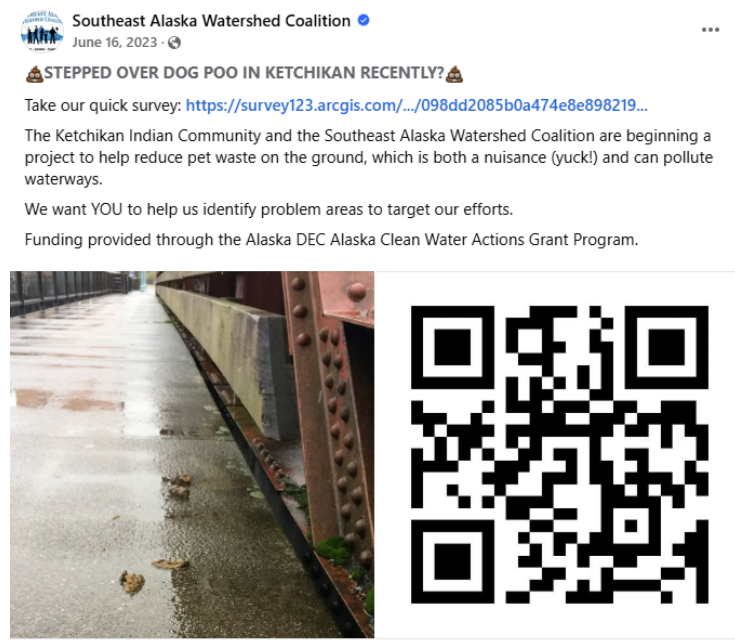


**Southeast Alaska Watershed Coalition** Published by Rebecca Bellmore · June 1, 2023 ·

Stepped over dog poo in Ketchikan recently?  
Take our quick survey: <https://arcg.is/iPDvK>

**Ketchikan Indian Community, Cultural Resources Dept.** and the Southeast Alaska Watershed Coalition are beginning a project to help reduce pet waste on the ground, which is both a nuisance (yuck!) and can pollute waterways. Thanks for helping us identify problem areas to target our efforts. Funding provided through the Alaska DEC Alaska Clean Water Actions Grant Program.

6/16/23 – [pet waste survey posted](#) on KCC, Ketchikan Events, and What’s going on in Ketchikan Facebook pages to solicit additional feedback (Reach and engagement stats not available for these pages.):



**Southeast Alaska Watershed Coalition** June 16, 2023 ·

**STEPPED OVER DOG POO IN KETCHIKAN RECENTLY?**

Take our quick survey: <https://survey123.arcgis.com/.../098dd2085b0a474e8e898219...>

The Ketchikan Indian Community and the Southeast Alaska Watershed Coalition are beginning a project to help reduce pet waste on the ground, which is both a nuisance (yuck!) and can pollute waterways.



We want YOU to help us identify problem areas to target our efforts.

Funding provided through the Alaska DEC Alaska Clean Water Actions Grant Program.


11/16/23 – [general green stormwater infrastructure educational post](#) on SAWC facebook; reached 189, engaged 22:





National Stormwater Day

**Southeast Alaska Watershed Coalition**  


Published by Khrysti Starlene Brouillette-Gillam

· November 16, 2023 · 

[Overview](#) [Comments](#)

 Happy National Stormwater Day! 



Today is the first ever **#nationalstormwaterday!** To celebrate, we took a tour of stormwater infrastructure around Juneau.

 SAWC supports the installation of Green Stormwater Infrastructure(GSI) - features like wetla...

[See more](#)


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Be the first to leave a comment.

  Comment as Southeast Alaska Watershed Coalition

12/1/23 - [pet waste pickup post](#) on SAWC Facebook page; reached 660, engaged 38:



**Southeast Alaska Watershed Coalition's Post**

 Southeast Alaska Watershed Coalition  
Published by Khrysti Starlene Brouillette-Gillam  
December 1, 2023

It's the rainy season in Southeast Alaska - but don't slip into the misconception that the rain washes everything away...  
🐾 We know it can be tempting to leave your four-legged friend's waste behind, especially when it's pouring! But the rain doesn't clean it up...it merely transports it into the nearest waterway - which may also be your fishing spot or community drinking water source.  
Do you want Fido's droppings in your water? The solution is simple - SCOOP YOUR POOP!


