2024 Anchorage Watershed Perception Survey

Prepared for Watershed Management Services, Municipality of Anchorage

By Anchorage Waterways Council

May 15, 2025

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I. Executive Summary

The "*2024 Stormwater Education Public Perception Survey*" was developed and completed to satisfy a requirement for APDES Permit No. AKS-052558 held by the Municipality of Anchorage (MOA) and the Alaska Department of Transportation and Public Facilities (AKDOT&PF). This is the fourth watershed perception survey since 2010 completed by the Anchorage Waterways Council (AWC) and will wrap up the permit period from 2020 through 2025.

Areas where improvements occurred include:

- The number of people acknowledging that they live in a watershed has increased from previous surveys.
- A higher percentage of respondents think that waterways are in the "good" to "very good" category than seen in previous surveys.
- The top three "perceived threats" to waterways are pet waste, yard chemicals, and vehicle leaks. Pet waste has been first or second in all four previous surveys.
- The primary actions that respondents see as very important for managing are: trash/litter, pet waste, and yard chemicals.
- Respondents see their own role, e.g. property owners, in improving water quality as a high priority.
- A small majority (51%) acknowledged that stormwater flows into waterways untreated.
- Cleaning up pet waste on trails and at residences is improving.
- Consciousness has increased dramatically concerning the impact of yard chemicals on local creeks and lakes.
- Residents are showing better articulation in describing how "stormwater runoff" impacts the health of waterways.
- Involvement in environmental organizations is high.

The places where education and outreach has focused in the past and will continue into the future due to their importance for managing the effects of stormwater runoff include:

- pet waste pickup,
- vehicle washing and repairs,
- hazardous waste disposal,
- green waste disposal,
- snow disposal,
- and yard chemical runoff (ice melt products, fertilizers, herbicides and pesticides).

Added to these topics will be a greater emphasis on green infrastructure (GI) as we move to future methods.

II. Introduction

The Municipality of Anchorage (MOA) and the Alaska Department of Transportation and Public Facilities (AKDOT&PF) are co-permittees (known as the "permittee") with authorization to discharge, under the National Pollutant Discharge Elimination System (NPDES), from all separate municipal storm sewer system (MS4) outfalls to the MOA's receiving waters as listed in the permit no. AKS-052558. As part of

the permit compliance for Public Education and Outreach, the MOA's Watershed Management Services (WMS) contracted with the AWC on December 4, 2020 for certain services.

Part of the AWC agreement is based on Parts 3.6.1 of the permit and specifies that an ongoing education and public involvement program aimed at residents, businesses, and industries shall be implemented within the first year. Over the five-year permit, the goal of the education program has been to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. Changes in behavior and awareness are to be measured through various means including a watershed perception survey that has been completed roughly every 4-5 years.

There are several stipulations and suggestions in the permit on the types of information that each group should be provided with. Some of these include the impacts of stormwater runoff, impervious surfaces and best management practices (BMPs) for residents, property managers, landscapers, and businesses (particularly home-based and mobile), and a reduction in polluting agents such as fertilizers, animal waste, and vehicle fluids.

The education program that has been created was carried out through the following components:

1. design and conduct a survey and tabulate the results
2. develop a matrix of target audiences and messages based on survey results and permit requirements
3. develop outreach materials aimed at the target audiences and messages,
4. deliver the educational materials
5. evaluate the success of the educational program through a follow-up survey

This report describes the last component of the educational and outreach plan.

III. Survey Design

The 2024 survey encompasses residents within the entire 1,961 m^2 Municipality that is comprised of 28 watersheds, however, most of the survey respondents are from the urban area known as the Anchorage "bowl". The 369 respondents represent a good demographic cross-section of the population of Anchorage, including gender[1], age, length of residency, and education. The primary goal then and now has been to use the information to enhance AWC's comprehensive public education and involvement plan to focus on those problem areas and to continue to meet the permit requirements.

To meet the standard of a 95% confidence level with a ±5% error, 380 responses were needed, and the 2024 survey responses tallied 369 respondents. The 2024 population estimate for residents >20 years old in the Municipality is 214,106[2].

Not every survey was completely answered as a few respondents left some questions blank. In the "open-ended" questions, some respondents would place answers that were not useful or were a

[2] https://www.neilsberg.com/insights/anchorage-ak-population-by-age/

"clever" or sarcastic remark. Accordingly, there is some variation in the respondent numbers for each question. Regardless, AWC is confident that the 369 respondents were a good cross-section of Anchorage residents.

IV. Methodology

AWC used much of the methodology that was employed in the 2010, 2014, and 2020 surveys with some minor alterations and additions. The goal was to prepare a survey that was as similar as possible to previous surveys in order to measure and compare Anchorage residents' views of the effectiveness of past education and outreach on Anchorage watersheds and to make recommendations on how best to reach "audiences" to improve their knowledge of and practices in the future. A few questions needed some updating, and some new ones were added. The average time to complete was 20+ minutes which is rather long, and this was borne out in comments and complaints. For future surveys, it is suggested to streamline it which will hopefully increase the number of respondents or pursue another way to solicit responses.

The respondents to the 2024 survey represent a broad and, we think, indicative cross-section of Anchorage citizens' understanding of water quality and watershed issues within the MOA. The 2024 survey again used the Survey Monkey web-based program. Survey Monkey tabulates all of the answers, but a few questions that allow multiple or open-ended choices had to be hand tabulated. A major effort was expended to get the surveys to as broad a section of the Municipality as possible through a variety of social media outlets.

Following are the 40 questions and responses from the 2024 survey, and, in many cases, there is a comparison of them to previous surveys.

V. Questions and Responses

Question 1. To participate in this survey, you must be a resident or have a business within the Municipality of Anchorage. This is determined by your property's zip code (not a P.O. Box). Please select your zip code to proceed.

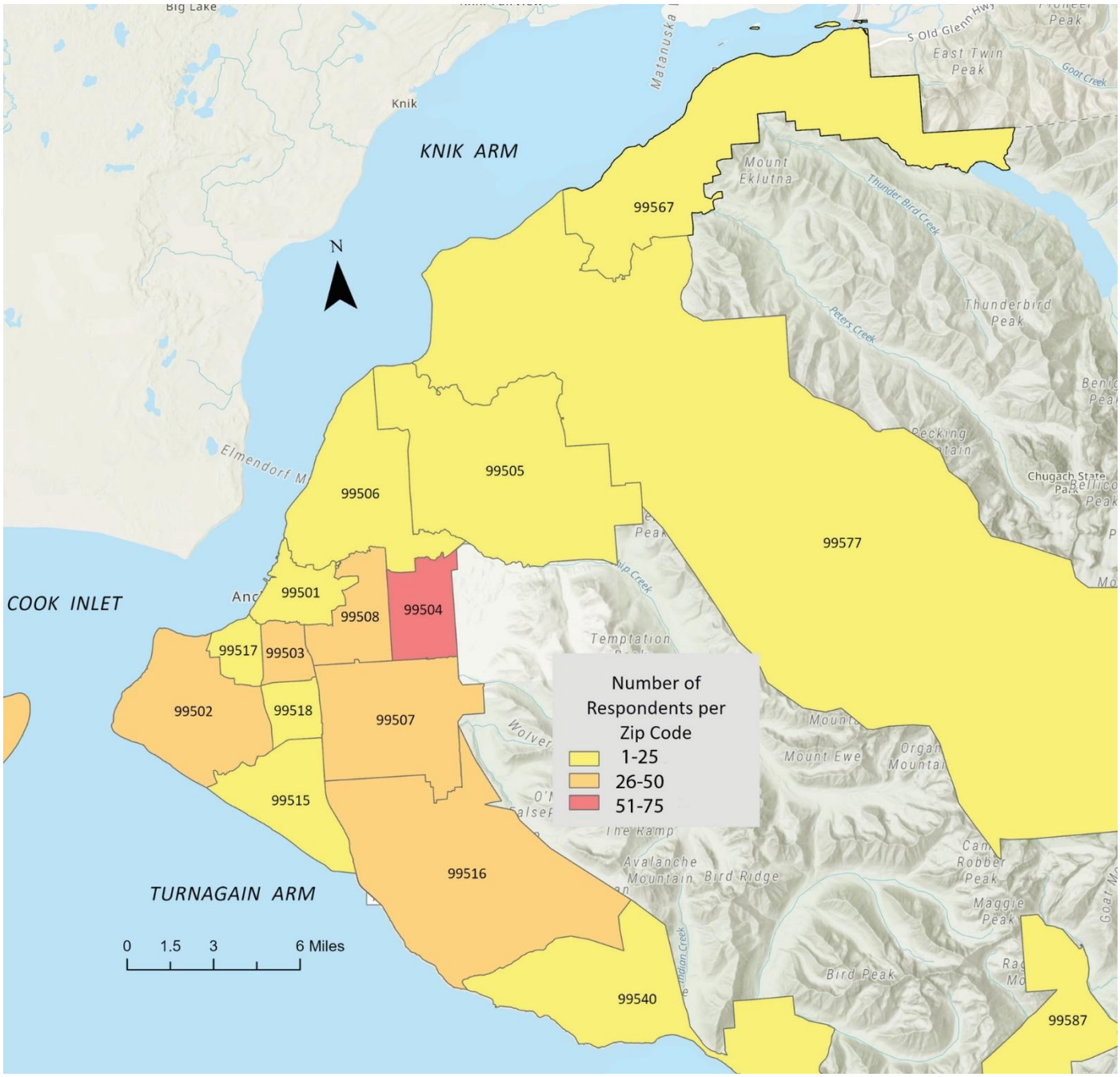

Figure 1 Municipality of Anchorage zip codes and number of respondents per zip code

Zip Code	Responses	Percentages
99501	21	5.7%
99502	26	7.1%
99503	45	12.2%
99504	72	19.6%
99505	10	2.7%
99506	9	2.4%
99507	44	11.7%
99508	44	12.0%
99513	6	1.6%
99515	10	2.7%
99516	26	7.1%
99517	18	4.9%
99518	14	3.8%
99540	5	1.4%
99567	6	1.6%
99577	10	2.7%
99587	3	0.8%
TOTAL RESPONSES	369	100.0%

Table 1 MOA zip codes with number and percentage of survey respondents.

Question 2. Do you live in a watershed?

This has always been an important question. In 2024, it was modified so that respondents could only make a choice between "Yes" and "No". "Not sure" was removed from the answer choices which had been used in 2014 and 2020. It is very rewarding to see that 88% (Figure 2) of the respondents state that they live in a watershed. This is up 27% from the initial survey in 2010. Interestingly, when "Not sure" was added to the 2014 and 2020 surveys, the "Yes" responses were lower.

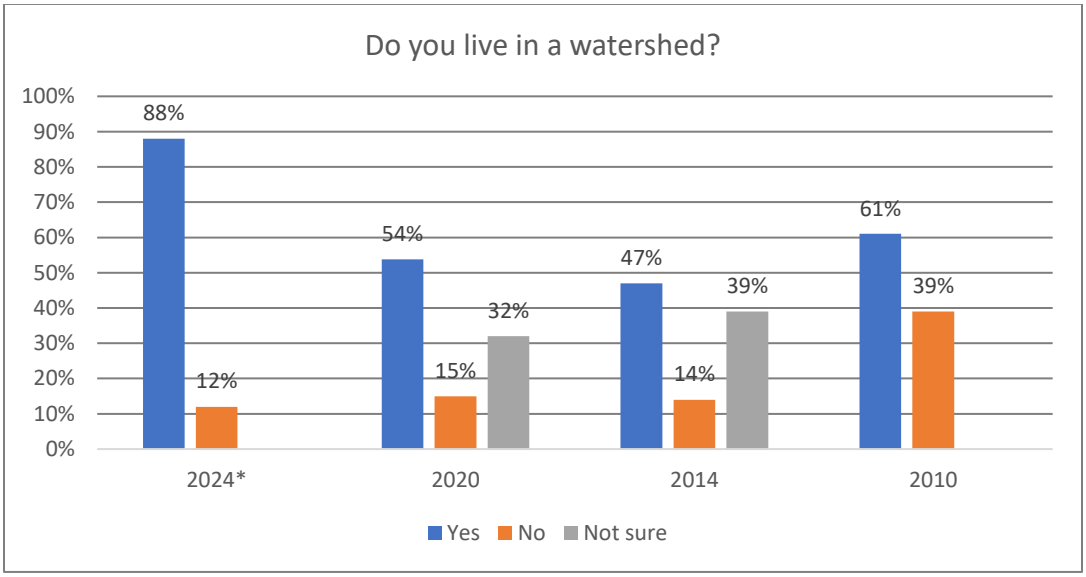

Figure 2 Do you live in a watershed? 2010, 2014, 2020 and 2024 (2024 did not provide "Not sure" as a response choice nor did 2010).*

Question 3. About 75% of the Earth's land surfaces are in a watershed, the remaining areas are not. (True/False)

This is a new question that dug deeper into the understanding of watersheds as it aimed to reinforce the idea that "ALL" the land on Earth is part of a watershed. Sixty-nine percent responded true and 31% said false (Figure 3). Unfortunately, while the majority did not answer correctly, the addition of this and other "challenging" questions actually elicited comments from the participants in wanting the survey's "answers" which will be provided on AWC's website (anchoragecreeks.org) when this report is finalized. It is important to use these opportunities to educate as well as derive information.

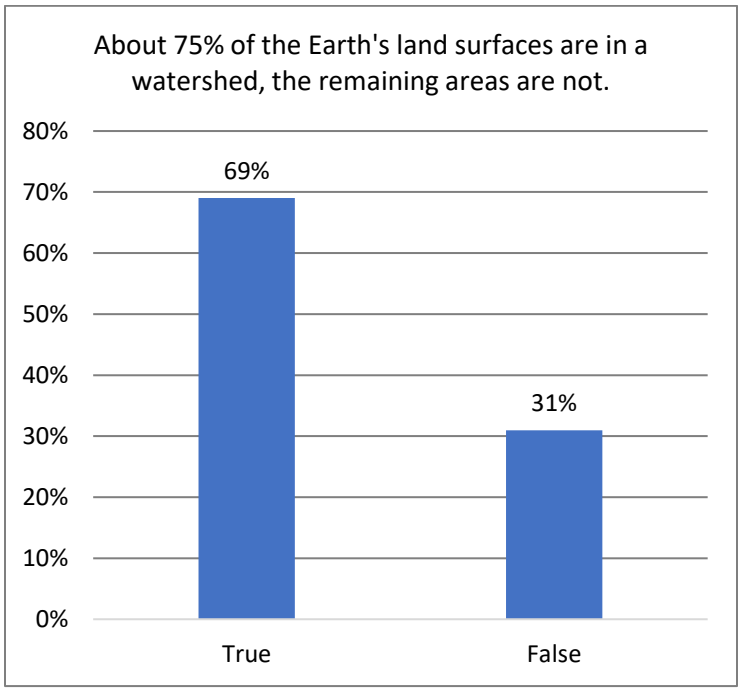

Figure 3 About 75% of the Earth's land surfaces are in a watershed, the remaining areas are not. (True/False) 2024

Question 4. Impermeable surfaces, e.g. roads and parking lots, are not part of a watershed because rainfall cannot penetrate them. (True/False)

This question, as the previous one, is new and was intended to bolster the understanding of a watershed. The higher number of false responses confirms that the understanding of the permeability and composition of watersheds is relatively good (Figure 4).

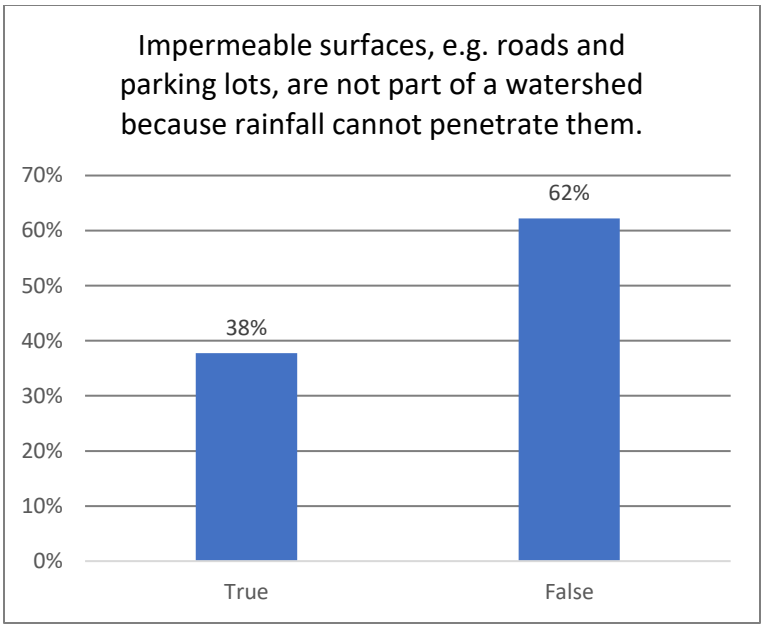

Figure 4 Impermeable surfaces, e.g. roads and parking lots, are not part of a watershed because rainfall cannot penetrate them. (True/False) 2024

Question 5. A watershed includes surface water, e.g. lakes, streams, reservoirs, and wetlands, and all the underlying groundwater. (True/False)

This is the last of the new watershed questions and the responses were nearly 100% correct. The inclusion of "groundwater" in the statement might have caused a few to question it (Figure 5).

