Chena River Fairbanks Parks' Pet Waste Reduction & Education

Alaska Clean Water Actions Grant #23-09 Final Project Report



Photo provided courtesy of DEC Project Manager, Jeff Fisher



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Project Introduction

Executive Summary

This project focused on reducing pet waste and improving water quality in the Chena River in Fairbanks, Alaska. Through the installation of 11 pet waste stations with educational signs across Fairbanks North Star Borough (FNSB) and Department of Natural Resources (DNR) riverside parks, the project aimed to encourage responsible pet waste disposal. The project has shown early signs of success with measurable reduced pet waste, improved park cleanliness and park-user experience, and increased public awareness. While challenges remain – specifically, in continuing efforts to educate the public on the effect of bacteria from pet waste on fish and wildlife in the watershed, and encouraging consistent station use, and especially during colder months – the project has made meaningful strides in promoting better pet waste management in the community.

Project Overview

This project contributes to Objective 4: Good Water Quality of the 2015 Chena River Watershed Resource Action Plan (WRAP), which calls for the improvement of water quality in the Chena River and its tributaries by addressing nonpoint source pollution, particularly pet waste. The project sought to:

- Install pet waste removal stations and educational signage in high foot traffic parks and pedestrian walkways along the Chena River.
- Reduce pet waste entering the watershed thereby improving water quality in the Chena River.
- Raise public awareness about the environmental impacts of pet waste on water quality, particularly in terms of fecal coliform and E. coli contamination.

Installation Locations

Eleven pet waste stations with educational signage were installed in July and August of 2023. Locations included:

- Chena Riverwalk:
 - Pioneer Park (Paddler's Cove)
 - 2nd Avenue (near Dog Park)
 - Carlson Center
- Griffin Park:
 - East
 - Central
 - West
- Janel Thompson Park

- Chena Small Tracts
- o Graehl Park
- Chena River Wayside
- Tanana River Wayside



Figure 1. Map showing the locations and coordinates of the 11 installed pet waste stations.

Project Tasks

TASK 1: Planning

The planning phase included conducting stakeholder meetings and reconnaissance visits to parks to identify potential station locations, and iterative coordination with DEC staff regarding station locations and signage design. Tanana Valley Watershed Association (TVWA) worked with the Fairbanks North Star Borough (FNSB), the City of Fairbanks (COF), Department of Natural Resources (DNR) and DEC to identify potential locations for pet waste stations and educational signage. The priority goal identified was to place stations in areas with high foot traffic, especially along the Chena River and in urban parks where pet waste accumulation was most visible. Installation locations were finalized after consultation and final walkthroughs with both FNSB and DNR personnel. Station and educational sign design was finalized after review and input from DEC.

TASK 2: Implementation

TVWA installed 11 pet waste stations and educational signs in the above identified parks. The stations were strategically placed to maximize visibility and accessibility, particularly at walkway and park entrance points and high-use areas like the Chena Riverwalk and Griffin Park. The stations and signs were placed according to the finalized map locations in consultation with park maintenance and supervisors. Supplies such as pet waste bags and trash liners were purchased using grant funds and used throughout the project to ensure the stations remained stocked and operational. Upon installation, TVWA staff began conducting regular monitoring and maintenance of the stations, including near-station inspection for feces, waste removal, bag replacement, and monitoring station condition. Service occurred at least every two weeks during the summer and monthly during the winter months.

TASK 3: Analysis and Evaluation

Project analysis and evaluation included three parts: station use metrics, park user surveys and feedback from FNSB and DNR maintenance personnel. TVWA distributed surveys via Constant Contact and Facebook to over 1200 community members, receiving 11 responses from community members. The surveys gauged public perception of pet waste issues, station usage, and overall park cleanliness. The success of the project was measured through various evaluation methods, including:

- The amount of waste removed from the stations (estimated 6600 pounds).
- Survey responses regarding park cleanliness and the effectiveness of the pet waste stations (11 responses).
- Feedback from FNSB and DNR park supervisors and staff (positive feedback and transition plan).