We've teamed up with the [Ketchikan Indian Community, Cultural Resources Dept.](#) and the [Alaska Department of Environmental Conservation](#) to remind our friends and neighbors to pick up after their pet.

We have two furry members on our team - Scupper and Coda. You'll find their human handlers going to great lengths to ensure what's packed in is packed out.



12/12/23 – [pet waste survey results post](#) on SAWC Facebook page; reached 156, engaged 6


**Southeast Alaska Watershed Coalition's Post**

 Southeast Alaska Watershed Coalition  
Published by Khrysti Starlene Brouillette-Gillam  
December 12, 2023

This spring, we asked community members to identify pet waste trouble spots around Ketchikan. We received excellent feedback on pet-waste hot spots, how often waste is spotted, and times of year when this problem is the worst. We're working with the @Ketchikan Indian Community Cultural Resource department and @Alaska Department of Environmental Conservation to use this data to help remind our friends and neighbors to SCOOP YOUR POOP.

The map below shows spots where individuals have seen pet waste. Is there a spot that's missing? Let us know in the comments or take the full survey: <https://survey123.arcgis.com/share/098dd2085b0a474e8e898219311a526b?portalUrl=https://sawc1.maps.arcgis.com>

Ketchikan Pet Waste Spring Survey Results



## Radio PSAs

Radio PSAs were read on KRBD (local Ketchikan public radio station) 4 times per week for 12 weeks (from 6/17/2024 to 9/6/2024) as part of the broader campaign that also addressed septic maintenance and harbor pump out use. The radio estimates it reaches 2000-3000 listeners per day (not unique each day).

1. Pet waste left on the ground is a smelly nuisance, and it pollutes our streams and beaches. In fact, bacteria from pet waste has been found in the water at many of Ketchikan's popular beaches. Do your duty, and keep our parks, sidewalks, and docks clean for everyone to enjoy. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.
2. Walking your dog around Ketchikan? Don't forget to bring your own waste baggie, or use a convenient dog waste station around town – and don't leave anything behind for others to sidestep. Please help keep our environment clean, and walking and playing in Ketchikan enjoyable for everyone. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.
3. Responsible pet owners ALWAYS pick up after their furry friend. Big or small, whoever dealt it... is responsible for cleanup... so no one else has to smell it. Please be a considerate neighbor and a good watershed steward by keeping your pet waste off the ground and out of Ketchikan's waters. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.

## Pet waste signs

Signs designed to attract attention and remind owners to clean up after their pets (Figure 7) were produced and placed in known pet waste nuisance areas, including at harbor ramps, Weis Field, South Refuge Cove State Park, and other locations around town (Figure 8). KGB Public Works, City Port and Harbors, and AK State Parks staff supported and/or assisted with sign design and placement. In total, 21 signs were produced and placed.



Figure 7. Proofs of signs produced by SignPro of Ketchikan.



Figure 8. Pet waste installed at an entrance to South Refuge Cove State Park beach area.

## Friday Night Insights (Jan 17, 2024) and Science Saturday (Jan 18, 2024)

The SAWC Science Director and KIC Environmental Specialist provided a Friday Night Insights talk on Jan 17 that included information about the effects of pet waste on water quality and outreach related to pet waste management. Approximately 20 people attended the live event, and 968 have viewed the recorded presentation, available at <https://www.facebook.com/share/v/1AMnNzJt3b/>.

On Saturday, January 18, the SAWC Science Director and KIC Environmental Specialist hosted activities at “Science Saturday” at the US Forest Service’s Southeast Discovery Center for kids to learn about water quality and macroinvertebrates. Children were able to simulate pollution (including dog waste) in a watershed and “rain” on the model. They watched how it traveled to streams and the ocean without stormwater BMPs to retain it with DEC’s watershed nonpoint source model (EnviroScape). Approximately 22 children and their parents participated.



Figure 9. Left: Children “rain” on the watershed model where they have applied pollutants and stormwater BMPs at Science Saturday at the Southeast Discovery Center.