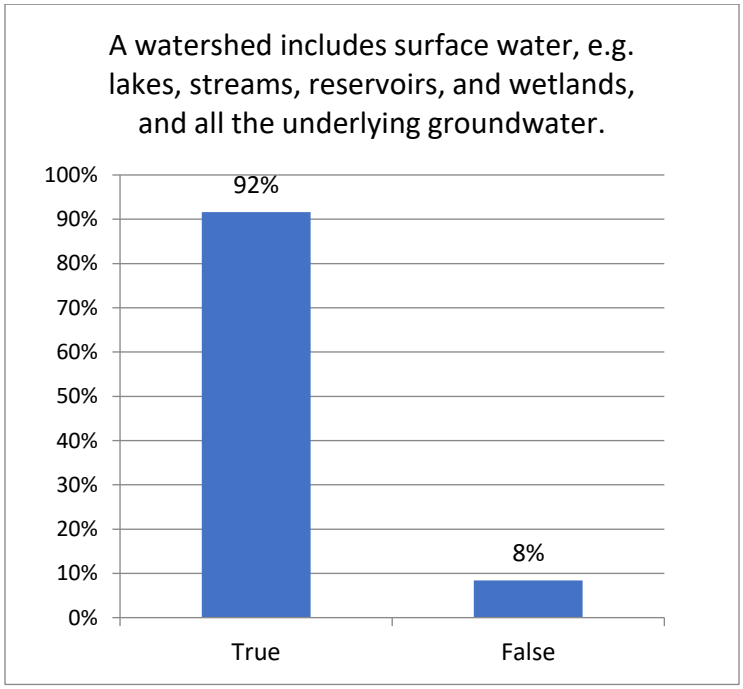

Figure 5 A watershed includes surface water, e.g. lakes, streams, reservoirs, and wetlands, and all the underlying groundwater. (True/False) 2024

Question 6. Is the water quality of creeks and streams in Anchorage generally: very good, somewhat good, moderate/okay, somewhat poor, very poor, do not know, or no opinion. Comments.

The respondents had mixed feelings about the water quality of local creeks (Figure 6), but generally the ratings are staying consistent with previous years showing little change among them (Figure 7).

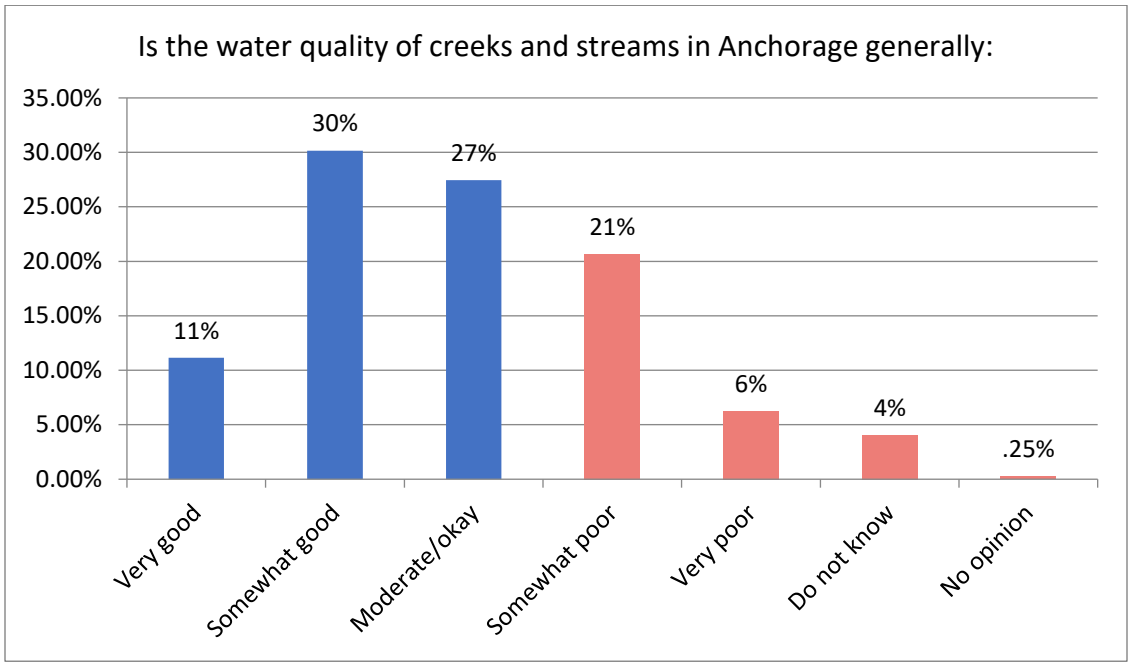

Figure 6 Is the water quality of creeks and streams in Anchorage generally: very good, somewhat good, moderate/okay, somewhat poor, do not know, or no opinion? 2024

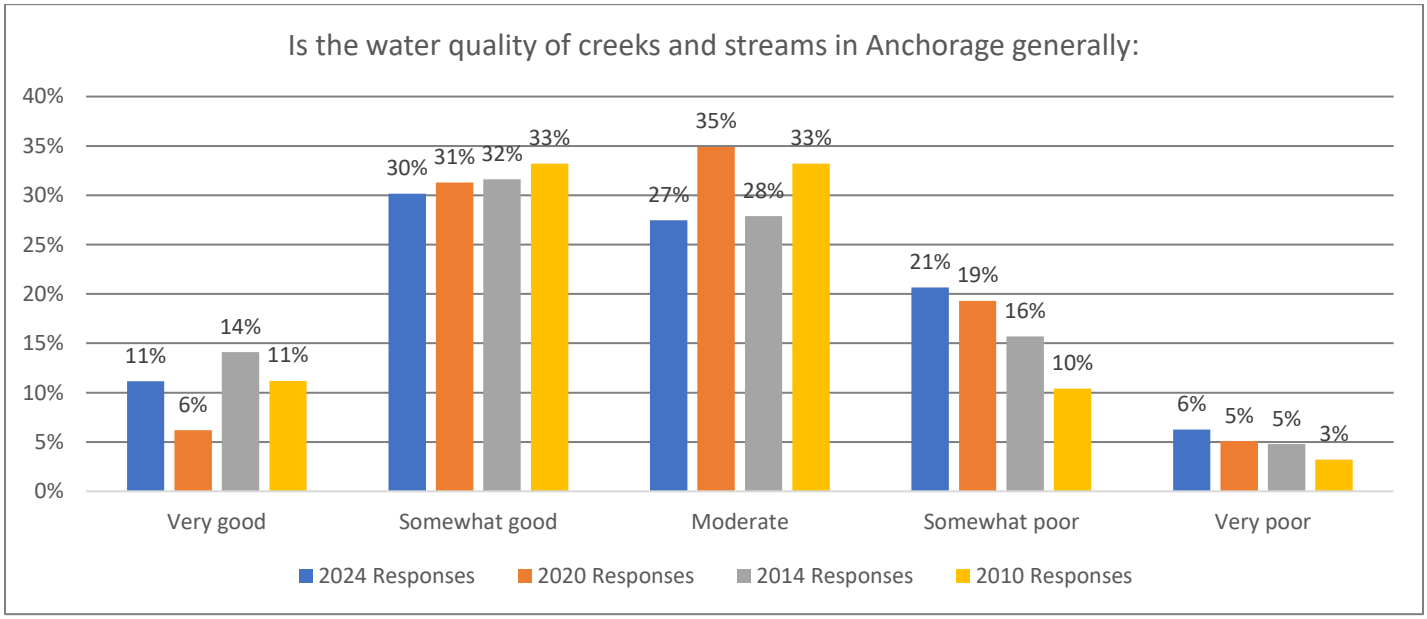

Figure 7 Comparison of Question 6 answers between 2024, 2020, 2014, and 2010. ("Do not know" and "No opinion" were removed due to space limitations).

Question 7. Over the last 5 years, has the water quality of Anchorage's creeks and streams: improved, gone downhill, or remained the same?

This question was altered from the 2020 survey which asked about creek quality changes over the past 10 years instead of 5 years. Of the 2024 respondents (Figure 8), 44% said that our streams have remained about the same. The "Improved" vs. the "Gone downhill" were about the same with 24% and 22% respectively. In comparison, while both similar for "Improved" and "Remained about the same", the "Gone downhill" has lessened by 15% from 2020 (Figure 9), which is a good sign.

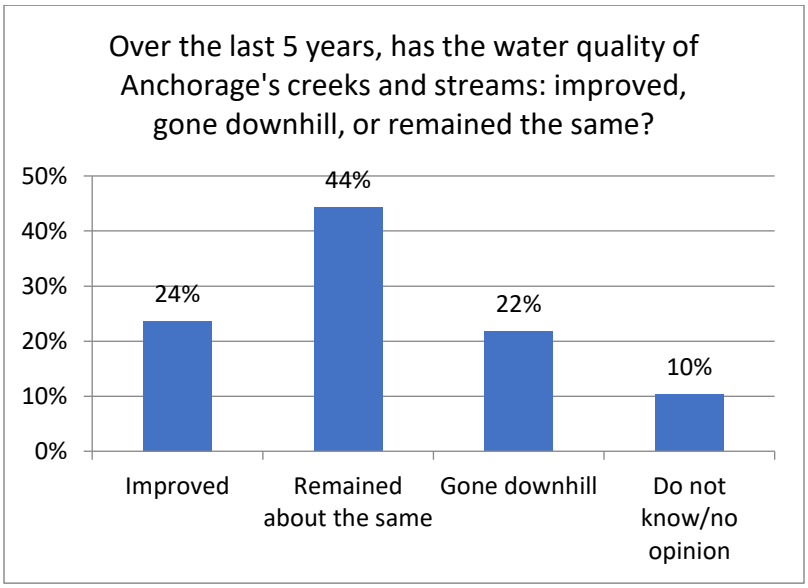

Figure 8 Over the last 5 years, has the water quality of Anchorage's creeks and streams: improved, gone downhill, or remained the same? 2024

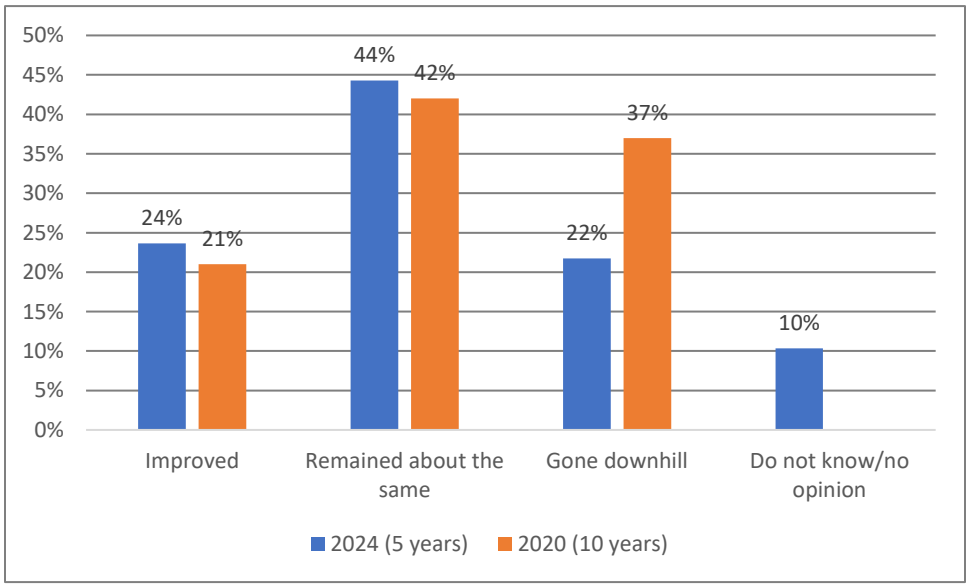

Figure 9 Comparison of Question 7 answers from 2020 survey for previous 10 years to the 2024 survey which was for the previous 5 years.

Question 8. Please rank the BIGGEST threats to WATER QUALITY in Anchorage's creeks. 1 is highest and 8 is lowest.

This question provides respondents with the perceived threats to water quality that they must place in order. Some of the terminology was changed in 2024 to reflect current conditions or more refined answers. For example, "Animal waste" was divided into "Domestic pet" and "Wildlife" which caused a shift in the responses. Regardless, "Pet waste" ranked at the top for 2024 (Figure 10) and 2020 and second in 2014 and 2010 (Table 2), and it remains among the top priorities for AWC's work.

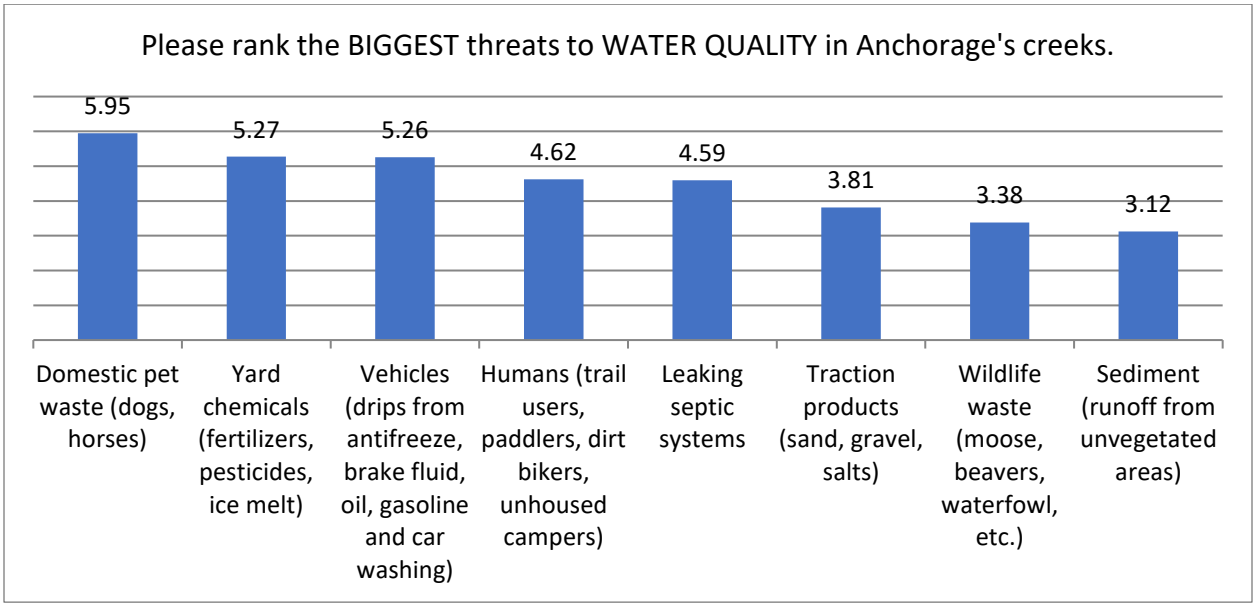

Figure 10 Please rank the BIGGEST threats to WATER QUALITY in Anchorage's creeks. 2024

Rank	2024	2020	2014	2010
1	Domestic pet waste	Pet waste	Runoff	Runoff
2	Yard chemicals	Yard Chemicals	Animal Waste	Animal Waste
3	Vehicles	Humans-directly	Lawn & Household Chemicals	Human Trash
4	Humans	Vehicle Drips	Sewage/Leaking Septic Systems	Pollution
5	Septic systems	Septic systems	Urban Development	Vehicle Fluid
6	Traction products	Traction products	Human Trash	Urban Development
7	Wildlife waste	Sediment	Pollution	Lawn Care Products
8	Sediment	Wildlife		

Table 2 Biggest threats to water quality in creeks by rank: 2024, 2020, 2014 and 2010.

Question 9. In a few words, what do you think is the most important action you could take to improve water quality in local creeks, rivers, or lakes?

This Is an open-ended question where the respondents provide their opinions. Specifically, this question asked about their personal actions to improve water quality. These are always interesting to read, but can be very time-consuming and difficult to categorize. In this particular case, eleven categories seemed to be the best for summarizing remarks. The top three (totaling 63%) focused on "Trash/litter" (23%), "Pet waste" (20%), and "Yard & traction products" (20%), which are important in terms of personal responsibility (Figure 11). These are also among the most common in the messaging that AWC puts out. The next four, "Vehicle maintenance" (8%), "Education" (8%), "Onsite runoff control" (7%), and "**B**ike more" (4%) are also significant as far as personal responsibility. "Regulatory/enforcement" (4%), Storm drain maintenance (3%), and "Address homelessness" (2%), while important, aren't what this question asked in terms of personal actions. "Septic maintenance" (1%) was the last one that was provided as a response by a few people.

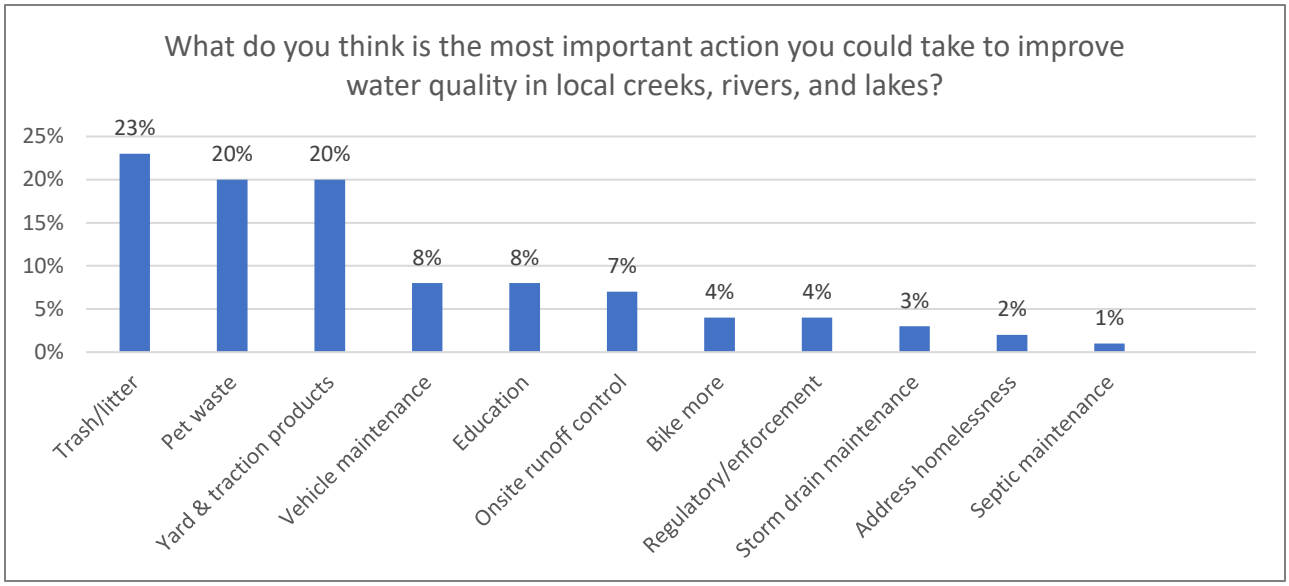

Figure 11 What do you think are the most important actions you could take to improve water quality in local creeks, rivers, and lakes? 2024

Question 10. ***What one action would be the best to improve the overall quality of Anchorage's streams and creeks?***

While question 9 referred to respondents taking personal action, question 10 looks at the broader measures and bigger picture in regard to improving water quality. Specifically, what regulations, programs, or tactics would be useful.