And, through feedback from TVWA maintenance staff and visual surveys, the project team evaluated the effectiveness of the stations and identified areas for improvement.

Results and Findings

Station Use Metrics

Estimated pet waste removal was obtained through monitoring and recording of approximate amount of pet waste in trash bags during bag removal and station maintenance. This was accomplished by tracking the number of pet waste bags stocked, and taking actual weights to establish calibration weights, which was conducted in November 2024. These measurements were cross referenced and further calibrated for making data-driven approximations of total pet waste removed from sites using Environmental Protection Agency (EPA) estimates, and metrics recorded in other pet waste removal campaigns in the Pacific Northwest.

Based on the data collected at the 11 sites it is estimated that the stations successfully helped to remove a total of at least 6,600 pounds of dog waste from the parks and walkways. This total includes:

- 1,683 pounds removed via trash receptacles.
- An approximate 4,917 pounds removed through bags issued at station dispensers (based on average of weight of bags collected at sites and adjusted for loss).

This total represents the estimated amount of dog waste that was kept out of the watershed, contributing to a cleaner environment and improved water quality in the region.

Methods for analysis

There are two methods use for generating the total estimates of pet waste removed:

- 1. During station maintenance, trash receptacle bags were removed, and the total volume of pet waste was calculated through visual evaluation of percent of total volume that was pet waste versus other trash.
- 2. During removal of bags in November all pet waste bags within trash bags were individually weighed and data obtained was used to calibrate weights, based on the total number of bags issued from dispensers (calculated by recording number of bags restocked, and using data obtained through calibration weights) to determine the total amount of pet waste removed from near-river pedestrian areas.

Of note, over repeated visual observations most pet waste bags in the trash receptacles are not the bags issued at the stations. The use pattern appears to be people using the stations to throw away pet waste picked up using their own bags; and, then people taking bags from the dispenser that are thrown away in other trash cans. A challenge in establishing the estimates above is that the bags taken away from the 11 stations could have been discarded or used and thrown away at locations not within the immediate parks or riverwalk. Meaning that a portion of the bags issued from the dispensers may be not used at all (thrown away or lost without picking up pet waste) or used to clean pet waste that would not be entering the watershed via immediate runoff. This factor makes estimating the number of pounds removed from the waterway difficult. To account for these phenomena, bags issued was discounted to 66% to account for bags that may have been used to pick up/remove waste from areas that are non-watershed adjacent. The effect being that the bags issued converted to estimated pounds, accounts for loss by multiplying the total number issued by 2/3 then by the calibration weight to reach an estimated total.



Figure 2. Graph of combined station metrics, Bags Issued Converted to Estimated Pounds (dispenser) and Estimated Pounds Removed via Trash Bags Removed (receptacle).



Figure 3. Graph displaying Bags Issued by Station, actual recorded number of bags issued from dispensers, not adjusted.



Figure 4. Graph displaying Estimated Pounds Removed by Receptacle, tallied visual estimates of volumes from receptacles, adjusted for trash.

Survey Data Analysis

All survey responses received were from park visitors who are dog owners. While the survey was distributed to over 1200 people in the Tanana Vallely Watershed, only 11 responses were collected at the writing of this report. The low response rate may result in a self-selection bias, with dog owners and individuals more concerned about pet waste management as more likely to respond. A higher response rate or more targeted outreach could provide more salient insights.

The survey conducted as part of this project provided valuable insights into the effectiveness of the installed pet waste stations and their impact on park cleanliness, user satisfaction, and environmental awareness. The feedback from the 11 respondents offers both quantitative and qualitative data that help evaluate the success of the project and identify areas for improvement.

The survey consisted of thirteen questions and was estimated to take 2-5 minutes long to complete. Those who completed the survey had the option to participate in a drawing for a \$50 gift certificate to Cold Spot Feeds or the Co-Op Market in Fairbanks.

Station Usage and Perceived Impact

One hundred percent of respondents indicated that they walk a dog in a park with a pet waste station installed by TVWA. This unanimous response indicates that the participants actively engaged with the areas being monitored. This demographic detail reinforces the validity of available feedback regarding station usage and park cleanliness. The frequency at which survey participants used these parks/riverwalk varied widely, indicating a variety of user-types.