## Outcomes

### Pre- and post-outreach pet waste surveys comparison

Public feedback about pet waste nuisance areas was solicited via an online survey and informed which areas were selected to be surveyed, along with areas that were known to be contaminated based on previous beach bacteria sampling (e.g. Buggy’s Beach/Rotary Park, South Refuge Cove) (Figure 6). Foot surveys to document pet waste on the ground were conducted once on June 22, 2023, prior to the onset of most outreach activities, and once on October 22, 2024 following most outreach activities. Foot surveys were conducted at Rotary Beach Park/Buggy Beach, at the Thomas Basin docks, the Creek Street tourist area, City Park, Totem Park, Walker Fields, the skate park, Front Street and Water Street, Casey Moran/City Float, Baranof Avenue near Houghtaling Elementary School, and Refuge Cove State Park (Figure 10). SAWC and KIC staff walked the areas, scanning the ground for pet waste. The locations of pet waste were recorded in Field Maps.

The 2023 surveys identified serious waste issues at South Refuge Cove State Park, where beaches are listed as impaired for fecal coliform, as well as in downtown areas. Pet waste was also found in the other surveyed areas, except for Buggy’s Beach (Figure 11). The 2024 survey indicated a marked improvement at South Refuge Cove, the downtown area, and along Baranof Ave., while there was an increase in the number of pet waste observations in the cruise dock area and Buggy’s Beach (Figure 11, Figure 12).

The timing of the surveys may have played a role in the increase observed along the cruise dock area. The 2023 survey occurred during the height of tourist season, when locals may avoid the dock area and clean-up efforts may be more diligent than the offseason. The 2024 survey occurred during the shoulder season, and locals may have been utilizing that area more frequently.

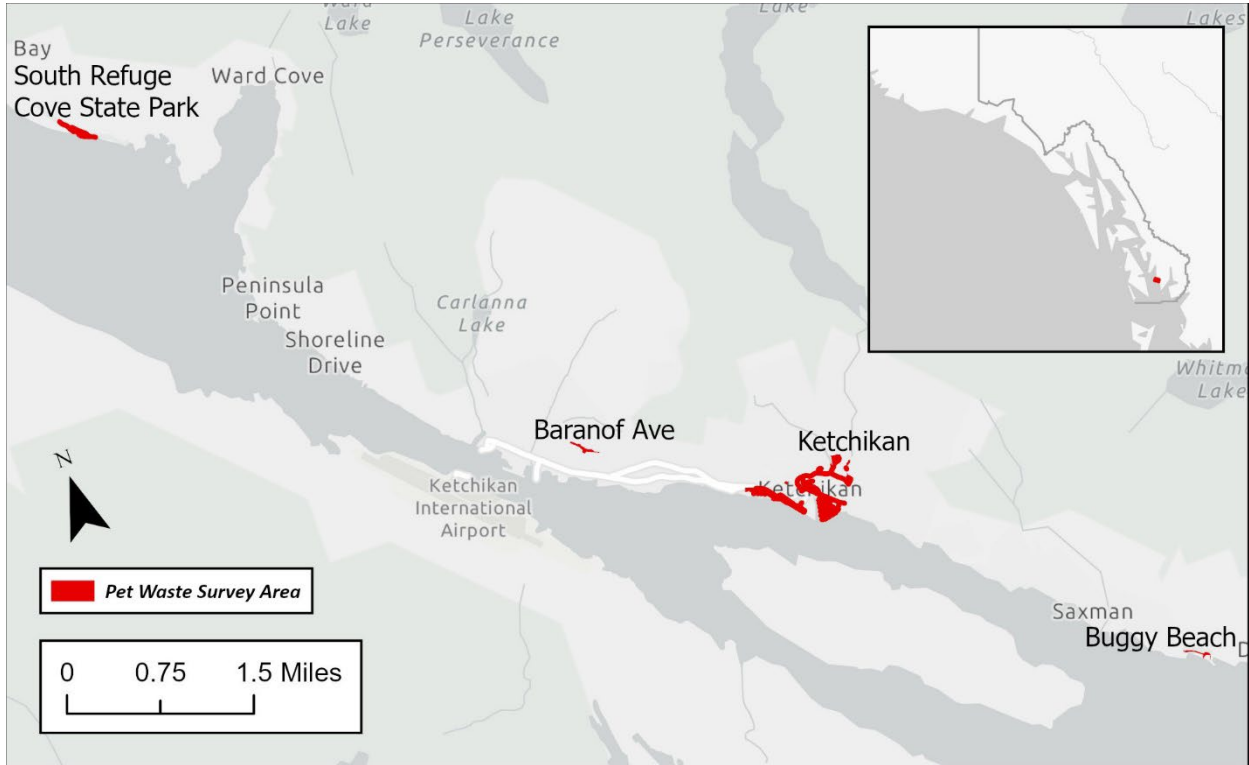


Figure 10. Pet waste survey areas in July 2023 and October 2024.