Stormwater management (26%) ranked the highest, and comments showed a good grasp of the respondents' understanding of how stormwater is managed as well as some important areas for focus (Figure 12). The following response is one of the better because of the solutions provided,

> "[t]he best single action to improve the overall quality of Anchorage's streams and creeks would be to reduce urban runoff by implementing green infrastructure, such as rain gardens and permeable pavements, to filter and manage stormwater naturally."

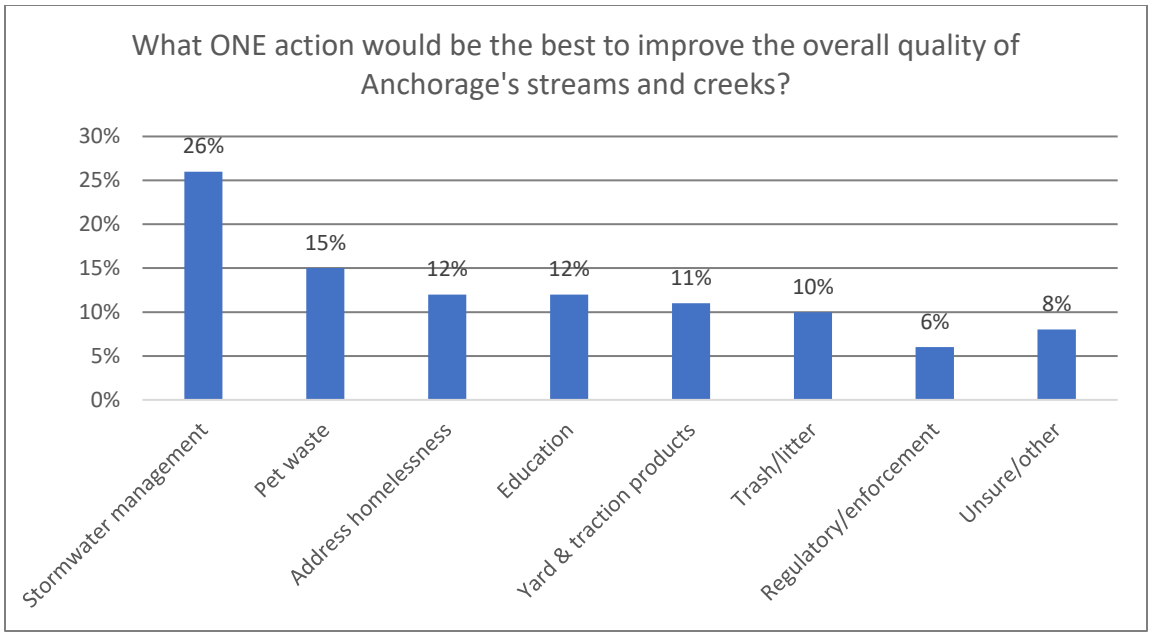

Figure 12 What one action would be best to improve the overall quality of Anchorage's streams and creeks? 2024

What is generally emerging from this survey is a much better articulation of stormwater as a focus of the problem as well as viable solutions. Statements such as this were also fairly prominent in the 2020 survey responses (Figure 13).

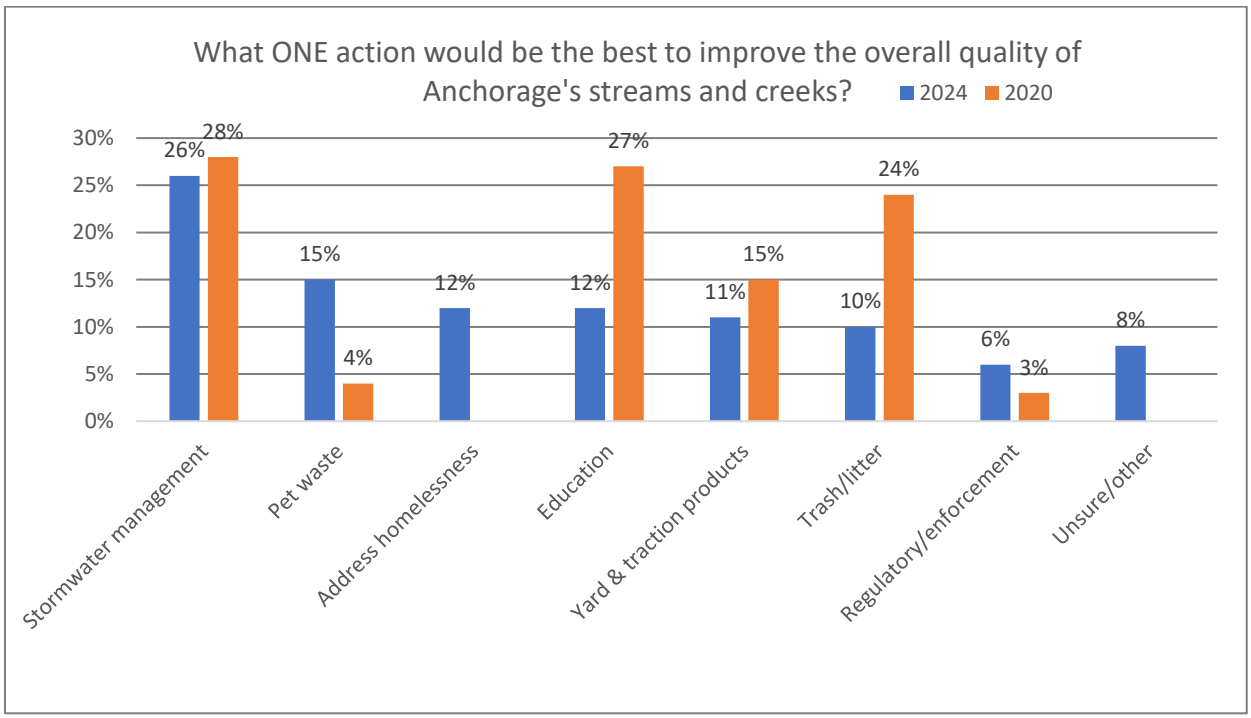

Figure 13 What ONE action would be the best to improve the overall quality of Anchorage's streams and creeks? 2024 and 2020.

Question 11. How much responsibility for water quality of Anchorage waterways does each of the following have?

This question has been included in surveys since 2010, and the results are typically the same each time. The MOA ranks first for responsibility which is followed by the state and then the federal government. The responsibility of "property owners" was a separate question in the 2010, 2014 and 2020 surveys—where the response was that they had a significant responsibility. It's more illustrative when they are lumped in with the other groups as this shows them ranking third out of eight (Figure 14).

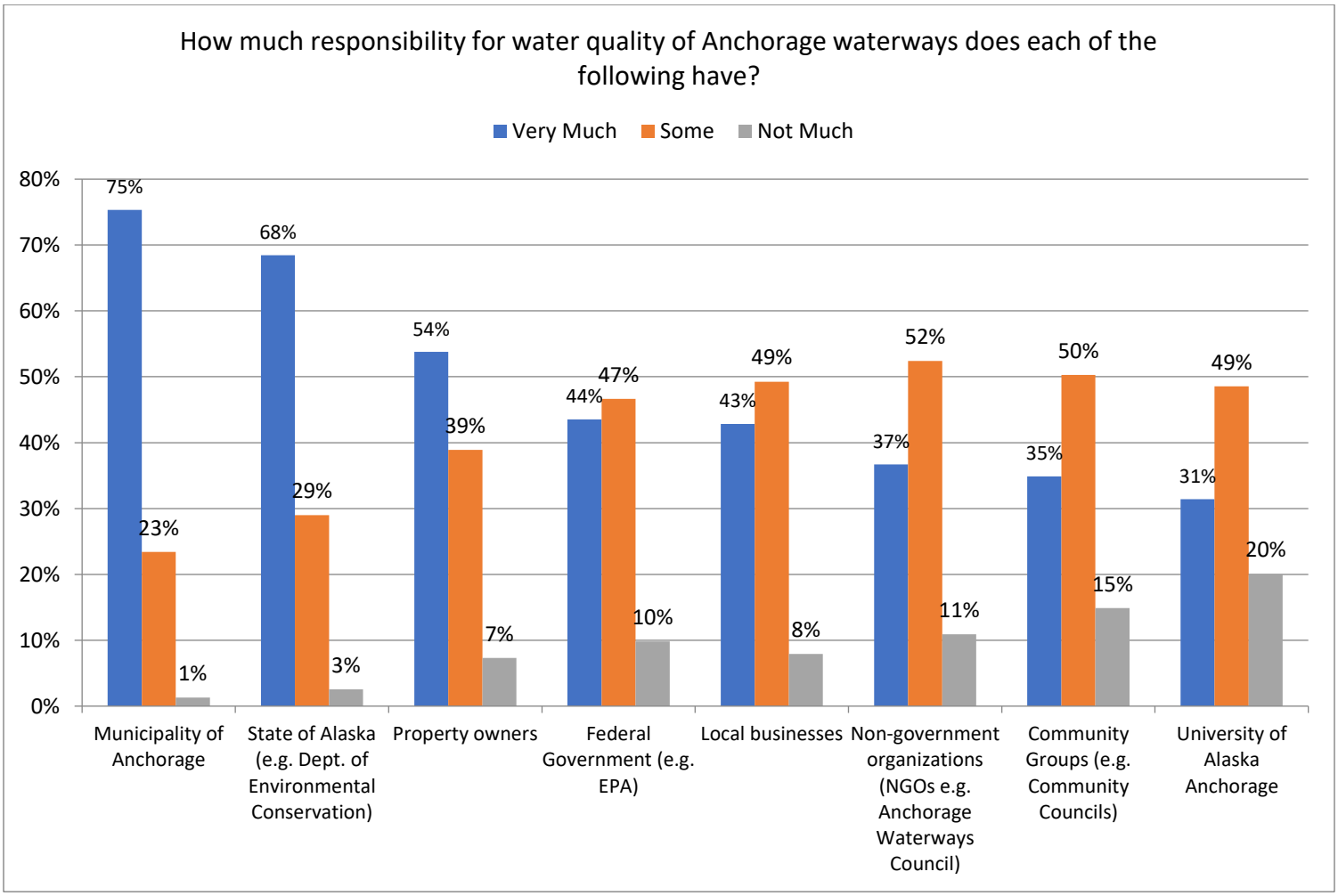

Figure 14 How much responsibility for water quality of Anchorage waterways does each of the following have? 2024.

Question 12. Sewage from your house flows into:

This question is merely a query into residents' knowledge about where the sewage from their residence goes. Typically, those with a septic system know that it's what they have. There's undoubtedly an assumption by most of the rest that it goes into the sanitary sewer, although every survey shows that there are some respondents who have no idea. As the chart shows (Figure 15), a small percentage (3%) did not know.

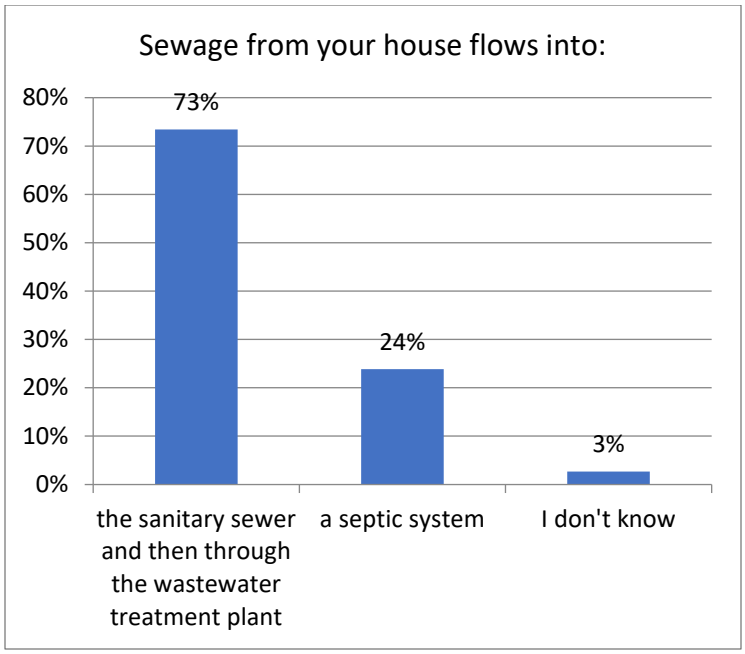

Figure 15 Sewage from your house flows into: 2024

Question 13. Stormwater on the street flows into:

This question varied a bit from previous surveys and is much more relevant to ascertaining what residents understand as well as hopefully sparking some thought as to whether stormwater is treated or not. A small majority (51%) believe it is not treated (Figure 16), while the rest think it is treated (36%) or they don't know (13%). This is the type of question that hopefully sparks some to seek out the answer—and it will be featured on our website for those interested.

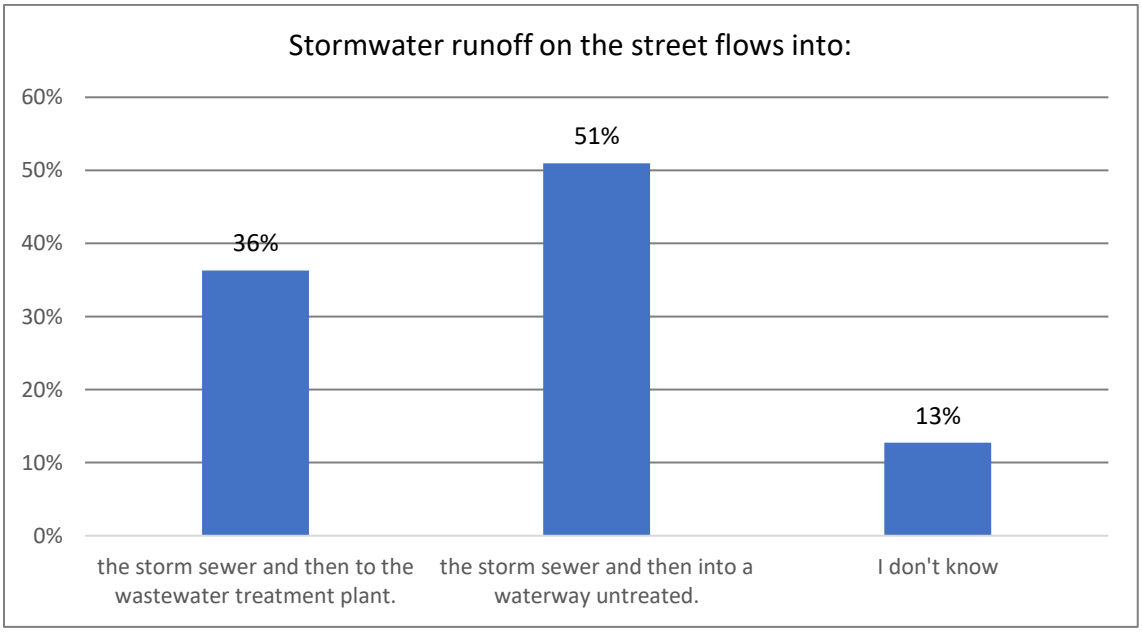

Figure 16 Stormwater runoff on the street flows into: 2024

Question 14. Do you own a dog(s)?

Of the 369 respondents, 56% said that they owned a dog (Figure 17). This is slightly lower than pet owners in 2020 (59%), and more than 2014 (51%) and 2010 (51%). Regardless, the survey is being taken by a suitable amount of pet owners as their actions are very relevant.

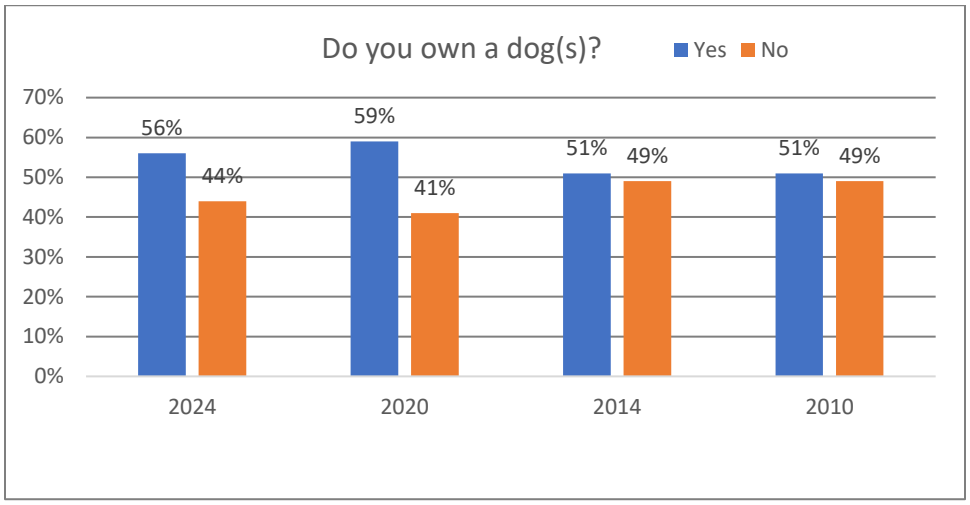

Figure 17 Do you own a dog(s)? 2024, 2020, 2014 and 2010

Question 15. If a dog owner, how often is your pet's waste cleaned up at your residence or adjacent area?

This question was altered from previous surveys to ascertain how often pet owners clean up pet waste at their residences: daily, weekly, monthly, or never. Previous surveys only asked if pet owners cleaned up at their residence: “always”, “most of the time”, “sometimes”, and “never”. The results from previous surveys didn’t correlate well to the 2024 survey (Figure 18). The frequency of pickup is important with 92% stating cleanup was daily or weekly, because of issues with yards where pet waste perpetually remains and then runs off in stormwater.