Multiple survey respondents indicated using more than one park/ station. Parks that received the highest traffic from respondents were along the Chena Riverwalk near Carlson Center and the 2nd Avenue Dog Park, and then Graehl Park.



Which Park(s) do you use along the Chena River?

A majority (55%) of respondents, indicated a noticeable reduction in dog poop on the ground in the park(s) and along the riverwalk over the past year. This feedback highlights that the stations are having a positive impact on cleanliness, with users observing a cleaner environment due to the availability of the stations. The visible reduction in pet waste supports the idea that the stations are fulfilling their intended purpose.

Further reinforcing the positive effects of the stations, all 11 respondents (100%) reported a better experience during their walks with the pet waste stations in place. This indicates that the presence of the stations not only improves park cleanliness but also enhances user satisfaction. Respondents appreciate the convenience and cleanliness that the stations provide, making their park visits more enjoyable.

Frequency of Station Use

All 11 respondents (100%) reported using the pet waste stations, which confirms that the stations are being utilized as intended by pet owners, even if this is a subset of the total population who uses the parks/riverwalk. However, the reported frequency of use varied. Most respondents indicated that they use the stations seldomly, once in a while or only when they forget their own bags. This suggests that while the stations are valuable, respondents still use their own bags, alluding to the fact that respondents, and station users, may be biased toward those individuals already engaging in cleaning up after their pets.



Why Respondents Use the Stations

A closer look at the mix of usage revealed that respondents used the stations for different purposes: some for the bag dispenser and others for the trash receptacle. This combination

of uses indicates that the stations may be fulfilling their intended functions.



How do you use/ interact with the stations? 11 responses

The narrative feedback provided by respondents reveals several key motivations for using the pet waste stations. The reasons include:

- 1. Convenience: Many respondents appreciated that the stations were conveniently located along the walkways, making it easy to dispose of waste during their walks.
- 2. Preparedness: For respondents who walk in the area or typically bring their own bags, the stations served as a back-up when they forgot their own bags or needed a place to dispose of waste mid-walk.
- 3. Respect for Others: Several respondents mentioned using the stations out of respect for other walkers. They viewed the stations as a way to ensure a cleaner environment for everyone, especially in shared spaces.
- 4. Waste Management: Some users, particularly those with larger dogs, found the stations helpful for not having to carry waste far. This was particularly valuable for managing waste from larger breeds that generate more waste.
- 5. Environmental Responsibility: Several respondents emphasized their commitment to keeping the watershed clean and doing their part to reduce environmental pollution by using the stations.

Overall, the responses show that the stations are perceived as helpful and convenient, with most respondents seeing them as a back-up or complement to their own waste bags. For many, the stations provided an opportunity to maintain cleanliness in a shared space while helping to protect the environment.

Impact of Educational Signage

One hundred percent of survey participants indicated that they found the educational signage understandable and/or informational. Forty-five percent of the respondents (n=5) indicated that they learned something new from the signs. This suggests that the signage

played an important role in raising awareness about the environmental impacts of pet waste. When asked what they learned from the educational signage, respondents indicated learning about:

- 1. Impact on Waterways: One respondent learned that fecal coliform can be transmitted to waterways via pet waste, emphasizing the connection between pet waste and water quality.
- 2. Chinook Habitat: Another respondent learned about the significant Chinook spawning habitat in the Chena watershed and how pet waste can affect it.
- 3. Effects on Aquatic Life and Wildlife: Some respondents learned about how pet waste runoff can negatively impact aquatic life, further reinforcing the importance of responsible pet ownership.
- 4. Broader Environmental Impact: Several respondents noted that pet waste affects the broader watershed, not just the immediate walking areas. This increased their awareness of the wider environmental implications of not properly disposing of pet waste.

This feedback highlights the effectiveness of the signage in educating park users about the far-reaching environmental consequences of pet waste beyond the immediate area and suggests that the educational component of the project is successfully raising awareness and fostering a sense of responsibility among park visitors.