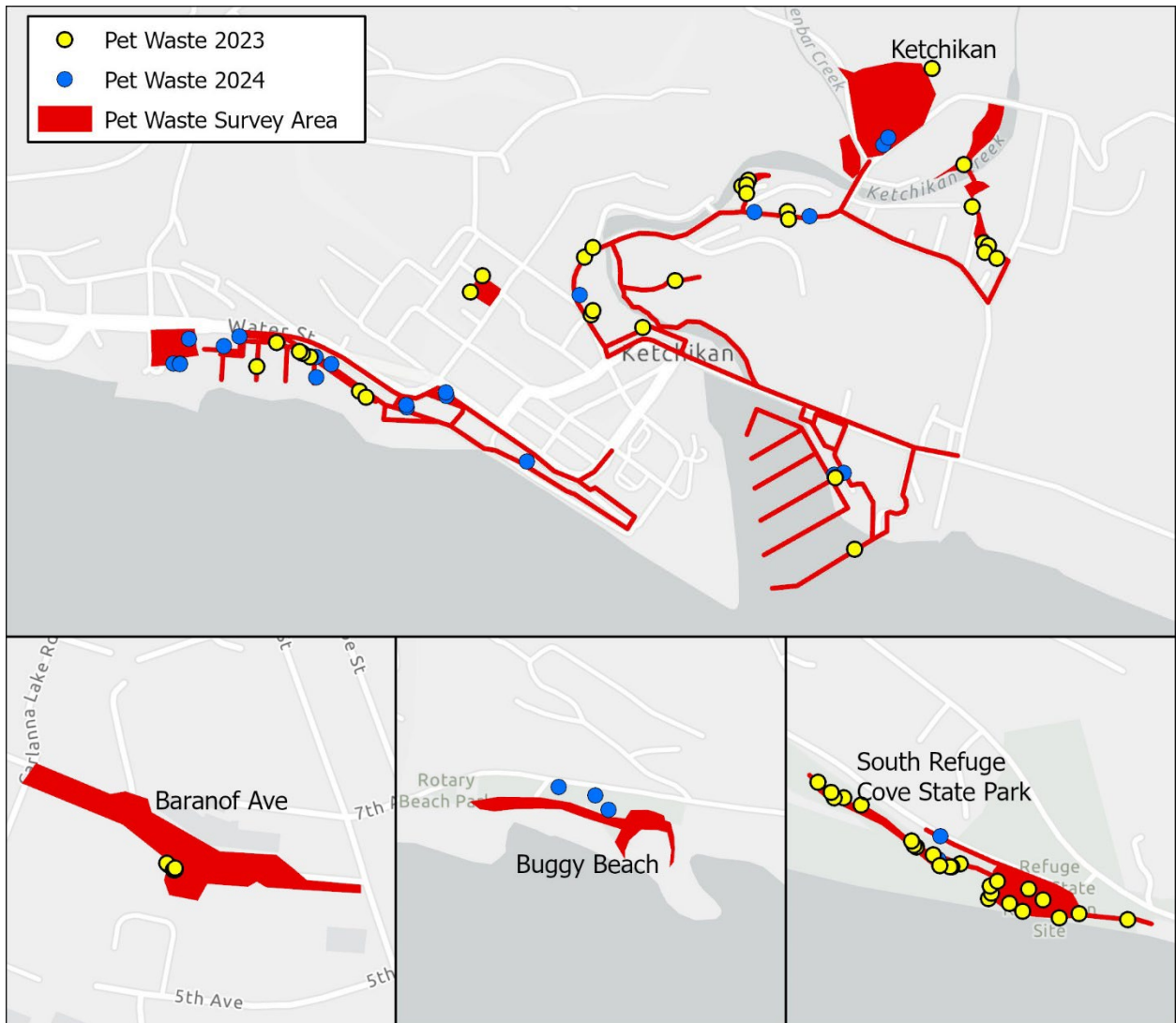


Figure 11. Pet waste observations in 2023 and 2024 in foot survey areas.