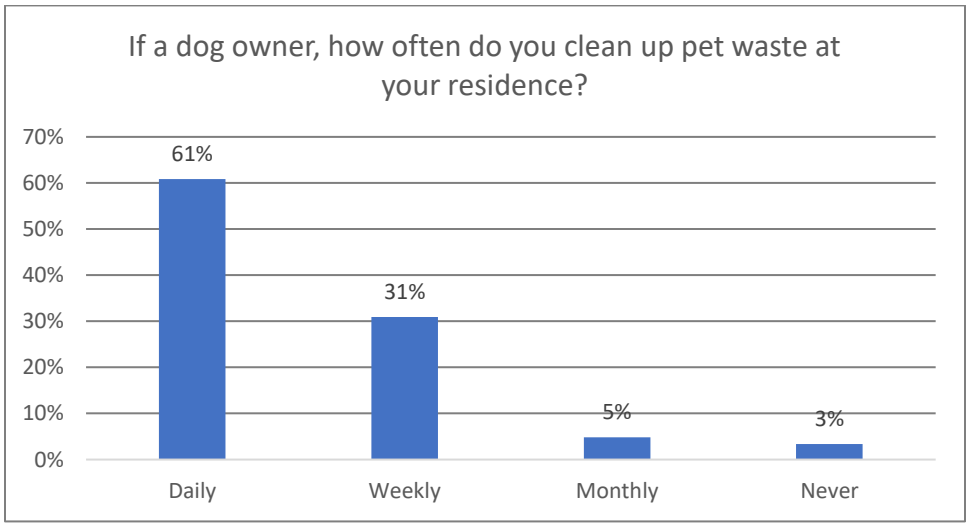

Figure 18 If a dog owner, how often do you clean up pet waste at your residence? 2024

Question 16. When out, how often do you pick up after your pet?

The results from the 2024 survey are nearly identical to 2020 and 2014 for each of the answers (Figure 19). Even so, there is still pet waste left on the ground as is evidenced by the 34% respondents who "most of the time", "sometimes", and "never" pick up.

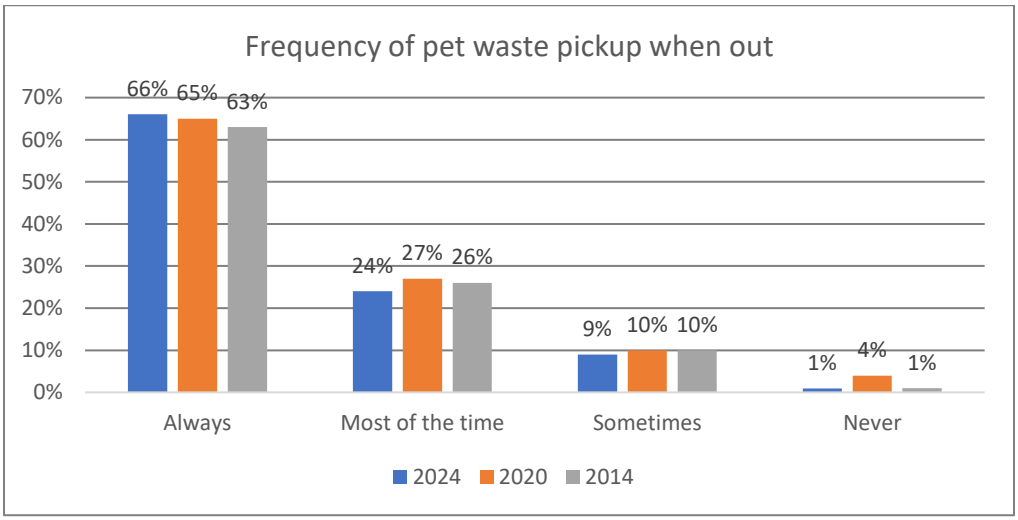

Figure 19 Comparison of pet owners cleaning up when out, 2024, 2020, and 2014.

Question 17. How do you deal with pet waste at home? (check all that apply)

This question had 209 responses from pet owners, and, interestingly, there was a marked decrease of about 25% from previous surveys regarding placement of pet waste in the garbage. In 2024, 59% chose "bag and place it in the garbage whereas in 2020 (Figure20) it was 86% and 2014 was 84%. The difference was made up with a significant increase in those who "compost it" and "bury it". The figures for a "Scoop-the-Poop service" or "leave it to break down" remained relatively low.

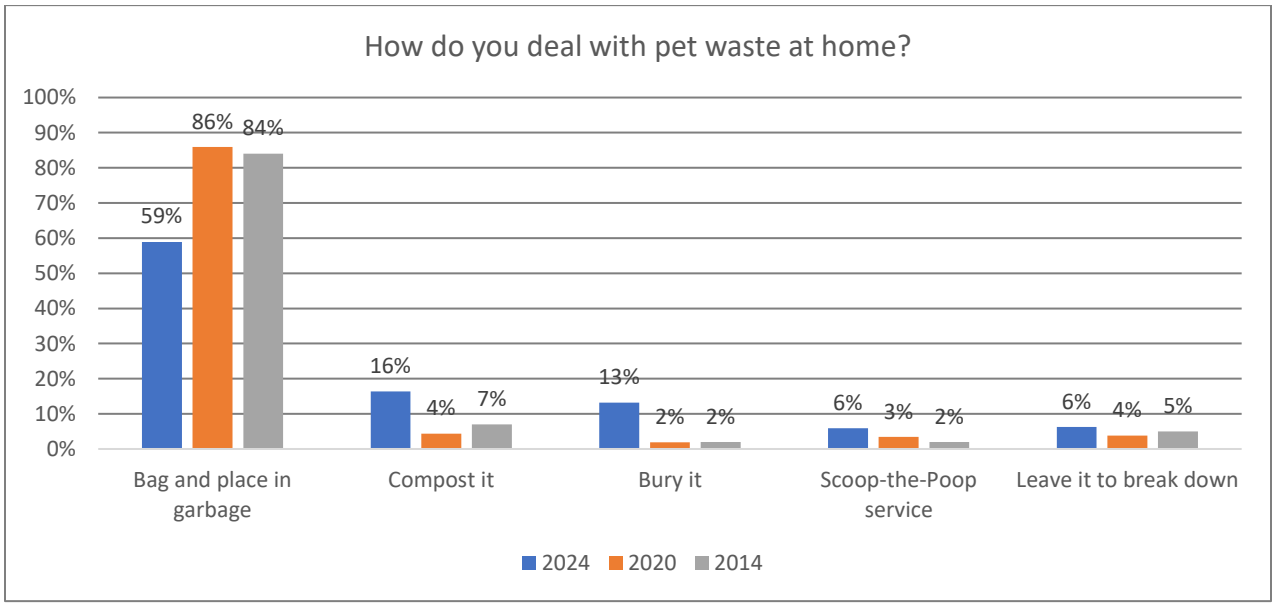

Figure 20 How do you deal with pet waste at home? 2024, 2020, and 2014

Question 18. Do you let your dog swim in Anchorage lakes and streams?

Some concern has been expressed by veterinarians and others about having dogs swim in Anchorage's lakes and streams due to susceptibility to giardia and other infections. Lakes seem to be more of a problem particularly with the high levels of *E. coli* that settles into the bottom sediments, the potential interactions with wildlife, scaring nesting water birds, and leaving dog feces on the banks and *E. coli* in the water. In University Lake, aggressive beavers (*Castor canadensis*) have injured several dogs, and recently there are reports of river otters (*Lontra canadensis*) attacking pets.

The 2024 survey shows that there has been a modest increase in the percent of owners allowing their dogs to swim in local waterways from 23% in 2020 to 32% in 2024 (Figure 21). The responses provided about where dogs swim show these lucky pets get to go just about everywhere in the Municipality's creeks and lakes.

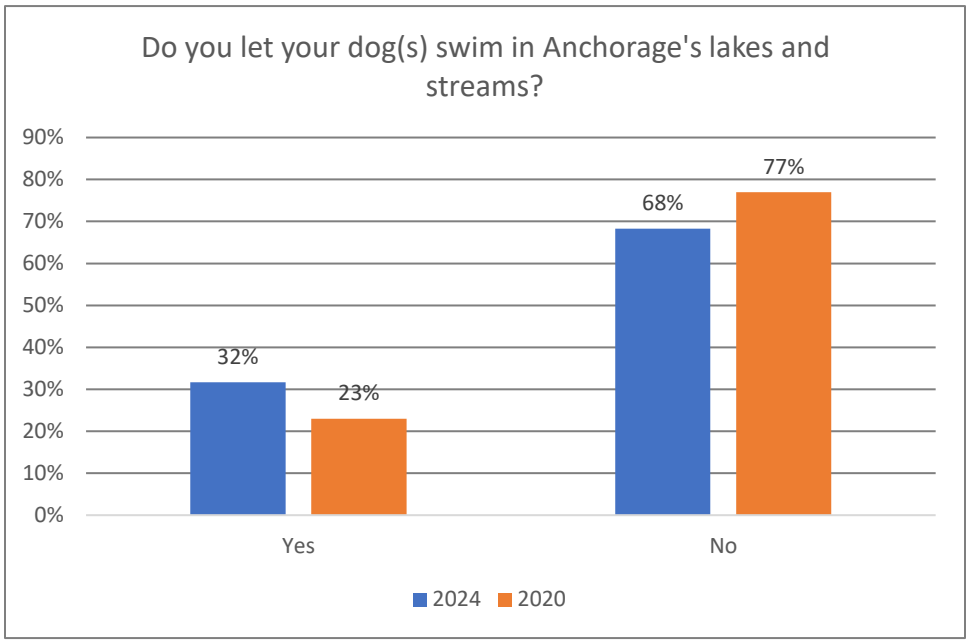

Figure 21 Do you let your dog(s) swim in Anchorage's lakes or streams? 2024 and 2020.

Question 19. If you jog, cycle, or ski on trails with your dog off-leash, are you able to keep it within sight so you can clean up after it?

In 2020, the survey only asked if people cleaned up after their dogs when out on the trails. Eighty-five percent claimed that they did, 3% said no, and 11% had reasons for not doing so. This 2024 survey asks if people keep their pet(s) in sight so that they are able to clean up. Sixty-two percent said that they always had their dog(s) in sight, 30% said they usually do, and 9% said never (Figure 22). As has become very apparent, keeping a dog within sight is one of the best ways to make sure their poop is picked up.

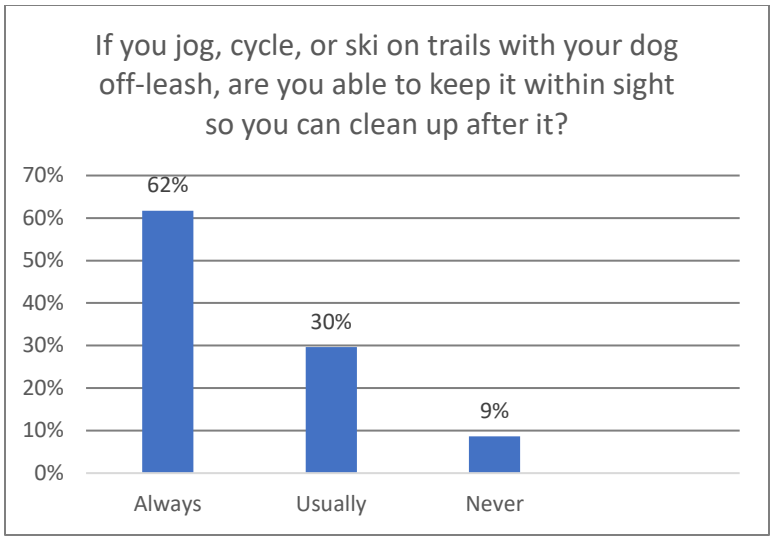

Figure 22 If you jog, cycle, or ski on trails with your dog off-leash, are you able to keep it within sight so you can clean up after it? 2024

Question 20. Besides code enforcement/fines, how can we encourage dog owners to pick up their pet's waste?

This is an open-ended response question, and there was a wide-range of answers (Figure 23). Most were helpful, some were funny, and others were somewhat questionable. Many respondents (27%) think that having pet waste stations and trash cans easily accessible is important for getting people to clean up, and education (24%) is a strong second choice. One person wrote, '[s]tart in elementary school with facts and responsibility, it's too late by the time adults own a dog". The more "drastic" suggestions included shaming people, enforcement, fines, and peer pressure. Comments included, "put them in stocks!", "shoot them!", and "poop in their yard!". Generally speaking, the overall messaging included kindness, rewarding good behavior, and reinforcing the positive.

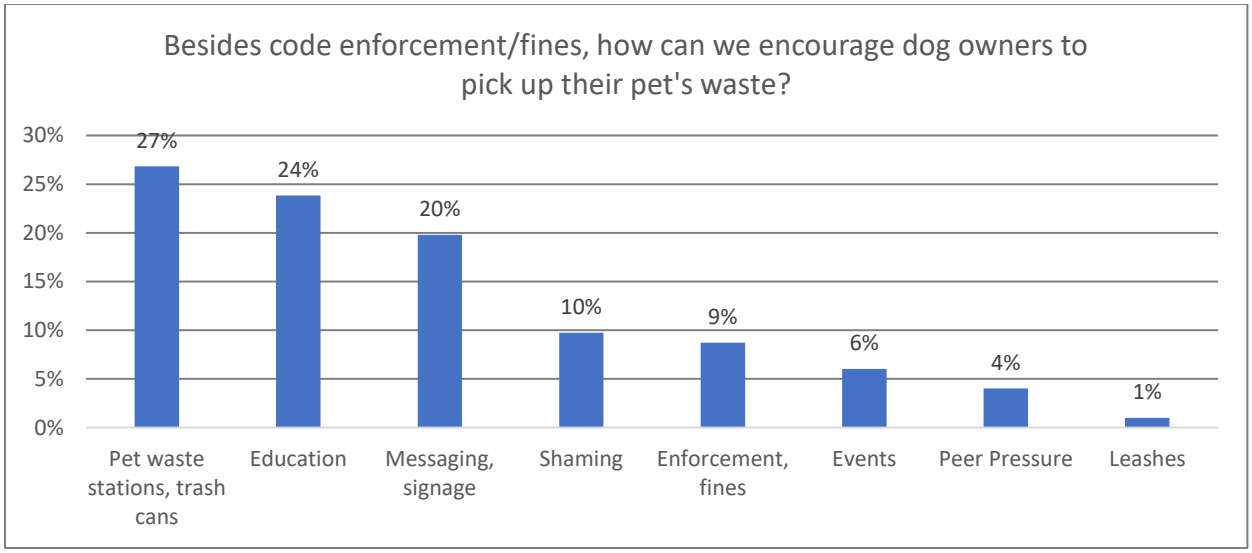

Figure 23 Besides code enforcement/fines, how can we encourage dog owners to pick up their pet's waste? 2024

Question 21. Do you do any of your own vehicle repairs (e.g. oil change, tire change) at your residence?

The number of respondents who do some maintenance and repairs at their residence has slowly increased over the years. Between 2014 and 2024 (Figure 24), there's been a 13% increase which is somewhat surprising. This would be a good area to focus on for outreach and education topics.

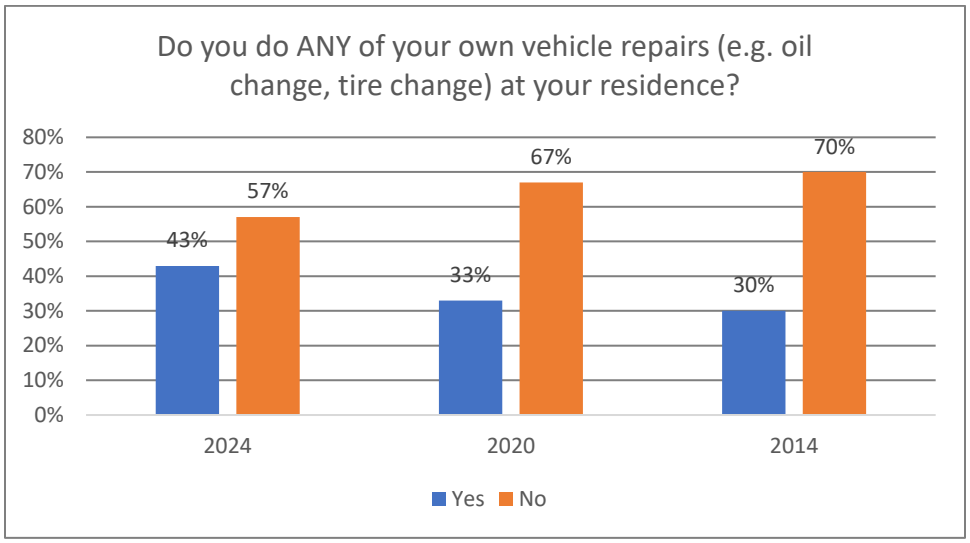

Figure 24 Do you do ANY of your own vehicle repairs (e.g. oil change, tire change) at your residence? 2024, 2020 and 2014

Question 22. Do you wash your vehicle at: (check all that apply)?

The responses from 2020 and 2024 are quite close, although 2024 had a slightly lower amount (6%) for using a car wash (Figure 25) as well as higher values for the driveway (1%) and street (5%). It would be good to reinforce the benefit of using car washes vs driveway washing, however the cost for using a car wash averages about $20 which may make it difficult for people's budgets.

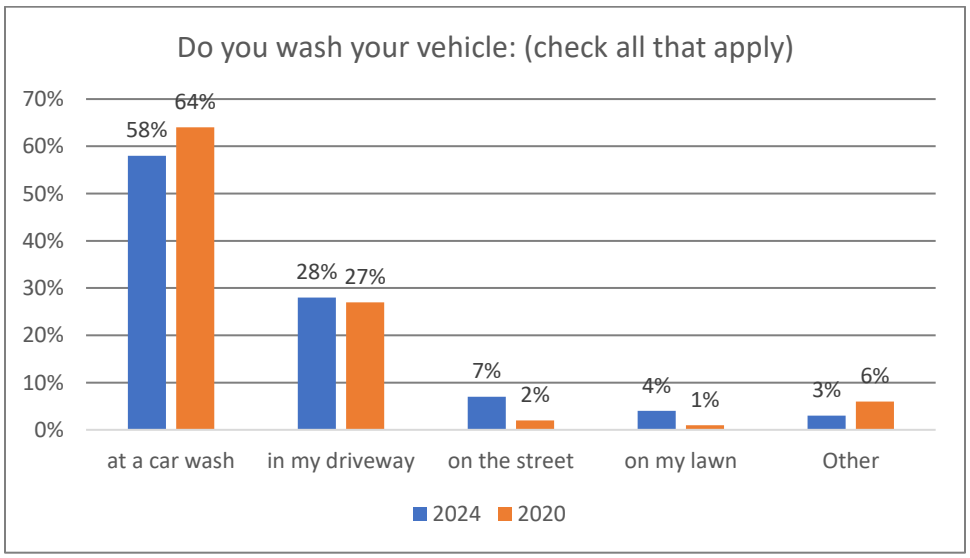

Figure 25 Do you wash your vehicle: (check all that apply), 2024 and 2020.

