



Bozeman Stormwater Study

Sam Coulter & Andrew
Calderhead

Background

- 80% of water from snowmelt runoff
- High growth rate leads to water supply issues
- Stormwater management impacts water quality

PEOPLE	
Population	
Population estimates, July 1, 2019, (V2019)	49,831
Population estimates base, April 1, 2010, (V2019)	37,273
Population, percent change - April 1, 2010 (estimates base) to July 1, 2019, (V2019)	33.7%
Population, Census, April 1, 2010	37,280

Literature Review

Green Infrastructure



Gray Infrastructure



- Expansion of cities causes need for stormwater management
- Two types: Grey and Green
- Most popular is combination of the two

Literature Review

- Two methods for determining public perceptions of stormwater management (green spaces)
- Site Observations & Surveys
- Methods are replicable for other studies



Research Questions

- How are green stormwater management areas being used by the public and what is their effectiveness?
- What can the City of Bozeman do differently to increase their effectiveness and how can Bozeman residents help?





Methods

- Site observations
 - Sam's – Cannery District
 - Andrew's – Story Mill Park
- Survey through Qualtrics
 - 34 total questions
 - our focus on #5,11,13,19,20

Results – Sam's Observations

- Observation 1: Tuesday 10:00 AM to 10:30 AM
 - 40 degrees Fahrenheit
 - Most traffic to coffee shop
 - Two groups of people sitting near green space eating/drinking
- Observation 2: Tuesday 3:00 PM to 3:30 PM
 - 50 degrees Fahrenheit
 - Most traffic to gymnastics studio
 - Trying to go to coffee shop, but it was closed
- Most interaction was looking at it as they walked by

Results – Andrew's Observations

Story Mill Community Park

- Site observation 1: 9/14/20 3:40pm-4:00pm
 - 12 individuals observed
 - Parents with kids, bikes, runners
- Site observation 2: 9/15/20 9:30am-9:50am
 - Bikes, runners, people commuting
 - Only 6 people observed
 - Fairly heavy smoke in air from fires

Results - Demographics



- White (~100%), n=46
- Middle aged (average of 44), n=48
- Highly educated (everyone some college, 75% bachelors or post-grad), n=49
- Upper-middle class (50% household income above \$75,000), n=42
- Long-time residents (average 13.5 years in Bozeman), n=50