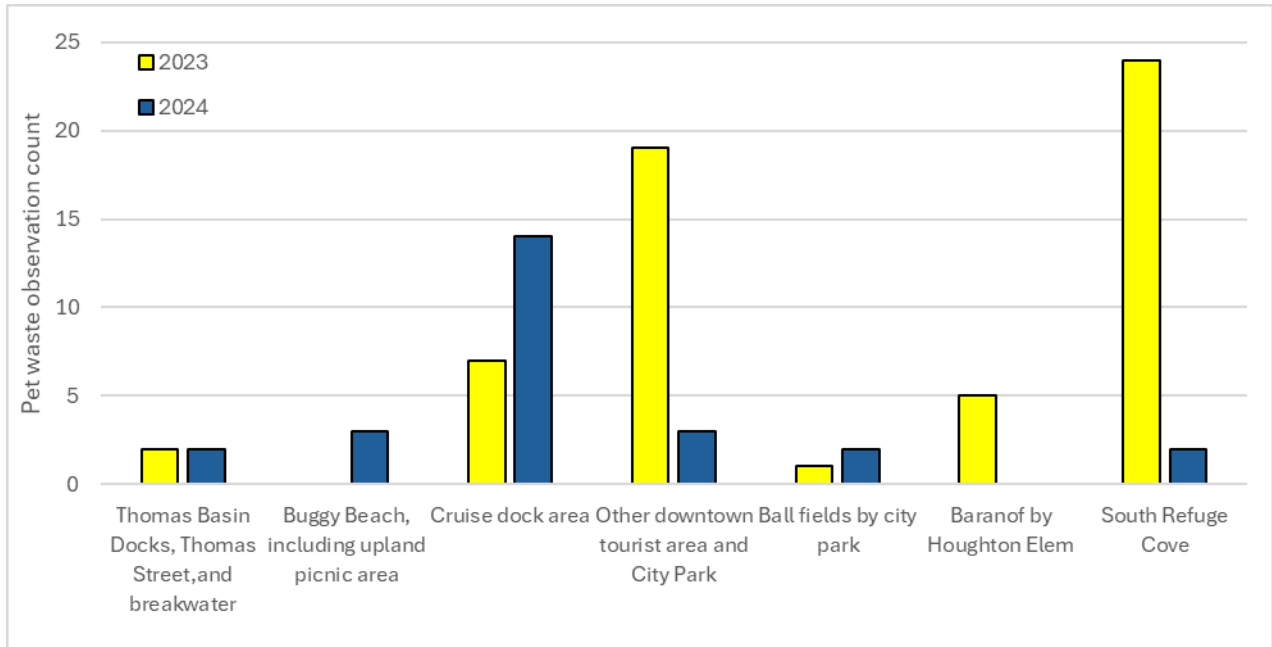


Figure 12. Comparison of pet waste observation in different survey areas from 2023 to 2024.

## Septic Maintenance

Many residents outside the city limits of Ketchikan and Saxman have on-site septic systems to treat wastewater, some of which have marine outfalls. Septic systems are susceptible to decreasing functionality and even failure without regular maintenance and may be contributing to observed fecal bacteria contamination along the Ketchikan coast. The borough currently oversees a septic pump-out program. Residents pay into the program and are entitled to pump-out services every three years; however, some residents do not take advantage of this program. SAWC and KIC developed an outreach plan designed specifically to reach residents who have not utilized the pump-out program in the past, as well as provide general septic maintenance education to all residents who are eligible for the pump-out program. Borough Public Works staff provided past educational materials for use/modification and assist with the outreach campaign.

## Educational Mailers

Property owners (1100) with septic systems were sent a mailer with an educational brochure, magnet with reminders about septic care, and a notice with contact information for Alaska Waste, the company contracted to perform the pumpouts for the Borough (Figure 13, Figure 14, Figure 15). The materials were developed with input from Alaska Waste and the Borough Public Works Department, and were adapted from past educational materials produced by the Borough and Alaska DEC. Addresses of property owners that are part of the pumpout program were provided by the Borough Public Works Department.