Question 23. Please select all the places where hazardous waste (paints, thinners, vehicle oil, etc.) and other similar items are allowed: (select all that apply)

A similar question about hazardous materials has been on each survey, and some variation was added in 2024. The previous surveys asked where the respondent disposed of hazardous materials, and the 2024 question asked which places 'allow' disposal. The important point is that we want people to say 'no' to "street gutters and storm drains", "sinks/toilets", and "lakes or creeks".

There was a small number (3%) that said "street gutters/storm drains with running water" were okay (Figure 26) as far as dumping hazardous waste. Similarly, "lakes or creek" and "sink or toilet" had 8% which is not what we'd like to see. These three items will become a focus for outreach education.

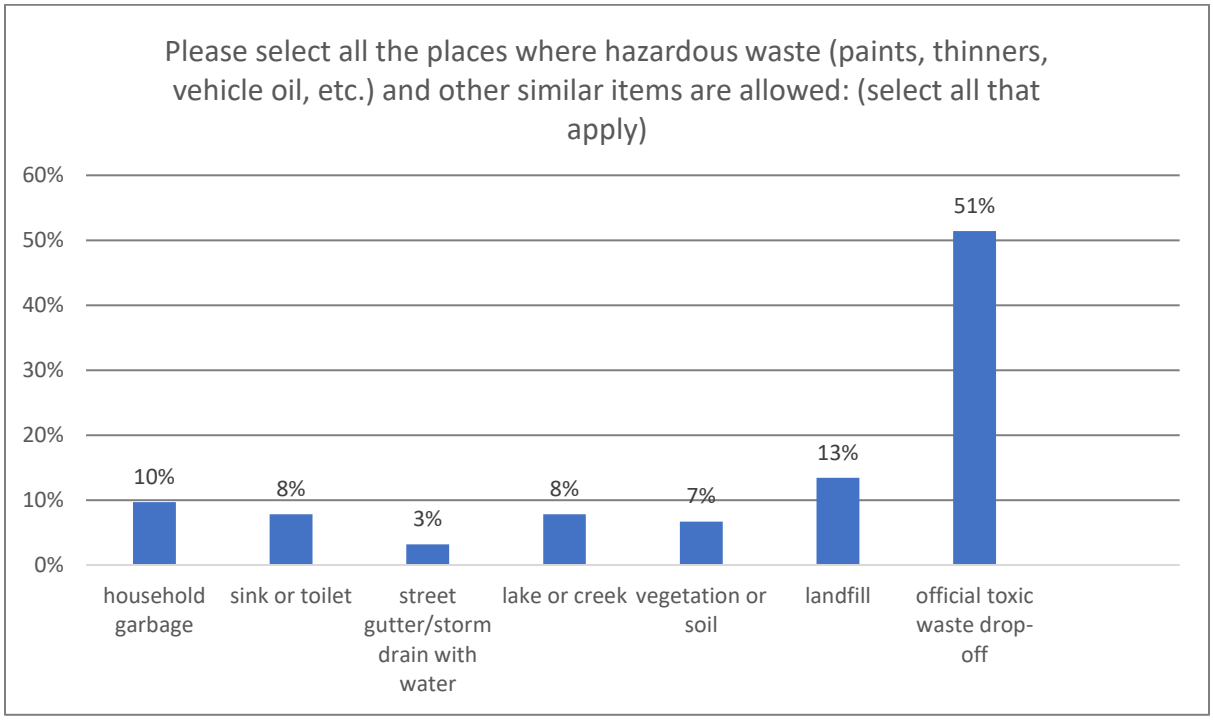

Figure 26 Please select all the places where hazardous waste (paints, thinners, vehicle oil, etc.) and other similar items are allowed (select all that apply), 2024

Question 24. Which of the following statements represents your gardening preferences (you can answer more than one)?

This question is one that AWC has used for several years at garden shows and other venues to determine gardening habits in regard to yard chemicals, grass clipping disposal, etc. The value of this question is to get an idea of Anchorage residents' desire to have yards with lawns that require more water and fertilizer/herbicide additives, are less permeable, and more likely to contribute to increased stormwater runoff with pollutants. In comparing the 2014, 2020, and 2024 surveys (Figure 27), "preferring a yard with natural or native vegetation" has been the dominant choice followed by "Vegetable gardens, berries and fruit trees". There was a slight uptick in "nicely manicured yards with lawn and flowers", which is interesting, though it's still below the 2014 results.

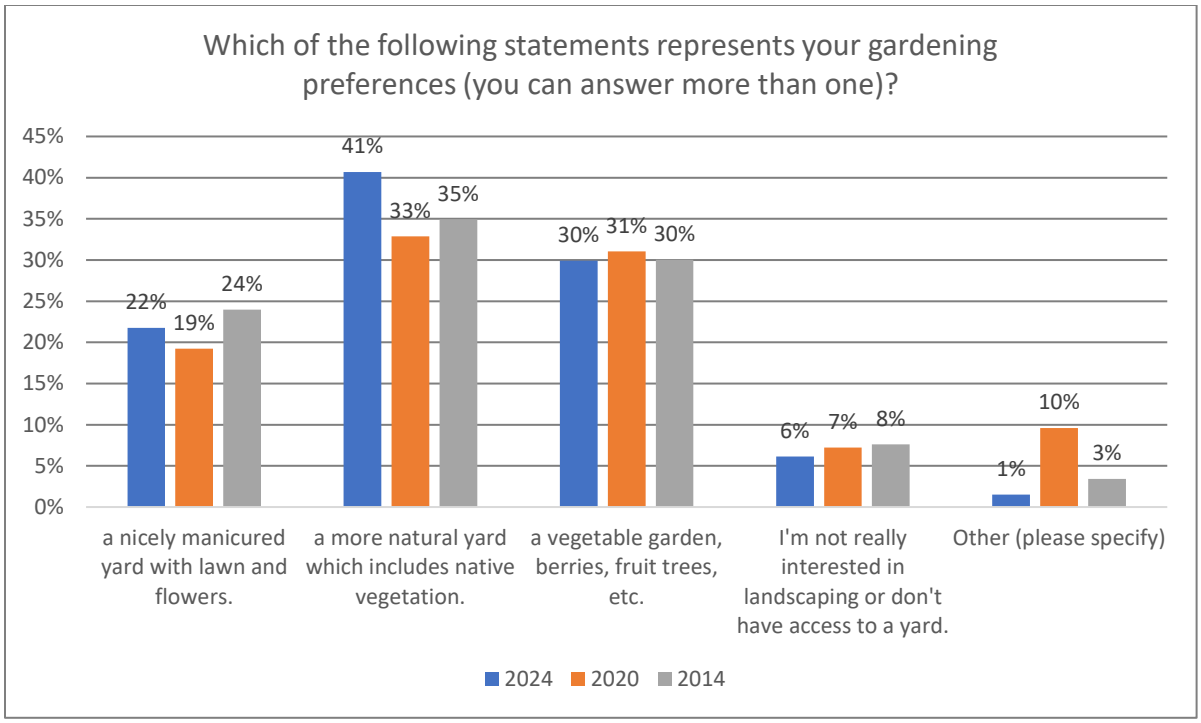

Figure 27 Which of the following statements represents your gardening preferences (you can answer more than one)? 2024, 2020, and 2014

Question 25. At your residence, do you or a gardening service apply any of the following lawn or garden products? (Please check ALL that apply.)

Similar to Question 24, this one delves deeper into the garden additives used by the survey respondents, and additives were separated into "Fertilizers" (Figure 28), "Herbicides" (Figure 29), and "Pesticides" (Figure 30). In comparison, while "Conventional" fertilizers showed an increase over 2020 and 2014, there was also a marked increase in the use of "Organic" fertilizers. Those using "None" decreased from the earlier survey dates, but this may be a partial shift to organics. A similar scenario shows for the use of "Herbicides" as well as "Pesticides".

A review of the responses under "Other" provides some good insight into the use of compost, fish emulsion and waste, and vinegar and soap as alternatives. Additionally, some of the other questions in this survey about people's thoughts on caring for waterways yielded an improved overall awareness of water quality problems that can result from yard chemicals

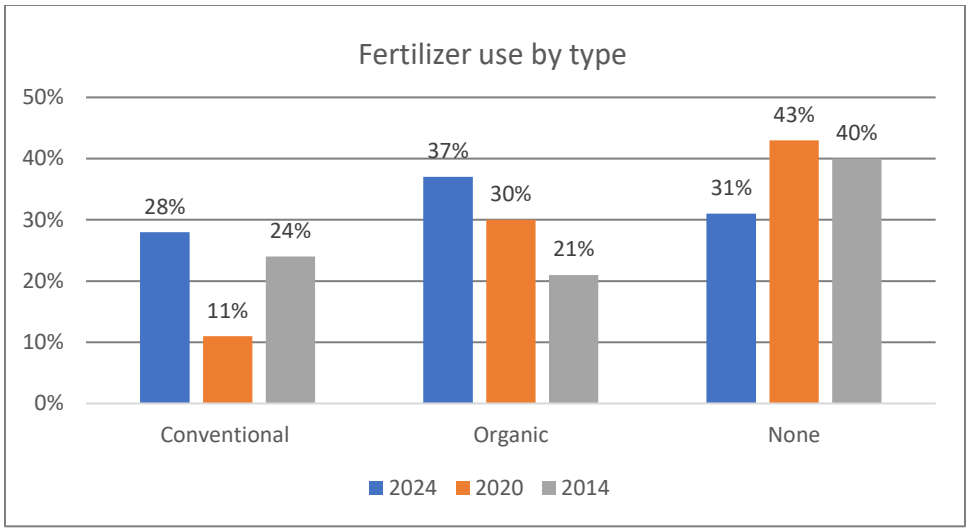

Figure 28 Use of fertilizers in gardens by type, 2024, 2020 and 2014

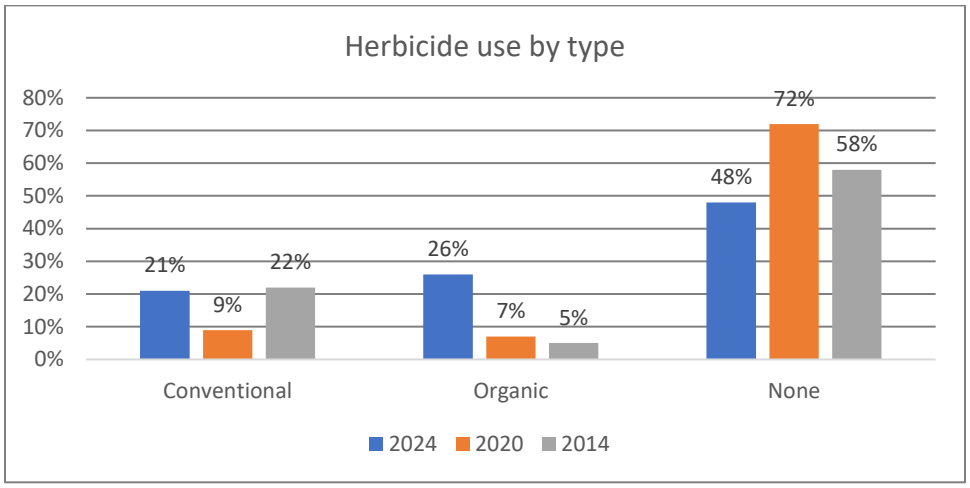

Figure 29 Use of weed killers/herbicides by type, 2024, 2020 and 2014

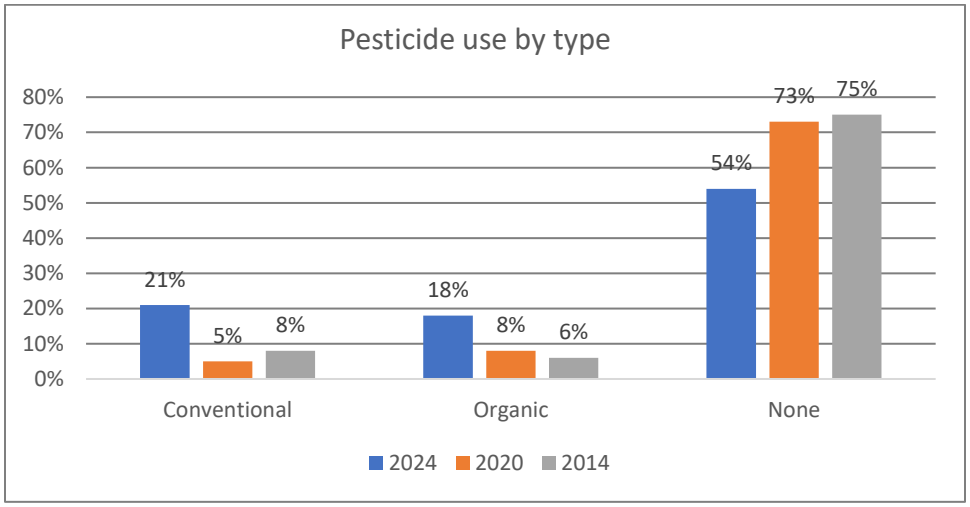

Figure 30 Use of pesticides by type, 2024, 2020 and 2014

Question 26. It's acceptable to dispose of green waste by: (check all that apply)

Some small changes in the verbiage were made in 2024 so that the question sought to identify where respondents think depositing green yard waste is allowed rather than where they actually dispose of it. None of the 2024 respondents (Figure 31) opted for disposal in or along the bank of a waterway, which is very positive. The majority chose "composting it in the yard" and "mulching it into the lawn", which are great practices. The only negative was that 7% said it was okay to wash it down a storm drain which will empty into a waterway. This is another place to emphasize the impact of green waste and nitrogen production/eutrophication on waterways.

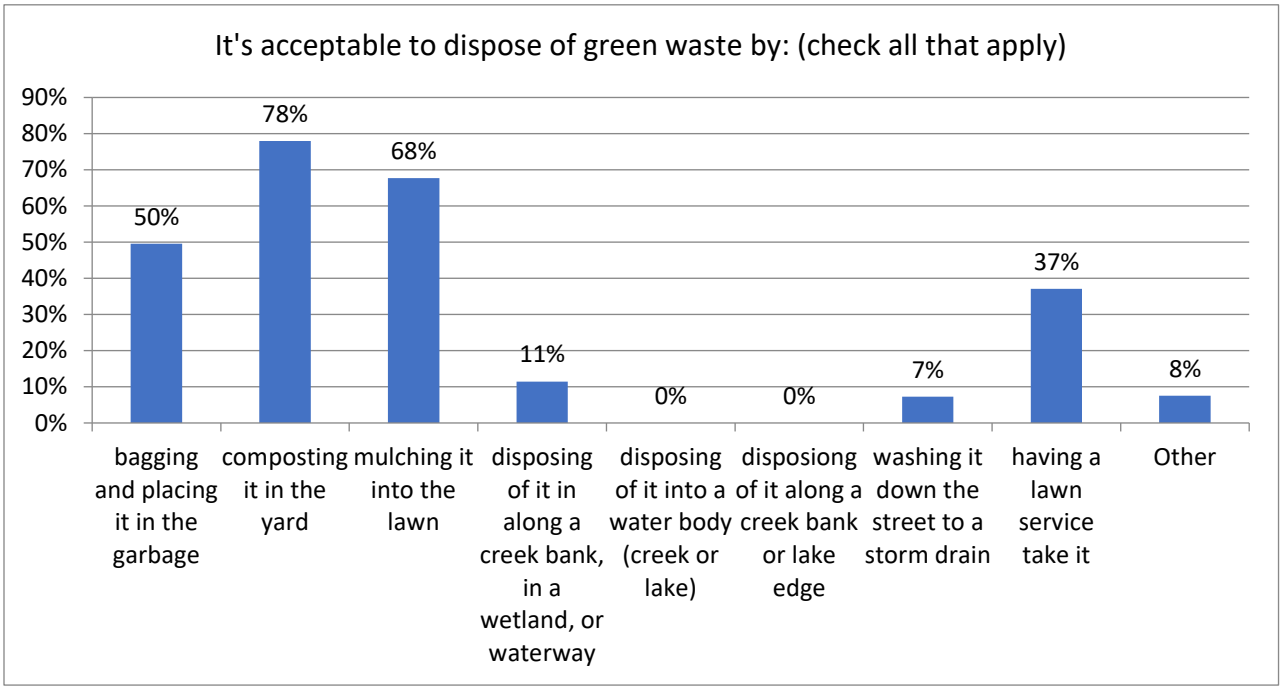

Figure 31 It's acceptable to dispose of green waste by: (check all that apply), 2024

Question 27. Where is it okay to dispose of snow? Check all that apply.

The locations of where snow is stored over the winter is important from the aspect of contaminants that are contained in it. Snow can pick up yard chemicals, e.g. deicers, fertilizers, etc., as well as yard waste, litter, dog poop, soil, and vehicle fluids which is why dumping snow is not allowed into local waterways. Responses from 2014, 2020, and 2024 were relatively close for "in your yard" (Figure 32), but unfortunately 2024 showed a marked increase for "in the street" and "in a waterway". This will be another area for outreach.