In summary, the survey responses provide strong evidence that the project is achieving its objectives of improving park cleanliness, enhancing user satisfaction, and increasing awareness of the environmental impacts of pet waste. The educational signage has proven to be an effective tool for raising awareness about the broader environmental impacts of pet waste. Moving forward, continued outreach and strategic adjustments will help maximize the impact of the pet waste project and further reduce pet waste in the Chena River watershed.

Feedback from the community, as reflected in the survey results, played a key role in evaluating the effectiveness of the station placements. The feedback also reinforced the importance of strategically placing stations in high-traffic areas to ensure maximum engagement. Stations installed in areas like Chena Riverwalk and Graehl Park were particularly well-received, as these locations attract a significant number of dog walkers.

Data from Maintenance Staff & Interviews

Direct feedback from park supervisors via in-person, phone and email communication was sought to evaluate the effectiveness of the station from park maintenance staff perspectives. Through correspondence, the overall perspective from these individuals was that stations have been well received, are located in places that work well (are visible and accessible to path users) and have not posed any maintenance problems or negative issues.

Discussion

Station use metrics, park user survey, and feedback from maintenance personnel all indicate that the pet waste stations have been successful in removing dog waste from walkways and parks along the Chena River, thereby helping to improve water quality and park user satisfaction. Early consultation on station placement proved to be very important. During reconnaissance visits prior to installation, preexisting stations and areas of high traffic with pet waste lingering on the ground were verified. Considerable time was spent to install new stations in ways that would complement existing pet waste management infrastructure and address problem areas. The high use of stations along the riverwalk (Carlson, 2nd Ave, and Janel Thompson), and Graehl Park, and Chena Small Tracts allude to dog owner walking behavior and validate the placement of stations at these locations. While the Chena and Tanana Wayside locations do receive foot traffic, and have areas where dogs defecate, the lower usage rates may mean that the educational signage is the more impactful resource at these boat launch locations.

Through survey analysis it is apparent that the dog owners with the most buy-in to cleaning up pet waste are people who are already doing it. Encouraging station use from those who do not already use them, may prove difficult. And encouraging use throughout the cold winter months may be impractical, meaning spring breakup will still be a time of noticeable quantities of dog waste along parkways.

Finally, based on survey results, there is still clearly a need to continue educating the public about the importance of the wildlife corridor that the Chena River provides and the detrimental effects of fecal coliform on the watershed.

Project Challenges

Vandalism and Accidental Damage: One station at Griffin Park East suffered intentional vandalism to the trash receptacle, while another at Janel Thompson experienced accidental damage to the trash receptacle. Clean up for these incidents were addressed by maintenance staff, and replacement has not yet occurred at this time.

Winter Conditions: During the colder months, snow and difficult winter conditions occasionally made access to stations more challenging. Maintenance staff worked to shovel out access to the stations to ensure they remained functional, particularly during times of heavy snow or when walkway approaches were obstructed.

Conclusion

This project has successfully contributed to reducing pet waste in the Chena River watershed. The installation of 11 pet waste stations and educational signs has made a measurable impact on both park cleanliness and public awareness, with an estimated removal of approximately 6600 pounds of dog waste. The stations have helped to reduce

the amount of dog waste left in public spaces, which in turn contributes to improving water quality in the Chena River and its tributaries.

While challenges remain, particularly in the winter months when access to stations becomes more difficult and continuing public engagement, the project has laid a strong foundation for improving environmental stewardship and encouraging responsible pet waste disposal in the community.

Moving forward, sustained maintenance and expansion of the station network will be crucial to maintaining the success of this initiative. Long-term water quality monitoring and community feedback will inform future strategies, ensuring that the project evolves to meet the needs of both residents and the environment. By building on these early successes, the pet waste project has the potential to serve as a model for other communities aiming to address nonpoint source pollution and improve the health of local watersheds. Additionally, educational outreach through signage and targeted community engagement remains a critical element in fostering environmental responsibility and increasing station usage. The lessons learned from this project, including strategic station placement and user education, will help shape future efforts to expand this initiative and increase its effectiveness across the region. With continued support, Fairbanks can reduce pet waste in the watershed, improve water quality, and serve as a leader in responsible pet waste management.