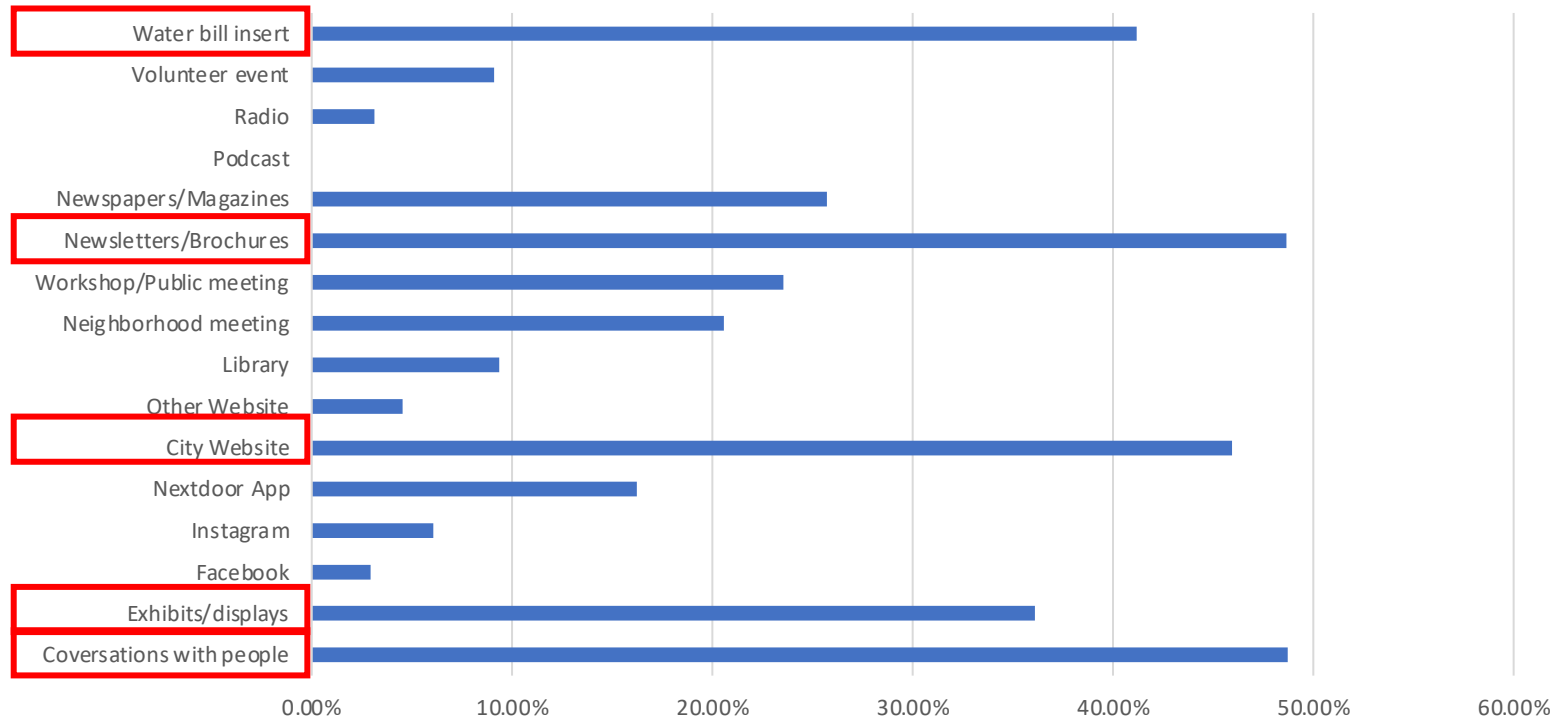
Results – Question 5

Please indicate whether or not you heard about the City's stormwater management program through the following:

	Yes	No
Conversations with other people	<input type="radio"/>	<input type="radio"/>
Exhibits or displays at parks or natural areas	<input type="radio"/>	<input type="radio"/>
Facebook	<input type="radio"/>	<input type="radio"/>
Instagram	<input type="radio"/>	<input type="radio"/>
Nextdoor app	<input type="radio"/>	<input type="radio"/>
City of Bozeman website	<input type="radio"/>	<input type="radio"/>
Other website (please specify) <input type="text"/>	<input type="radio"/>	<input type="radio"/>
Local library	<input type="radio"/>	<input type="radio"/>
Neighborhood meetings	<input type="radio"/>	<input type="radio"/>
Workshops/Public meetings	<input type="radio"/>	<input type="radio"/>
Newsletters/Brochures/Fact sheets	<input type="radio"/>	<input type="radio"/>
Newspapers/Magazines	<input type="radio"/>	<input type="radio"/>
Podcast	<input type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>
Volunteer event	<input type="radio"/>	<input type="radio"/>
Water bill insert	<input type="radio"/>	<input type="radio"/>
Other (please specify) <input type="text"/>	<input type="radio"/>	<input type="radio"/>

Results – Question 5

How People Have Heard About You



- Conversations with other people – 49%
- Exhibits or displays – 36%
- City of Bozeman website – 46%
- Newsletter/Brochures/Fact sheets – 49%
- Water bill insert – 41%
- n=39

Results – Question 11

In your opinion, the amount you pay on your stormwater bill on average, is: (choose one)

- ☐ Far too little
- ☐ Too little
- ☐ About right
- ☐ Too much
- ☐ Far too much
- ☐ *Unsure/Don't know*

- Too little – 18.5 %
- About right – 66.5%
- Too much – 7.5%
- Unsure/Don't Know – 7.5%
- n=27