## IT MAY BE TIME TO CHECK IN...

Consistent maintenance is required to keep your septic system functioning well.

Pumping out once **every 3 years** is recommended to avoid costly repairs and pollution to local waterways.



**Take care of your septic system and it will take care of you!**

**CALL**  
**AlaskaWaste**  
**(907) 225-5561**

to schedule your pump-out  
**at no additional cost**  
once every 3 years

This project has been funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant (ACWA-23-04) with support from the U.S. EPA.



# IS YOUR SEPTIC SYSTEM OUT OF SIGHT, OUT OF MIND?



## KEEP KETCHIKAN CLEAN!

Septic systems that are underperforming or failing can release fecal waste into groundwater, streams, and the ocean.

Many of Ketchikan's beaches have high fecal bacteria concentrations after heavy rains. Untreated waste can transmit disease, harm water quality, and cause algal blooms.

Make sure you are part of the solution - check your aerator, UV light, and drainfield, and **get pumped!**



### Check and protect your drainfield

Drainfields slowly leach wastewater through soil to treat it. A failed drainfield can flood your yard, contaminate nearby water, and require expensive, smelly repairs!

**Check** for slow drainage, unusual pooled water on the surface and strong odors.

**Protect** your drainfield by not driving or parking over it and having you tank regularly pumped.

### Don't overload your commode!

**Only human waste and toilet paper in the toilet!**



Nothing else - not even flushable wipes!

### Think at the sink!

Don't clog your system with fats or food.

Don't kill the helpful bacteria with bleach, harsh cleaners, or other chemicals.

### THE NO LIST

- fats, grease, oils
- food waste
- coffee grounds
- citrus
- household garbage
- cat litter
- cigarette butts
- flushable wipes
- feminine hygiene products
- medications
- hair, string, floss
- cotton swabs
- hazardous chemicals

Figure 13. Trifold sent to all properties that can participate in the Borough pumpout program.



Figure 14. Magnet sent to all properties that can participate in the Borough pumpout program.



Figure 15. Pumpout reminder and contact notice (printed on hot orange paper) sent to all properties that can participate in the Borough pumpout program.

## Radio PSAs

Radio PSAs were read on KRBD (local Ketchikan public radio station) 4 times per week for 12 weeks (from 6/17/2024 to 9/6/2024) as part of the broader campaign that also addressed septic maintenance and harbor pump out use. The radio estimates it reaches 2000-3000 listeners per day (not unique each day).

1. Have you had your septic tank pumped out recently? If it's been more than three years, it's time! Regular pump-outs are one of the best ways to avoid pollution and costly repairs. Contact Alaska

Waste at (907) 225-5561 to have your septic system serviced for no additional cost, once every three years. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions.

2. Have you inspected your septic system recently? If you've noticed any bad odors, standing water, or slow drainage, your system likely needs to be serviced. Ketchikan homes are eligible for pumping once every three years, for no additional cost. Call Alaska Waste at (907) 225-5561 and get your system back in shape. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.
3. Septic system failures can cost thousands of dollars to repair and pollute nearby groundwater, streams, and beaches. Luckily, Ketchikan homes are eligible for pumping once every three years, for no additional cost, to keep your system working well and your environment clean. Contact Alaska Waste at (907) 225-5561 to schedule your pump out! This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.
4. Grease, food waste, and bleach going down the drain can cause big problems for your septic system - these and other materials can create clogs and prevent proper waste treatment. Contact Alaska Waste at (907) 225-5561, to schedule a pump out for no additional cost, once every three years. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.