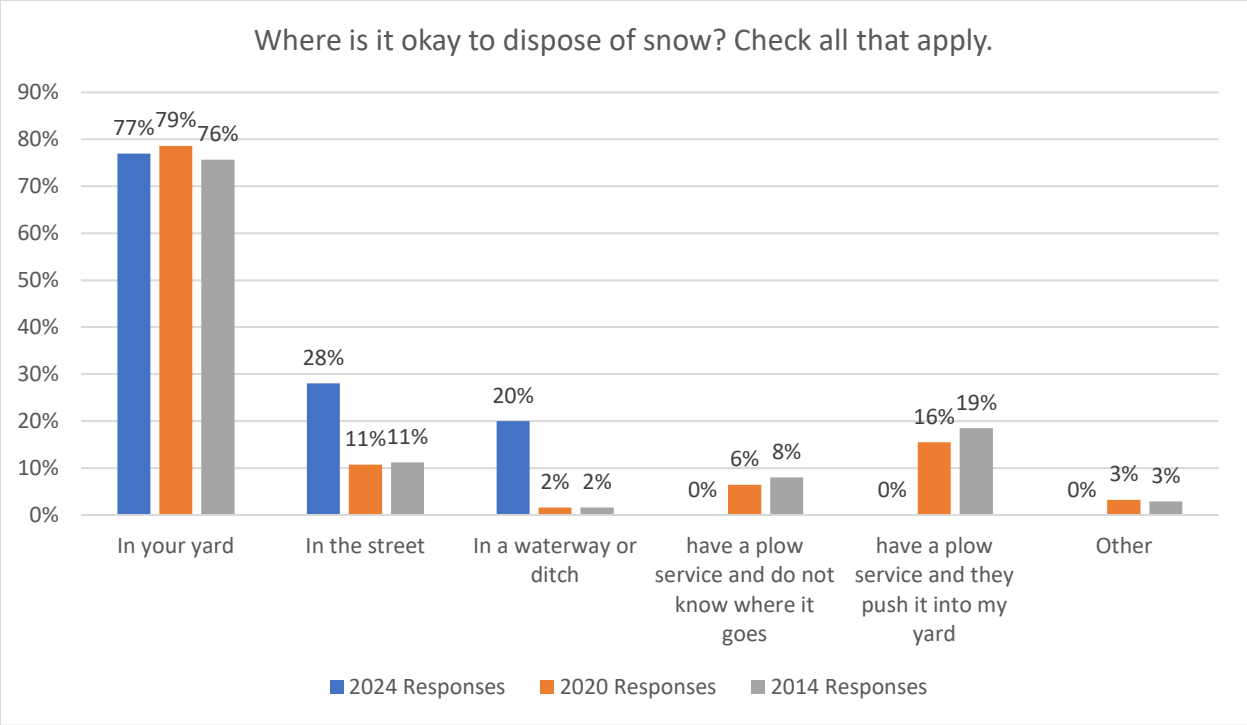

Figure 32 Where is it okay to dispose of snow? Check all that apply. 2024, 2020, and 2014

Question 28. If you need to deal with icy walks and driveways, what do you use? Check all that apply.

Ice melt (deicer) generally consists of salts in various chemical combinations, and it is used extensively during the Anchorage winter. These salts can be particularly harmful to freshwater lakes and creeks. Salt is also toxic to plants and animals that live in these freshwater bodies. The other primary traction products are sand and gravel. The 2024 survey question asked what types of traction products were used (or not used) as opposed to just a general question of whether the respondent used any as was done in previous surveys.

The current survey respondents (Figure 33) had a higher use of "traction sand/gravel" (56%) as opposed to "chemical ice melt products" (39%). Additionally, 16% said they didn't use any, and there were several interesting comments for "other". One person reported using ice-melting heat mats, 5 reported wearing crampons or cleats, 10 stated that they chipped or roughed up the ice, 3 suggested water softener pellets, and a few single answers included cat litter, wood ash, tea/coffee grounds, dirt and wood chips.

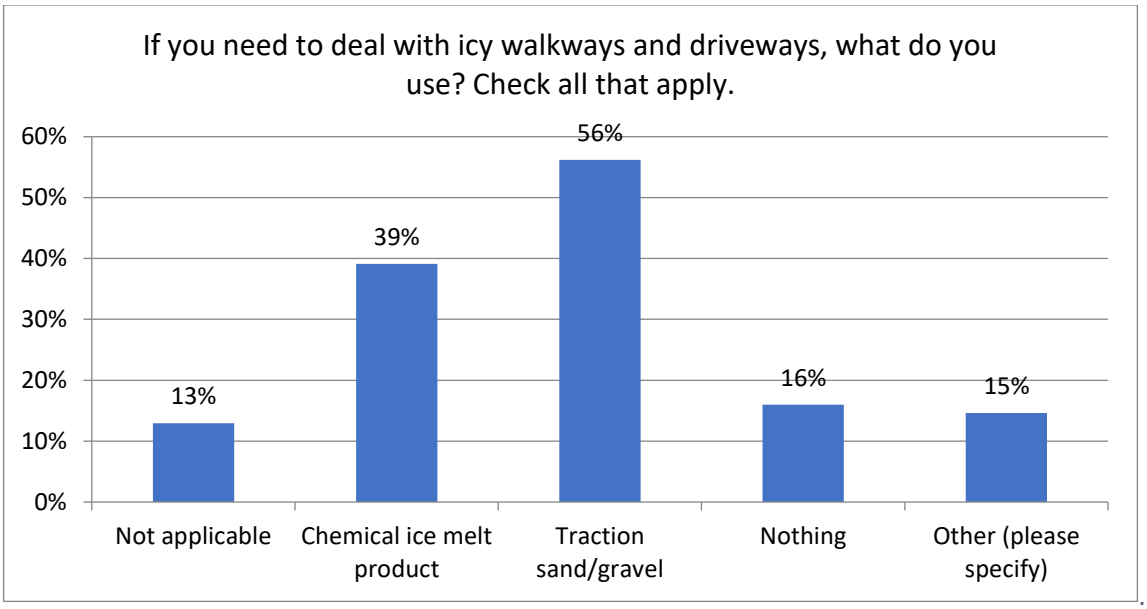

Figure 33 If you need to deal with icy walkways and driveways, what do you use? Check all that apply. 2024

Question 29. Which of the following activities on or near the Municipality's waterways (between Eklutna and Girdwood) do you do? (Check all that apply.)

Anchorage's waterways, adjacent park lands, and greenbelts are important recreation areas for citizens and are used heavily during all seasons. The diversity of activities and percent of the 2024 respondents engaging in them are displayed in Figure 34. Walking (71%), enjoying nature (66%), and biking (59%) are the most popular. Comparing the 2014 and 2020 responses to 2024 (Figure 35) shows very little difference between the years. This information is important for planners and managers of the land and waters as well as for the users.

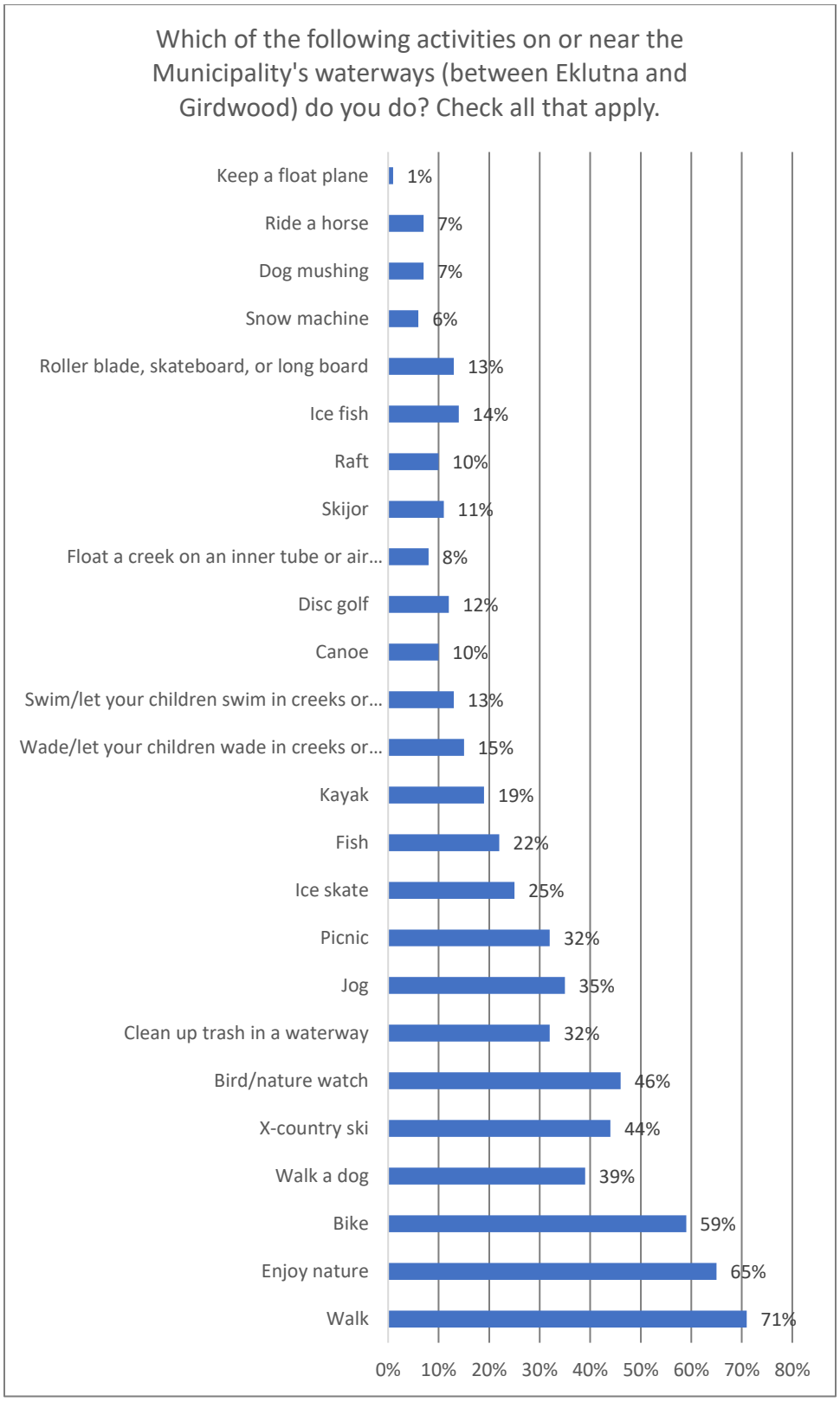

Figure 34 Which of the following activities do you do on or near the Municipality's waterways (from Eklutna to Girdwood) do you do? Check all that apply. 2024

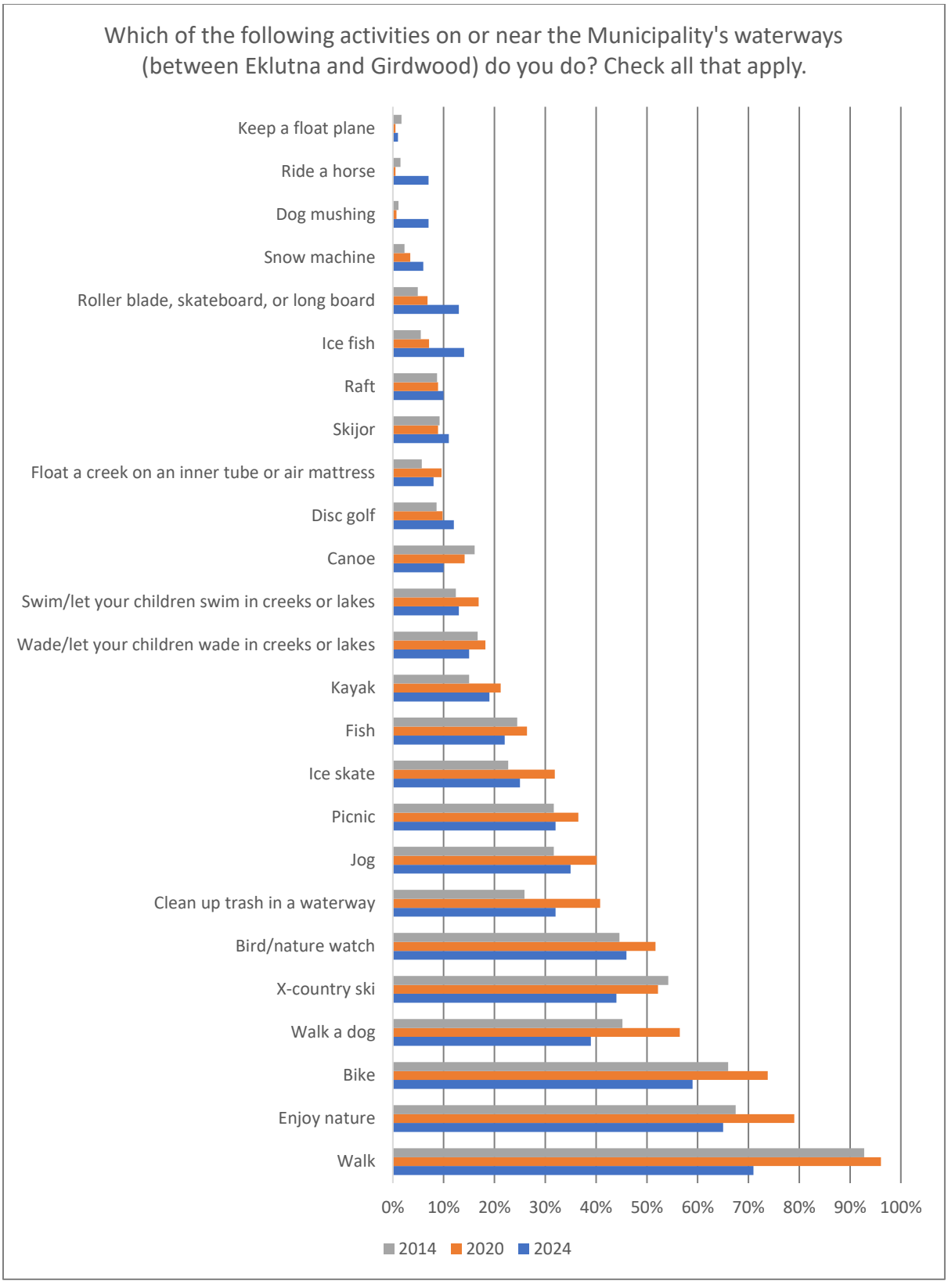

Figure 35 Which of the following activities on or near the Municipality's waterways (between Eklutna and Girdwood) do you do? Check all the apply. 2014, 2020, and 2024

Question 30. Have you heard of any of the following programs or activities and do you participate in them?

The majority of the 2024 respondents have heard of these 4 popular environmental programs (Figure 36), and participation in Creek Cleanup and the Citywide Spring Cleanup is quite high. Though the Scoop the Poop program has been around fewer years, its notoriety is pretty impressive for a one-day April event.

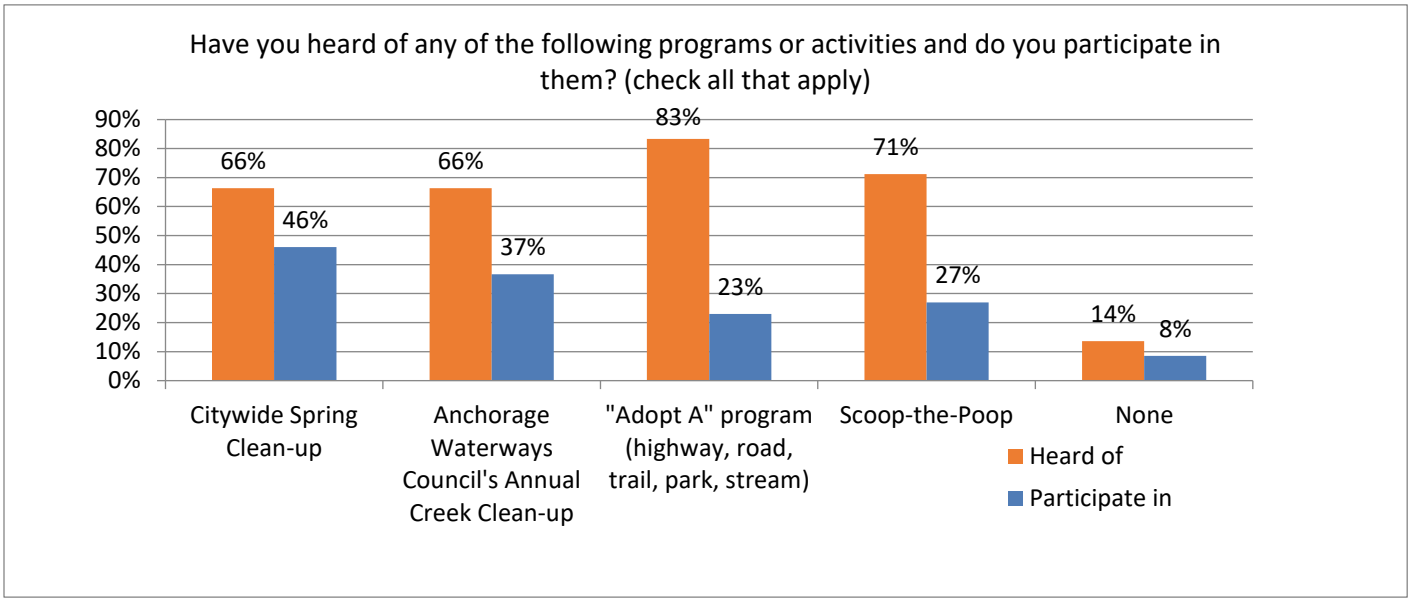

Figure 36 Have you ever heard of any of the following programs or activities and do you participate in them? (check all that apply) 2024

When comparing the four programs over time in regard to "hearing about them", the numbers remain fairly consistent (Figure 37).