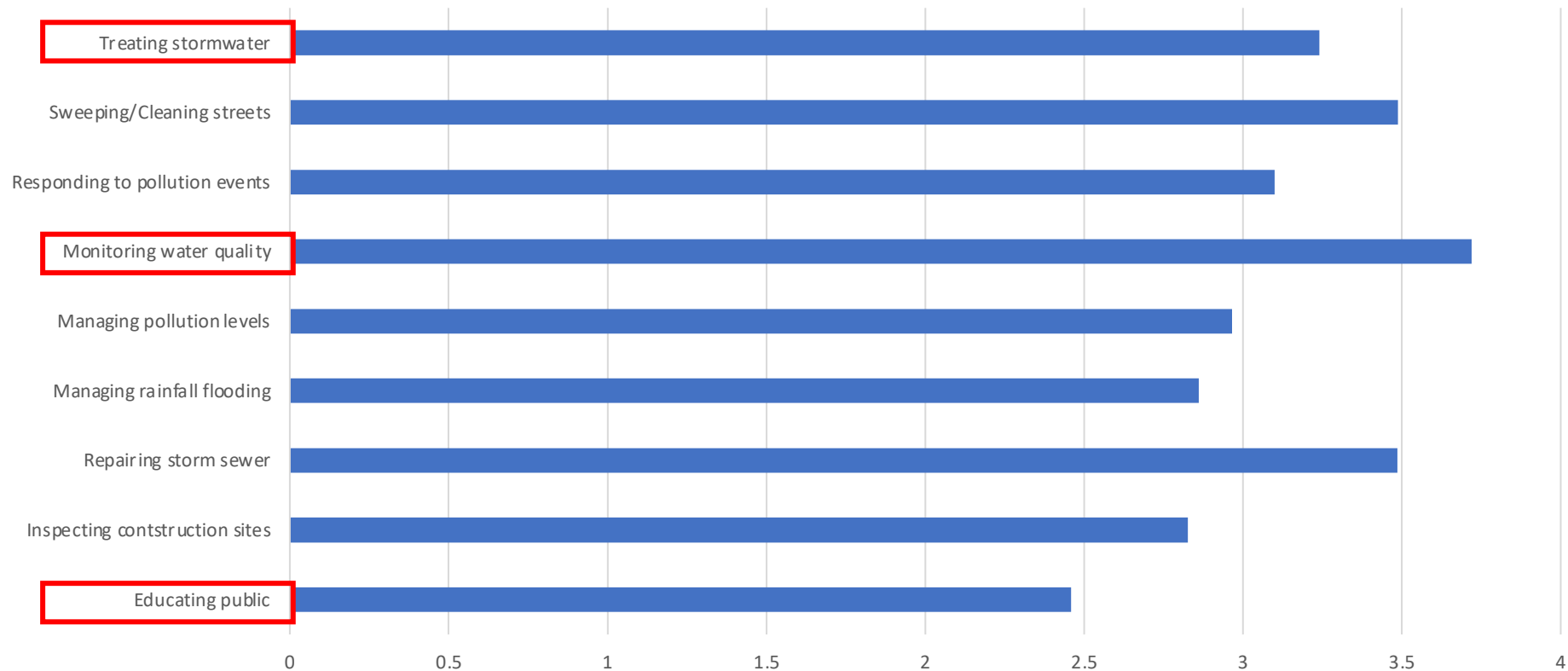
- Not at all effective (1)
- Slightly effective (2)
- Somewhat effective (3)
- Very effective (4)
- Extremely effective (5)

[illegible]

Results – Question 13

- Educating public – mean of 2.46, lowest
- Monitoring water quality – mean of 3.72, highest
- Treating stormwater – way too high
- Unsure answers were all very high
- n=54

Public Perception of Effectiveness



Results – Question 19

Please indicate which statement most accurately describes your level of willingness to do the practices listed below.

	I already do this practice	Not at all willing	Slightly willing	Somewhat willing	Very willing
Apply fertilizer at or below manufacturer guidelines during dry weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apply pesticides at or below manufacturer guidelines during dry weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Install a rain barrel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Install a rain garden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Install permeable pavement or bricks for driveways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep fertilizer off roads, driveways and sidewalks during dry weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep grass clippings off the road and on my yard or into a yard debris receptacle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Move my vehicle on a set schedule to facilitate street sweeping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in the City of Bozeman's Adopt-A-Drain program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pay more for stormwater services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pick up and properly dispose of dog waste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Properly dispose of hazardous household waste (including batteries, chemicals, light bulbs, and automotive fluids)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volunteer for a water clean-up event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volunteer for a water monitoring event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wash my car in a commercial car wash not in my driveway	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Pick up/dispose dog waste – 50% already do
- Volunteer for water monitoring – 54% somewhat and very willing
- Volunteer for water clean up – 60% somewhat and very willing
- Move car for sweeping – 25% already do, 44% somewhat/very willing
- High number of people somewhat and very willing to do a lot of things
- n=52