Appendix A

Survey Questions

- 1. Do you walk a dog (or dogs) in a park with pet waste stations that were installed by TVWA?
- 2. Which Park(s) do you use along the Chena River?
- 3. How often do you visit the parks you selected above?
- 4. Do you feel there has been a noticeable reduction in dog poop on the ground in the park or along the riverwalk over the past year?
- 5. Do you have a better experience during your walks with the pet waste stations in place?
- 6. Have you used the pet waste stations?
- 7. How often do you use the stations?
- 8. How do you use / interact with the stations?
- 9. In your own words, why do you use, or not use the stations?
- 10. Do you find the Scoop the Poop signs understandable and/or informational?
- 11. Have you learned anything from the educational signage?
- 12. If you selected yes above, what did you learn?
- 13. Are there any other areas near the Chena River that could benefit from new/additional pet waste stations?

Appendix B

Measuring Impact on Water Quality:

This project contributes to improving the water quality of the Chena River by reducing pet waste, a known source of fecal coliform and E. coli pollution, from entering the watershed. In past projects TVWA conducted water quality sampling on the Chena River in 2021, and DEC continued bacteria monitoring in 2024 that will continue in 2025. Findings from these sampling efforts may be valuable in assessing this project's overall impact.

2021 Bacteria Sampling Outcomes

In 2021, TVWA, building on prior sampling efforts by DEC, collected data from two Chena River sites (upstream and downstream of the urban center). Bacterial levels, particularly E. coli and fecal coliform, were as follows:

- E. coli:
 - Site 1 (downstream) Range: **14.6 290.9** MPN/100mL
 - Site 2 (upstream) Range: **10 125.9** MPN/100*m*L
- Fecal Coliform:
 - Site 1 (downstream) Range: 17.7 222.4 MPN/100mL
 - Site 2 (upstream) Range: 2 58.3 MPN/100mL

These results indicate higher bacterial counts in the urbanized, downstream areas, which correlates with higher human activity and potential pet waste sources.

DEC's 2024-2025 Sampling Plan

To further monitor water quality, and specifically fecal coliform and E. coli, in the Chena River DEC is conducting a 2024-2025 Chena River water quality sampling plan. This plan built upon the Watershed Health Assessment and Data Analysis (WHADA) from 2020 and the TVWA water quality sampling from 2021. Three sites were selected to help track spatial variability of pathogens in the river and sampling is occurring in 18 times each year at all locations to understand temporal variability. DEC's sampling plan included the addition of Microbial Source Tracking (MST) sampling to analyze whether E. coli and fecal coliform levels are associated with human, dog, or bird sources. Data and results from this plan, once available, will help identify whether the pathogens are coming from anthropogenic sources or from natural wildlife and help identify future actions to be taken to improve community pet waste management.

Appendix C

Comparing with other Pet Waste Regional Campaigns

The pet waste project in Fairbanks was informed by and built upon lessons learned from similar initiatives around the state. Specifically, campaigns led by the Anchorage Waterways Council (AWC), the Southeast Alaska Watershed Coalition (SAWC), and the Copper River Watershed Project (CRWP) provided valuable insights into both successful strategies and challenges that helped contextualize the approach taken in Fairbanks.

Anchorage Waterways Council (AWC) - Scoop the Poop Campaign

The AWC's Scoop the Poop campaign had focused heavily on public education and strategic station placement. In Anchorage, stations were placed near dog parks and entrances to popular parks to maximize visibility and usage. AWC's campaign was particularly successful due to its emphasis on community outreach, which involved partnerships with local businesses and public events. The initiative saw high engagement due to the dense urban setting, where stations were concentrated in areas with consistent foot traffic, making it easier to monitor and maintain their usage.