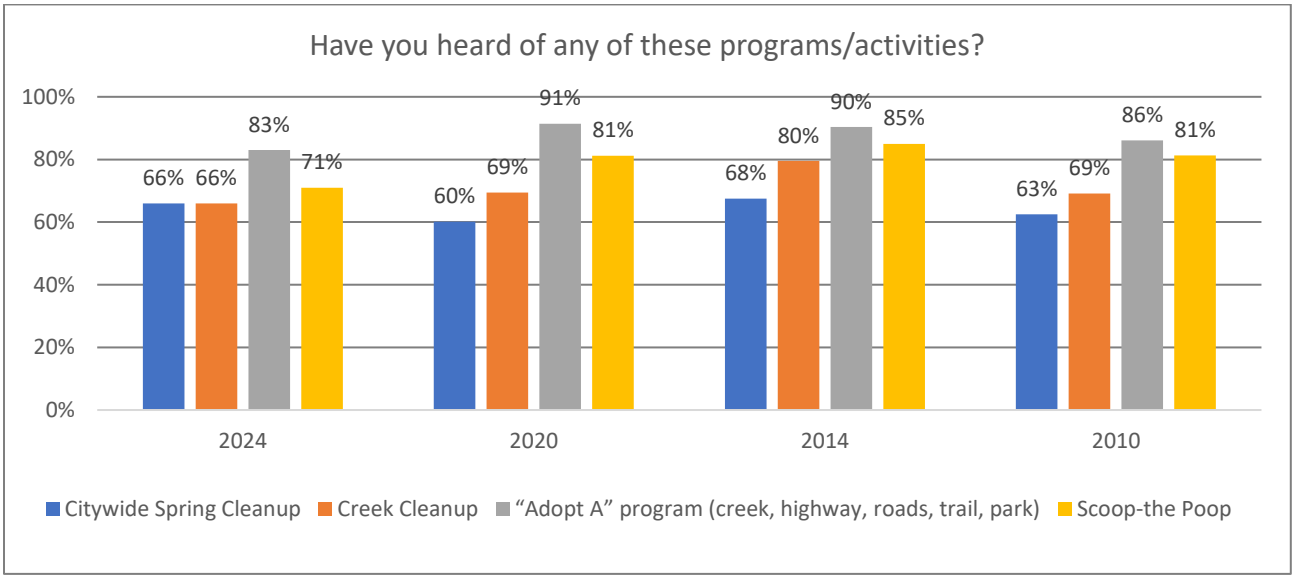

Figure 37 Have you heard of any of these programs/activities? 2024, 2020, 2014 and 2010

When looking at the four programs over time (Figure 38) in regard to participation, the numbers are also fairly consistent. Again, it's gratifying to see volunteer participation in these activities that benefit local waterways.

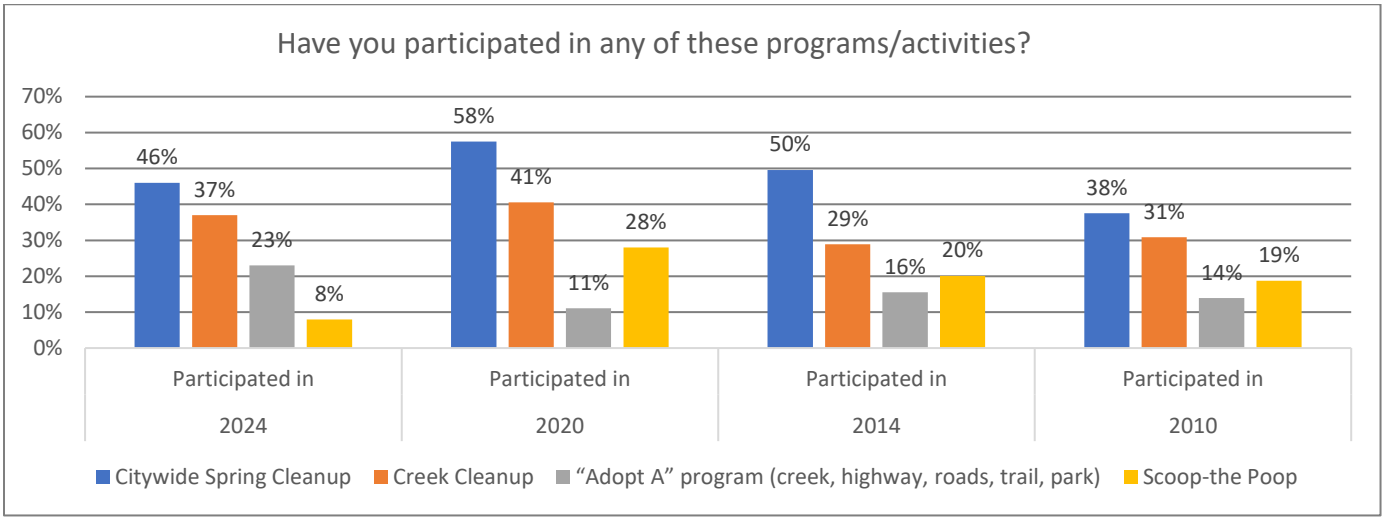

Figure 38 Have you participated in any of these program/activities? 2024, 2020, 2014, and 2024

Question 31. Have you heard of any of these organizations and/or are you a member of them?

This question looks at local environmental organizations to get an idea of Anchorage's participation in them. The range of those having heard of the organizations (Figure 39) is from 53% for Alaska Community Action on Toxics (ACAT) to 76% for Anchorage Waterways Council. Considering that AWC sent the survey, this makes sense. Membership among them ranges from 9% for Ducks Unlimited to 18% for the Alaska Center.

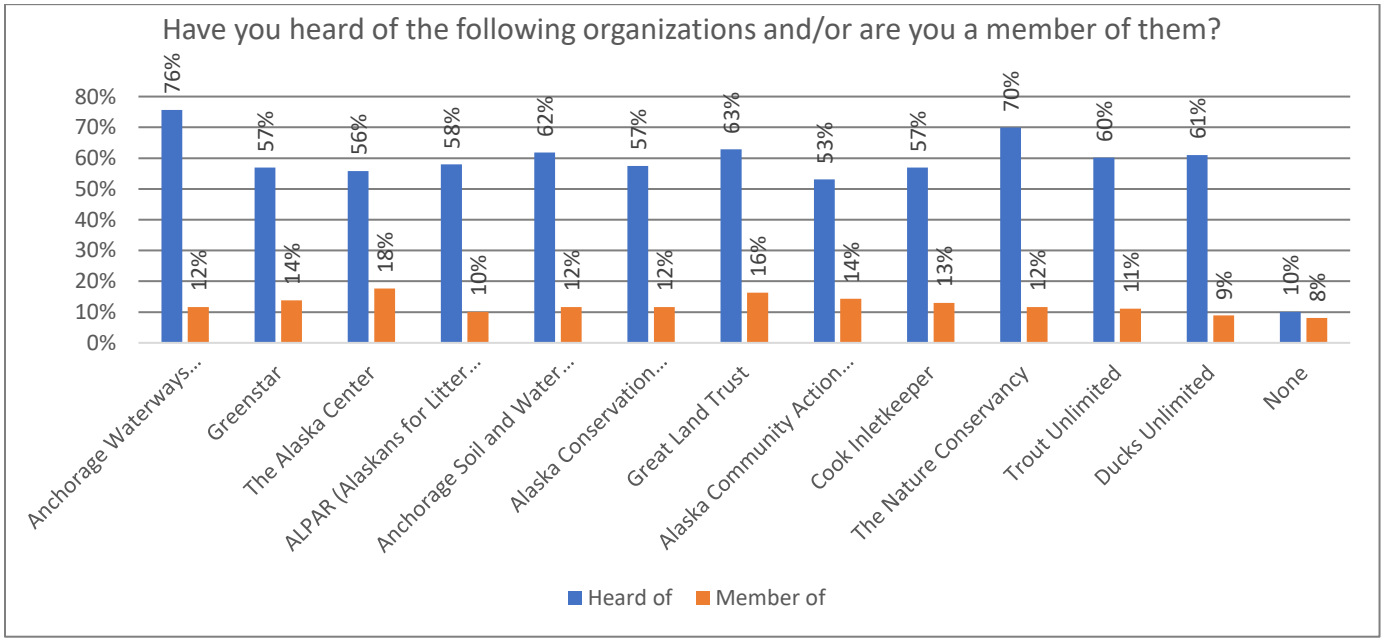

Figure 39 Have you heard of the following organizations and/or are you a member of them? 2024

Question 32. Please respond to these terms if you've 'heard of the word/term', 'understand the word/term', or are 'unsure/not familiar'.

For the 2024 survey, it was decided that merely having "heard" the word or term was not useful in understanding the respondents' actual familiarity with it. These responses, while not comparable to previous surveys, do provide a better picture of the respondents' comprehension. A good number of commonly used terminology, such as 'erosion', 'invasive plants and animals', and 'wetlands', resulted in over 60% of the respondents' answers. Some newer terminology or concepts, including 'biofiltration' and 'low impact development (LID)', were around 50% or less. This is not surprising by any means, but it does provide information on where to focus outreach work.

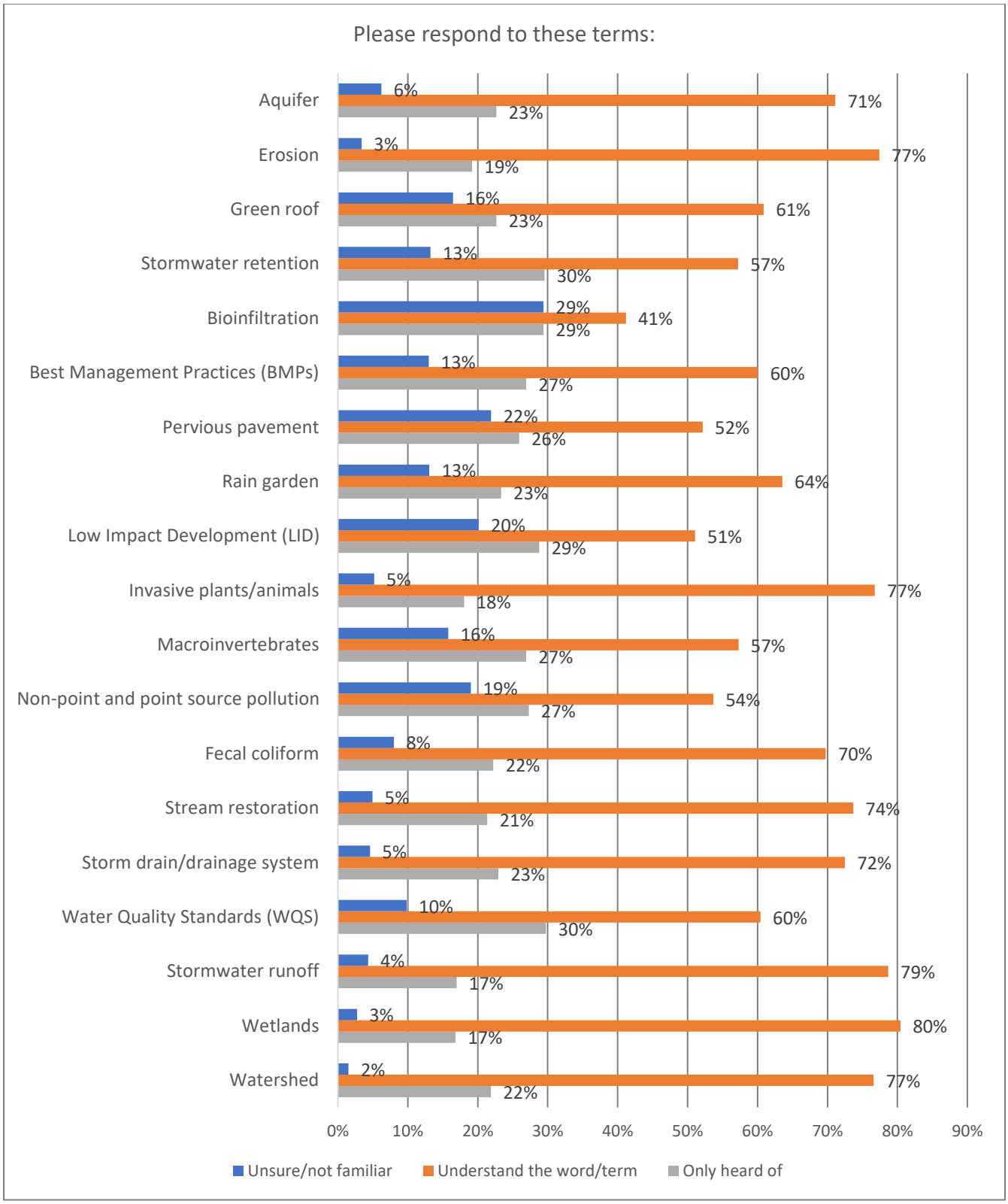

Figure 40 Please respond to these terms if you've 'heard of the word/term', 'understand the word/term', or are 'unsure/not familiar'. 2024

Question 33. Which are your preferred means of receiving information? (check all that apply)

There were 358 respondents to this question with 1,252 useful answers (Figure 41). The preferred methods to receive information remain "Email", "Internet/websites", and "Social media", which is similar to 2014 and 2020. "Nextdoor.com" and AWC's "Streamline" newsletter were singled out specifically with our newsletter holding strong. This data continues the trend of digital information holding strong.

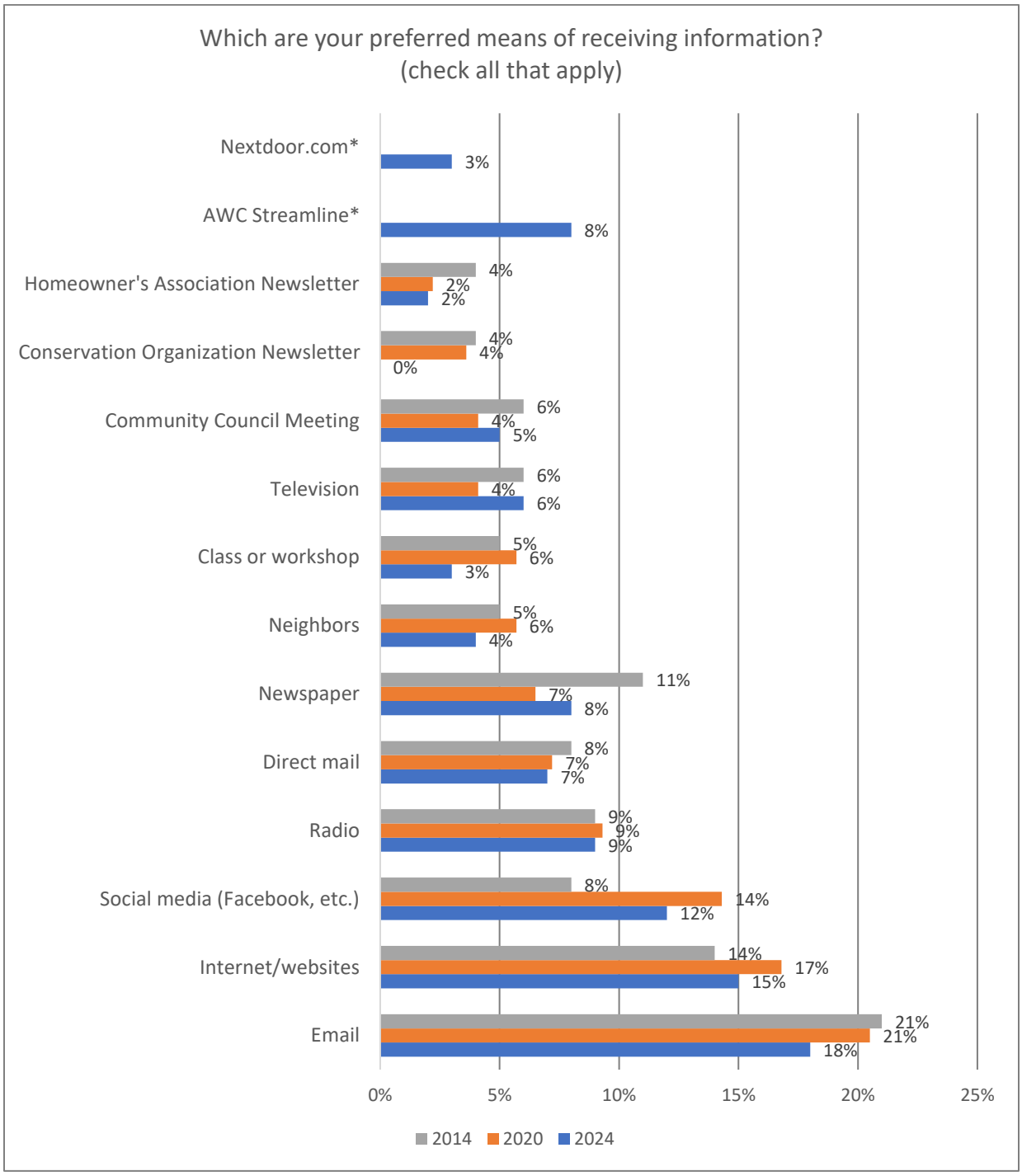

Figure 41 Which are your preferred means of receiving information (check all that apply)? 2014, 2020, and 2024

Question 34. Do you fish in Anchorage creeks or lakes?

This question and the following two are entirely new additions to the survey. The goal was to get an idea of Anchorage residents' familiarity with "Loons, Line, and Lead"[3], a relatively new outreach program by AWC, in partnership with the U.S. Fish and Wildlife Service (USFWS) and Bird TLC, that focuses on prevention of injuries, illness, and death to waterfowl and wildlife from discarded monofilament fishing line and lead fishing tackle. Of the 358 respondents, just under half (44%) said that they do fish in local waterways (Figure 42). For those who had not heard of the program, these questions introduce the respondents to important information which they could incorporate the actions into their fishing activities.