Results – Question 20

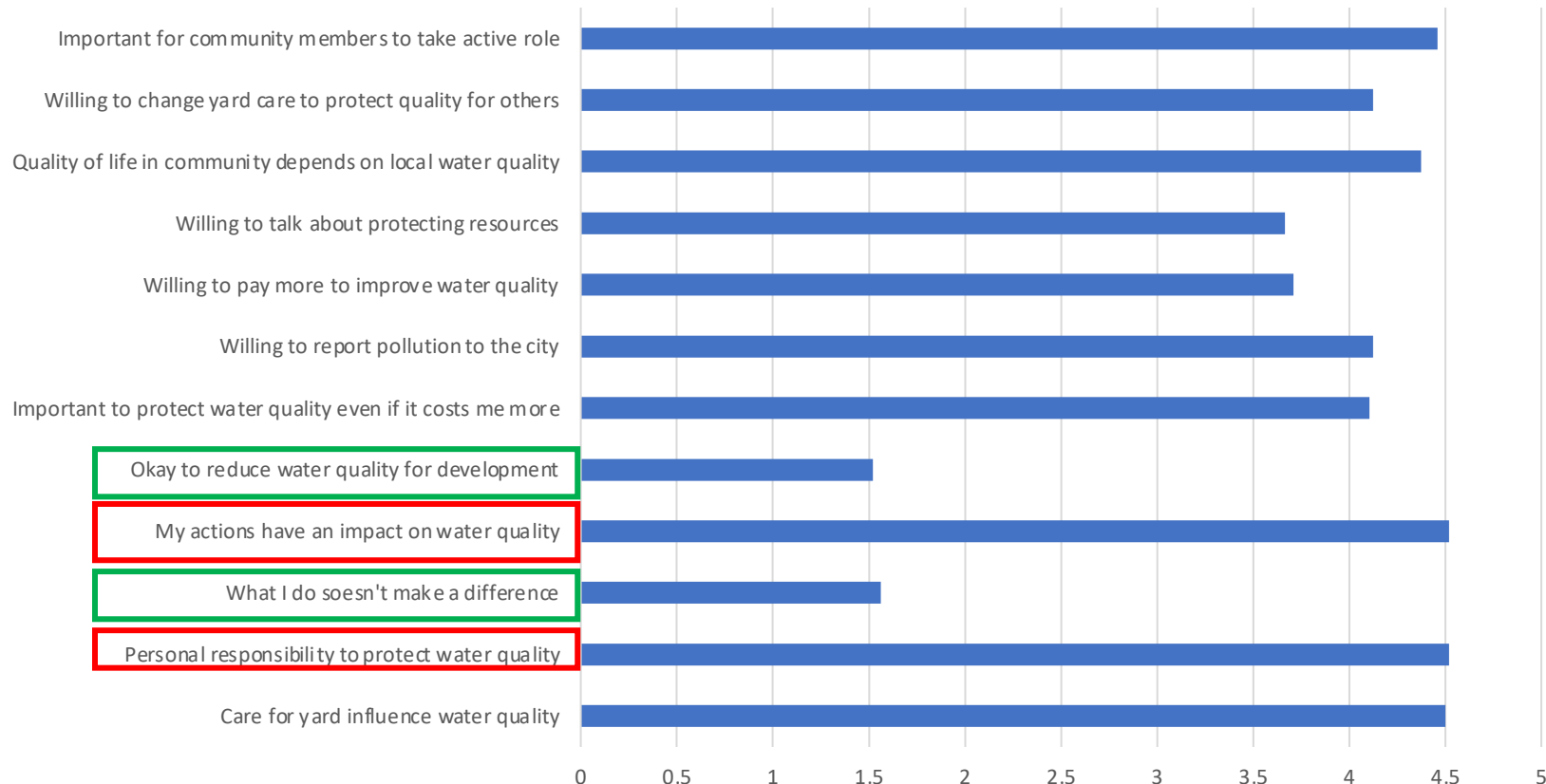
Please indicate your level of agreement or disagreement with the statements below.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The way that I care for my yard can influence water quality in local streams and rivers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is my personal responsibility to help protect water quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What I do on my land doesn't make much difference to overall water quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My actions have an impact on water quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is okay to reduce water quality to promote economic development.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to protect water quality even if it costs me more.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to report pollution to the City.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to pay more to improve water quality. (for example: through local taxes or fees)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to talk to other people about how to protect water resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of life in my community depends on good water quality in local rivers and streams.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to change the way I care for my yard because I am concerned about the quality of water for my downstream neighbors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important for community members to take an active role in determining the future of Bozeman's creeks/rivers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Strongly Disagree (1)
- Disagree (2)
- Neither (3)
- Agree (4)
- Strongly Agree (5)