A second round of PSAs were read 10 times per week from 12/2-12/27/2024:

1. *(Same as previously recorded PSA)* Septic system failures can cost thousands of dollars to repair and pollute nearby groundwater, streams, and beaches. Luckily, Ketchikan homes are eligible for pumping once every three years, for no additional cost, to keep your system working well and your environment clean. Contact Alaska Waste at (907) 225-5561 to schedule your pump out! This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.
2. *(Same as previously recorded PSA)* Grease, food waste, and bleach going down the drain can cause big problems for your septic system - these and other materials can create clogs and prevent proper waste treatment. Contact Alaska Waste at (907) 225-5561, to schedule a pump out for no additional cost, once every three years. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.
3. *(Same as previously recorded PSA)* Have you had your septic tank pumped out recently? If it's been more than three years, it's time! Regular pump-outs are one of the best ways to avoid pollution and costly repairs. Contact Alaska Waste at (907) 225-5561 to have your septic system serviced for no additional cost, once every three years. This message brought to you by the

Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions.

4. Do you rely on a septic system to treat your household wastewater? If so, you may want to treat it to a pumpout this holiday season. Systems should be pumped once every three years. Contact Alaska Waste at (907) 225-5561 to find out if your septic system is due for a pumpout and have it serviced for no additional cost. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions Grant.
5. Noticed any bad odors, standing water, or slow drainage around your septic system? If so, your system likely needs to be serviced. Ketchikan homes are eligible for pumping once every three years, for no additional cost. Call Alaska Waste at (907) 225-5561 and get your septic system back in shape for the new year. This message brought to you by the Ketchikan Indian Community and the Southeast Alaska Watershed Coalition, funded in part by a Department of Environmental Conservation Alaska Clean Water Actions grant.



## Facebook

12/4/23 – [septic maintenance post](#) on SAWC facebook; estimated reach - 404; engaged 34; also posted on KCC facebook page:



## Friday Night Insights (Jan 17, 2024) and Science Saturday (Jan 18, 2024)

The SAWC Science Director and KIC Environmental Specialist provided a Friday Night Insights talk on Jan 17 that included information about the potential for septic systems to impact water quality and outreach activities as part of this project. Approximately 20 people attended the live event, and 968 have viewed the recorded presentation, available at <https://www.facebook.com/share/v/1AMnNzJt3b/>.

## Outcomes

Alaska Waste pumped septic tanks for 1000 of 1300 potential customers by the end of the project, including many new customers in the final year, which they were pleased with. They reported many property owners calling in response to the mailers, and believe the outreach played a significant role in their success at reaching so many customers this year.