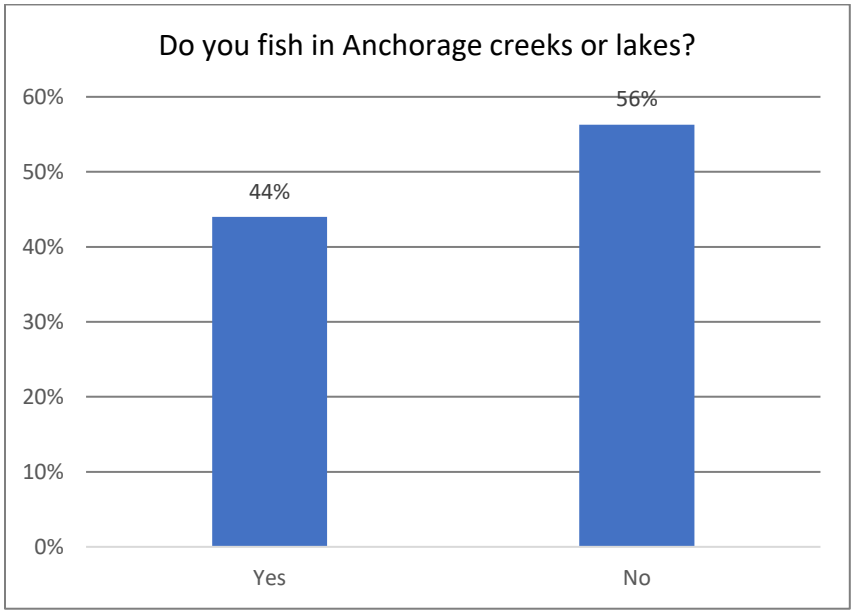

Figure 42 Do you fish in Anchorage creeks or lakes? 2024

Question 35. Did you know that Anchorage Waterways Council has placed over 20 monofilament fishing line and lead recycling bins around Anchorage?

As mentioned above, this question is a slightly veiled attempt at letting local anglers know that there are bins placed at popular fishing spots for collection and recycling of monofilament fishing line and lead tackle. Of the 358 respondents just over half (51%) are familiar with them (Figure 43), which is very good to know.

[3] https://www.anchoragecreeks.org/copy-of-salmon-toxin-6ppd-quinone

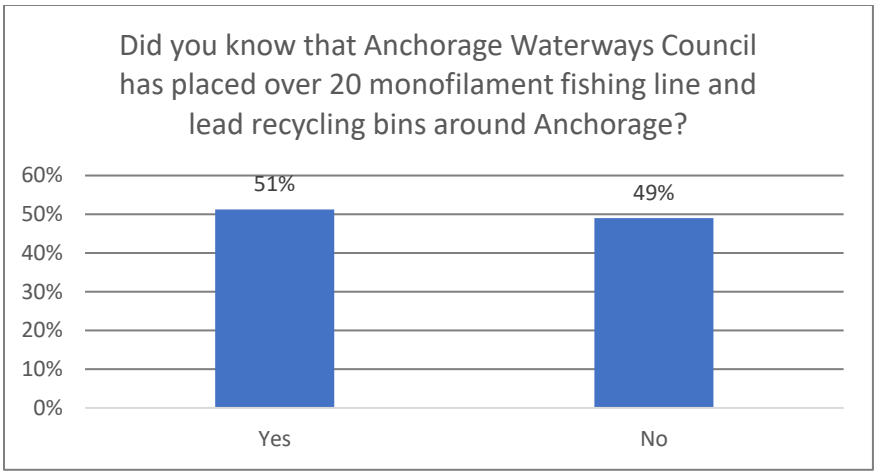

Figure 43 Did you know that Anchorage Waterways Council has placed over 20 monofilament fishing line and lead recycling bins around Anchorage? 2024

Question 36. Did you know that discarded lead tackle can harm or kill waterfowl that ingest it (lead poisoning)?

Eight-eight percent is a surprisingly high number of the 357 responses declaring that they understand the relationship between lead tackle and waterfowl toxicity (Figure 44). Incredibly, one small lead fishing weight can kill a loon by lead poisoning[4], which prompted AWC to partner with the U.S. Fish and Wildlife Service (USFWS) and Bird TLC to promote a campaign called "Love a Loon, Lose the Lead"[5] in order to reduce injury and mortality by encouraging fishermen to switch to non-lead fishing tackle.

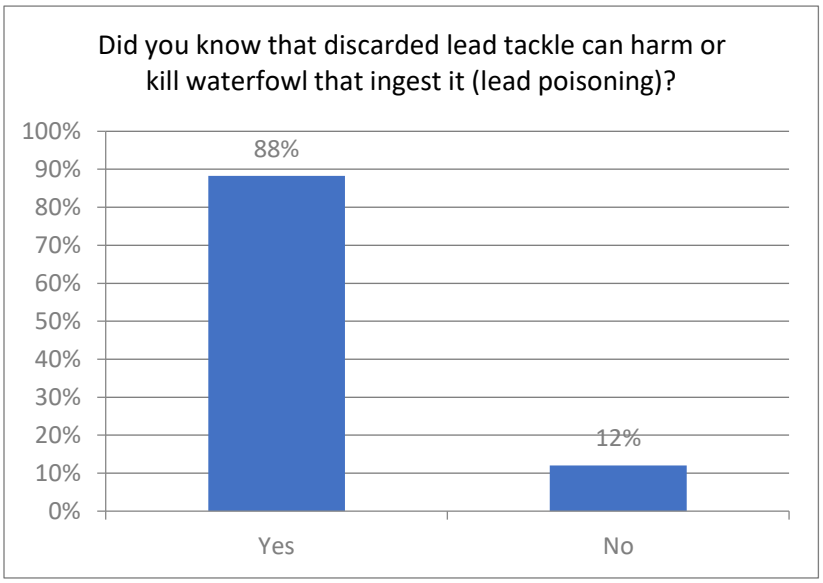

Figure 44 Did you know that discarded lead tackle can harm or kill waterfowl that ingest it (lead poisoning)? 2024

[4] https://www.fws.gov/lead-poisoning-in-loons#:~:text=The%20acid%20and%20grinding%20action,piece%20of%20lead%20fishing%20tackle.
[5] https://lovealoon.org/

Question 37. How many years have you lived in Anchorage?

Of the 353 respondents to this question, the majority (59%) have lived in Anchorage over 20 years (Figure 45). This is a good time period for respondents to have acquired the knowledge and experience useful to this type of survey.

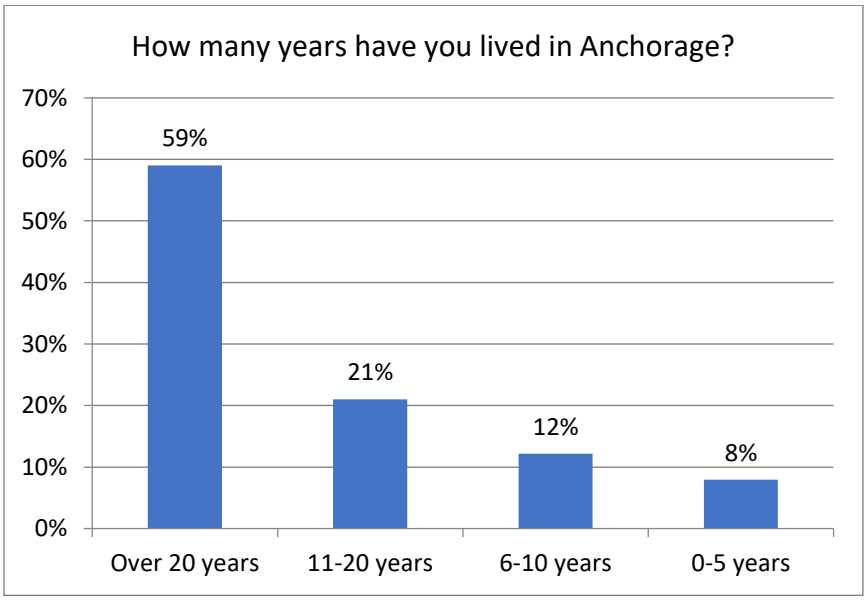

Figure 45 How many years have you lived in Anchorage?2024

Question 38. What is your age?

The age range for the 2024 survey was dominated by those in the between "35 and 54" (Figure 46).

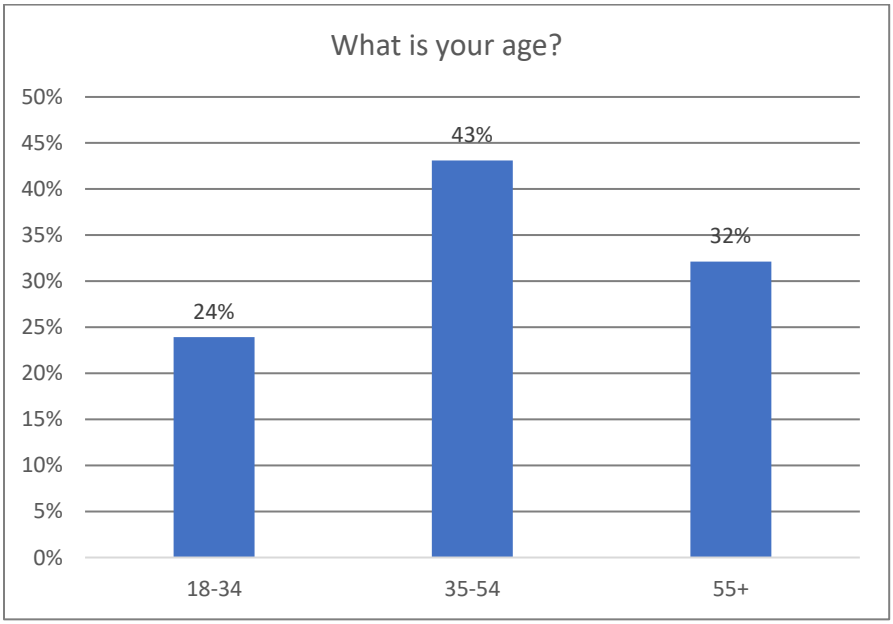

Figure 46 What is your age? 2024

Question 39. What is your education level?

Of the 354 respondents in the 2024 survey, 70% held 4-year college degrees and an additional 38% had post-graduate education.

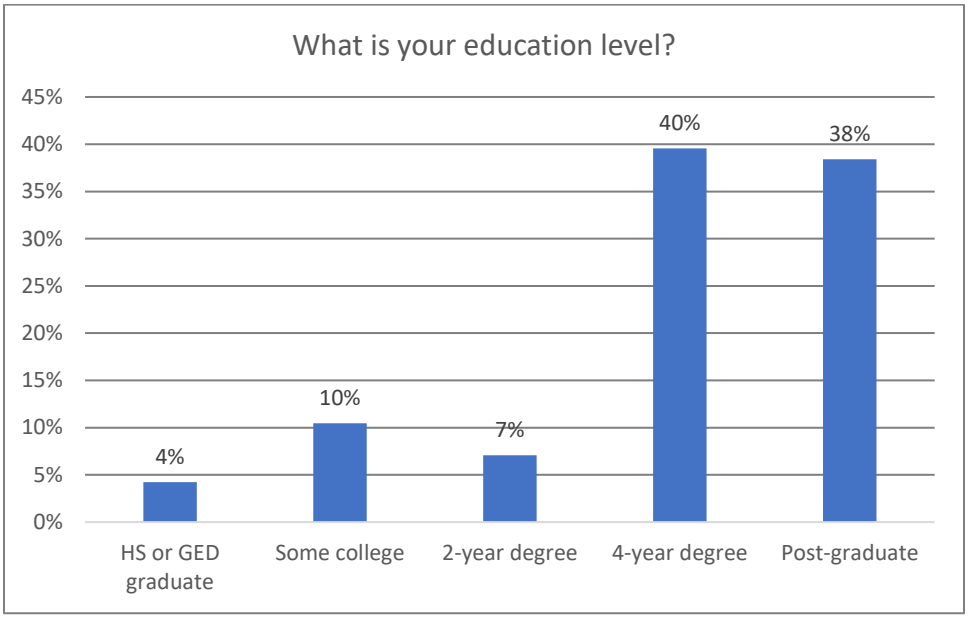

Figure 47 What is your education level? 2024

Question 40. What is your gender?

The gender distribution was again dominated by female respondents (Figure 48).

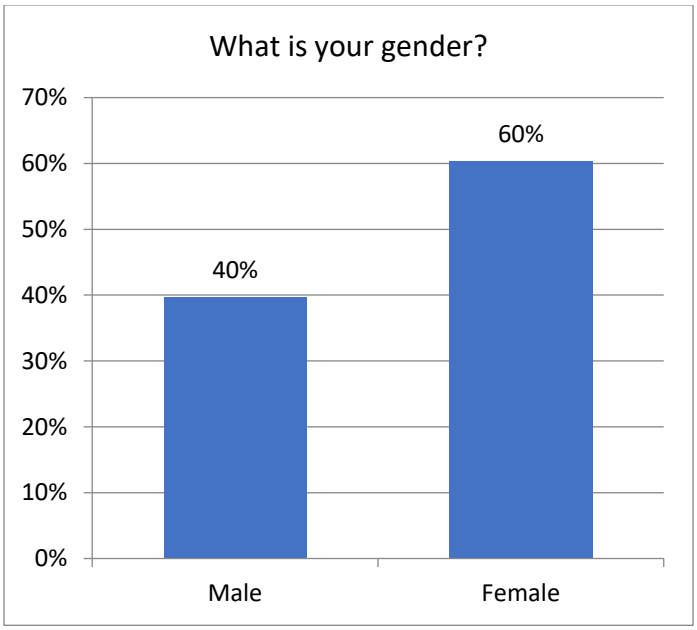

Figure 48 What is your gender? 2024

VI. Conclusion

This is the fourth watershed perception survey that AWC has completed since 2010. While great strides have been made in terms of improving the understanding by Anchorage's citizens of stormwater runoff impacts, there remain some areas where targeted education needs to continue. These include emphasizing the relationship between street runoff into waterways from:

- pet waste,
- vehicle washing and repairs,
- hazardous waste disposal,
- green waste disposal,
- snow disposal,
- and yard chemical runoff (ice melt products, fertilizers, herbicides and pesticides).

Pet waste remains, and will remain, a top priority although improvement is happening as witnessed by anecdotal reports about less being seen on trails and in parks and the frequency of pet owners acknowledging the importance of cleaning it up. Reports from the April 2025 "Scoop the Poop" day at University Lake and Connors Bog dog parks were encouraging[6].

AWC uses a variety of means to reach out to Anchorage citizens for stormwater education, especially the threats that local waterways face and how their actions can affect them. These include[7]:

- Creeks as Classrooms—AWC's outreach program for K-12 youth,
- Annual Creek Cleanup--40 years of volunteers doing spring cleanups in waterways,
- Scoop the Poop Day—an annual event focusing on cleaning up local dog parks,
- Water Quality monitoring—a volunteer program begun in 1998 to screen for aberrations in basic water quality parameters (pH, dissolved oxygen, turbidity, fecal coliform, etc.),
- Responding to issues—personal responses to citizen complaints,
- Tabling events—e.g. at Potter Marsh Discovery Day, Reading Rendezvous, and Dog Jog
- Social media posts on Facebook—Anchorage Waterways Council[8] and Scoop the Poop Anchorage[9],
- Media creation—AWC has commissioned two short graphic animations. One is on the impact of pet waste in a watershed[10], and the other illustrates how stormwater carries pollutants to waterways[11]

A more recent tactic has been to identify neighborhoods where a waterway is immediately adjacent to property and then send the property owner a letter with a handout titled, "How to live with a creek" (See Appendix). AWC has received some positive responses in return with requests for additional information sheets as well as "kudos" for sending the letters.

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[6] Personal communication from AWC director Vangie Wight on Scoop the Poop Day, 4/26/25, "With fewer than 20 large (40-gallon) yellow bags of dog waste collected in 4 hours—less than half of what we've gathered in any of the past 14 years was a surprise." 4/28/25.
[7] All programs are explained on AWC's website, www.anchoragecreeks.org
[8] https://www.facebook.com/anchoragewaterways
[9] https://www.facebook.com/ScoopthePoopAnchorage
[10] https://www.anchoragecreeks.org/projecto-2
[11] https://www.anchoragecreeks.org/stormwater-education

All in all, while change sometimes seems to move at a glacial pace, AWC is pleased with the results from this survey when compared to previous ones. Anchorage has a large and diverse population that includes newcomers who arrive with different habits and concerns as well as an older population that may be more resistant to change. Our goal is the keep evaluating what has been done and respond with changes that are more appropriate for the goals of expanding an understanding of how important the basics of a watershed are for protecting Anchorage's waterways.

Appendix

How to Live with a Creek

Be a steward for your local creek and keep an eye on it. Report any issues online at www.anchoragecreeks.org/report-an-issue.

Please Scoop the Poop! Pet waste carries a variety of pathogens, including bacteria and viruses, that can make humans and their pets extremely sick.

Don't water your driveway and paved areas and don't overwater your yard. Your yard only needs about 1" of water. Put an empty tuna tin on the area you're watering, and when it's full—you've watered enough.

Sweep your driveway rather than power washing or hosing it. All that debris will find its way into a creek.

Direct your downspouts ONTO your yard and OFF impermeable surfaces. Also, consider rain barrels and rain gardens to reduce yard runoff.

Reduce or eliminate yard and ice melt chemicals. Their ingredients can cause algae blooms and be detrimental to creek critters.

Don't dump yard waste into the creek or cut your lawn close to the creek's edge. Yard waste contains chemical additives as well as high nitrogen and phosphorus. Rather than bagging your grass clippings, mulch them on the lawn when you mow as a natural source of fertilizer. Yard waste that decomposes in waterways uses up dissolved oxygen which is essential for fish habitat. Leave native vegetation buffers along waterways.

Use car washes as they capture and recycle their waste water. Ultimately, waste water from car washes enters Anchorage's sanitary sewer system where it is treated. If you wash at home, park your vehicle on a lawn or gravel area and use non-phosphate cleaners.

Don't alter the bank or course of a creek. Creeks have a mind of their own about where they want to go, which is protected by local, state, and federal law.

Don't trample creek banks! Bank trampling by humans, bikes, dogs, and horses causes erosion and sediment to run off into waterways which disturbs gravel beds where fish spawn and little ones grow.

Protect and preserve shoreline vegetation and don't cut trees or remove vegetation within the creek setback. The vegetation provides habitat, shade to keep the water cooler, protection from prey, and stabilization of the streambank.

Don't disturb instream rocks or build dams and footbridges. The undersides of rocks are habitat for macroinvertebrates, which are food for fish, birds, and other aquatic inhabitants. Dams can block fish passage, and during highwater events—they and footbridges can catch debris and increase the likelihood of flooding in your yard.