The success of Anchorage's program demonstrated the importance of targeted station placement and public outreach. These same strategies were considered when determining the placement of stations along Fairbanks' Chena Riverwalk and Griffin Park.

Southeast Alaska Watershed Coalition (SAWC) - Regional Education Efforts

The SAWC, while not running a dedicated pet waste reduction campaign, has been instrumental in promoting watershed health through public education and bacteria management strategies, such as the Ketchikan Bacteria Management Strategy. This plan emphasized the importance of pet waste disposal and its direct link to water quality. SAWC's work highlighted the value of community-wide education and long-term engagement in reducing pet waste pollution, and their approach informed how TVWA could expand outreach efforts to broader community members.

SAWC's strategies also underscored the importance of integrating urban and rural efforts, particularly in areas where pet waste might not be as visible but still poses a threat to water quality. For Fairbanks, adopting a broader watershed-focused approach would help address pollution sources beyond just the most urbanized areas.

Copper River Watershed Project (CRWP) - Pet Waste Reduction in Cordova

The CRWP also launched a pet waste reduction campaign, focusing on community involvement and collaboration. In Cordova, the CRWP used educational signage and partnered with community events to raise awareness about the connection between pet waste and water pollution in the Copper River watershed. The campaign focused on local education and reinforced the importance of community stewardship to reduce pet waste in critical water bodies.

The CRWP's experience in Cordova offered insight into how rural geography and low population density posed unique challenges for station placement and maintenance. For example, Fairbanks faced somewhat similar issues regarding winter access to stations and maintenance consistency in more remote parks. Similar to that of SAWC, CRWP's approach helped TVWA consider how to focus on local education as a way to generate communitybased action to address more diffuse pet waste problems versus centralized concentrations.

Comparison to Fairbanks' Pet waste Project

The pet waste project in Fairbanks shared many of the goals of these campaigns in other regions, particularly the aim of reducing nonpoint source pollution from pet waste. By reviewing the approaches taken by AWC, SAWC, and CRWP, several important insights were applied to TVWA's Fairbanks strategy:

- 1. Strategic Station Placement: As seen in AWC's success, placing stations in hightraffic areas such as the Chena Riverwalk and Griffin Park maximized visibility and station usage. Lessons learned from Anchorage informed Fairbanks' station placements, ensuring stations were in areas that would see the most foot traffic, even if those areas were spread across multiple parks.
- 2. Public Education and Outreach: AWC's successful use of educational signage and partnerships with local businesses highlighted the importance of awareness campaigns. This pet waste project integrated similar signage efforts, while also considering lessons from CRWP's community-driven outreach strategies in Cordova. These efforts, paired with survey responses, reinforced that continued education would be key to expanding station use and ensuring ongoing engagement.
- 3. Seasonal and Geographical Challenges: The winter access challenges faced by Fairbanks mirrored the issues faced by all campaigns in Alaska. To address this, the project ensured that maintenance staff were equipped to handle snow and try to ensure access. Encouraging station use during colder months, and encouraging pet waste clean up in lower density areas will require continued efforts.

Appendix D

List of Post Grant Maintenance Options

Fairbanks North Star Borough (FNSB) has consistently expressed their ability to take over maintenance of stations located in their parks and has recently reiterated their intent to continue maintenance. Department of Natural Resources has also verified its ability to handle maintenance for their two stations moving forward.

Fairbanks Stormwater Advisory Committee (FSWAC) has approved a budget item in the MS4 contract with TVWA to include portable pet waste bag dispensers in their outreach materials budget.

TVWA will continue to supply the pet waste station bags and trash bags that remain, which were purchased using grant funds. TVWA will assist in maintenance transition and will garner volunteer and donation support where necessary. TVWA will continue to conduct outreach and public events regarding the stations and the Scoop the Poop campaign. TVWA can conduct minimal repair on stations where needed and replace educational signs if needed. TVWA does not have additional funds for dispensers or receptacles at this time.

Primary contacts include:

- FNSB: David Jones and Kimberly Diamond
- Pioneer Park: Lee Williams and Terrell Echols
- DNR: Ian Thomas