## APPENDIX A. Pet Waste Nuisance Areas Online Survey Results

CreationDate	Or, briefly identify problem areas.	What part of town do you live in?	How often do you see pet waste here?	What time(s) of year is the problem the worst?	Longitude	Latitude
6/1/2023 20:25	Anywhere downtown, including all the docks, Schoenbar Trail, Married Man's trail, Park Avenue. One of the worst areas is the softball fields near North Point Higgins School.	Downtown Ketchikan	Every time I'm here	Year-round	-131.652103	55.3643946
6/1/2023 20:57	Denali Ave, Carlanna, Buren, Baranoff and surrounding neighborhoods		Every time I'm here	Spring,Summer,Fall, Winter,Year-round	-131.686349	55.3593311
6/2/2023 17:43	Baranoff is a main walking road to schools.		Most of the times I'm here	Year-round	-131.689373	55.3583565
6/5/2023 2:04	Parks boardwalk ball fields trails sidewalk	Bear valley	Every time I'm here	Spring,Summer,Fall, Winter,Year-round	-131.652103	55.3643946
6/5/2023 2:11	The docks always have dog poop		Every time I'm here	Spring,Summer,Fall, Winter,Year-round	-131.652103	55.3643946
6/5/2023 2:26	People will use this park as a dog park. It has a fenced in area so they close it and let their dog run a poop anywhere and never clean it and just leave. Than when kids come to play they have to be careful of the poop. Lots of parents don't want their kids to play here because of the poop	Down town	Every time I'm here	Year-round	-131.646814	55.3437355
6/5/2023 2:35	Board walk from berth 3 to berth 4	Forest Park	Most of the times I'm here	Summer	-131.652103	55.3643946
6/5/2023 2:36	I could only leave one rag, but my family and I walk every single day that we can, which is at least 350 days a year. All the downtown areas are just terrible with dog poo all over the place.	Saxman, which is also pretty bad	Most of the times I'm here	Fall,Winter	-131.65246	55.3439453
6/5/2023 3:00	Promenade	West End	Most of the times I'm here	Spring,Summer,Year-round	-131.652103	55.3643946
6/5/2023 3:28	There is one poop bags dispenser on the trail but on this particular stretch there is ALWAYS dog poop on the wood trestle or the wood sidewalk up to the Schoenbar trail. It's left in the middle of the sidewalk and my kids get it stuck in their bike tires. Often pedestrians walk in the middle of the road to avoid the dog poop along the sidewalk. A dispenser and trash at the end of Grant and Bawden might improve it. I have people on camera letting their dog poop on the sidewalk and walk away but was told there was no way to prove they didn't come back later and pick it up.	Downtown	Every time I'm here	Year-round	-131.644094	55.3445015
6/5/2023 3:28		Downtown	Every time I'm here	Year-round	-131.693178	55.363929
6/5/2023 4:20	On the grass where kids play bare foot in the water and adults lay blankets out. Also along the trail, I've kicked it off the trail a lot.	North	Every time I'm here	Year-round	-131.652103	55.3643946
6/5/2023 4:24	On the ball field. Some people even pick it up in a bag then throw it into the woods.	North	Every time I'm here	Year-round	-131.818359	55.4697725
6/5/2023 7:45	The whole downtown area is pretty bad all year round. Also see a lot on bugges beach and refuge cove.  Owners let their dogs run off leash all willy nilly so much of the time probably don't see their dogs leaving dooks on the ground. There are poop bags and garbage cans in all the areas I mentioned, people are just lazy. Start enforcing leash and poop law fines and you might see a difference.	North	Every time I'm here	Year-round	-131.652103	55.3643946
6/5/2023 15:20	Worst spots are the promenade and docks.	Bear Valley	Every time I'm here	Year-round	-131.652103	55.3643946
6/16/2023 19:13	The walk from the Lutheran church to the tunnel, upland side as well as the boardwalk on the water by City Float.	In town	Most of the times I'm here	Spring,Fall,Winter	-131.652103	55.3643946
6/16/2023 20:27	3rd Ave, just off the sidewalk between Jefferson & Copper Ridge	3rd Ave.	Every time I'm here	Summer,Fall	-131.674366	55.3518178
6/16/2023 20:28	Walker field ballparks	3rd Ave	Every time I'm here	Spring,Summer,Fall	-131.635426	55.3442749
6/16/2023 21:06	Softball field which always has dog poop	South	Every time I'm here	Summer	-131.823655	55.4700978
6/17/2023 0:23		I live above the high school, but work downtown	Most of the times I'm here	Spring,Summer	-131.652103	55.3643946
6/17/2023 6:00	Main Street in front of Annabelle's to the tunnel n through it. Most recent was today while there was 6 ships in town. Buggee beach where people swim n picnic always has dog crap everywhere. In the top picnic areas n the beach out to the point.		Most of the times I'm here	Summer,Fall,Year-round	-131.577299	55.3087998
6/17/2023 17:34	My yard, neighbors yards	Carlanna lake	Less than half of the times I'm	Winter	-131.685136	55.358588
6/18/2023 5:38	Both Weiss ball fields, the grass surrounding the playgrounds	North	Every time I'm here	Year-round	-131.818391	55.4698508
6/18/2023 5:40	Trails	North	Most of the times I'm here	Spring,Summer	-131.726115	55.5095394
6/18/2023 5:45			Every time I'm here	Year-round	-131.646437	55.34044
6/19/2023 18:37	Parks Sidewalks Trails Downtown Beaches	In town	Every time I'm here	Year-round	-131.652103	55.3643946



## APPENDIX B. SAWC Newsletter Blurbs

Fall 2023:

### ...and Improve Urban Water Quality

Rebecca Bellmore, Science Director

Ketchikan Indian Community and SAWC have been monitoring water quality, assessing riparian condition, and conducting outreach as part of a concerted effort to document and reduce bacteria pollution in Ketchikan.

Ketchikan's riparian areas range from highly developed in some areas to largely unmodified farther upstream. In some areas, building foundations function as creek banks, while upper reaches feature natural large woody log jams created by trees that fell in from the surrounding undisturbed forest, creating wonderful habitat for resident fish.

*At Right: KIC Natural Resources Department's Iphigenia Arvanitis records information in Field Maps during an assessment of riparian conditions in Carlanna Creek.*