Results – Question 20

People's Perceptions About Their Actions



- Personal responsibility to protect water quality/Actions have an impact on water quality – mean of 4.52, highest
- It is okay to sacrifice water quality for economic development/What I do doesn't make a difference – mean of 1.52/1.56, lowest
- Same trend for every question
- n=48

Conclusion

- People hear about the program through conversations, City of Bozeman Website, and Water bill inserts
- People are accepting of their current stormwater bills
- Perceptions by public: education is lacking, and people are unsure about what exactly stormwater division does
- A lot of people are willing to try new things and/or volunteer at events
- Large majority of people believe their actions have an impact

Limitations

- Site Observations
 - Weather
 - Time of day
 - View of area
 - Daily Coffee shop closure
 - Bridger Foothills Fire smoke
 - COVID-19
- Survey
 - Small number of responses
 - Low amount of diversity



Recommendations



- Increase education and awareness of stormwater program/what you do
 - More signs and informational posters around green spaces
- Improve existing/future infrastructure's effectiveness
 - Curb cuts in parking lots
 - More permeable paver use
 - Lower soil level for these areas

Recommendations



- Don't increase prices for stormwater bills
- Hold more volunteer events
 - Both quality monitoring and clean-up events
 - Disperse results

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City of Bozeman Stormwater Survey and Research

Nate King and Everett Coba

Background

Survey conducted to-

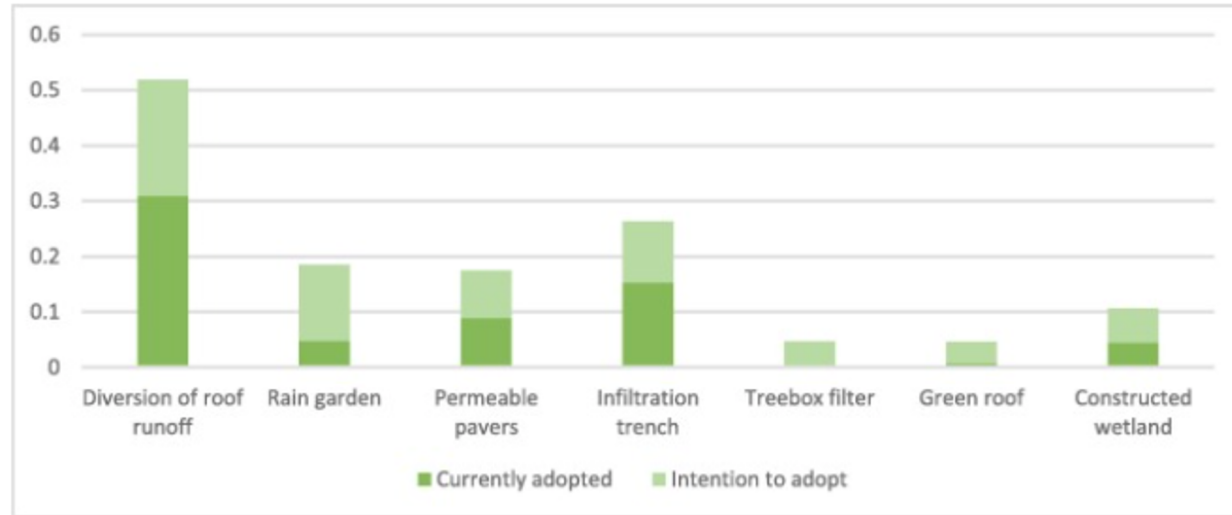
- Understand locals knowledge of stormwater and stormwater infrastructure
- Attain input from individuals of what they would prefer to see from the city on issues around stormwater.



Literature Review

-Survey in Vermont to understand what type of GSA citizens would be willing to adopt

-20% of survey respondents were planning on adopting rain barrels for collecting roof run-off



(Coleman et al., 2018)

Our Research Questions

- What are the connections Bozeman residents have to local waterways?
- What are people's current actions and willingness to act regarding stormwater management?



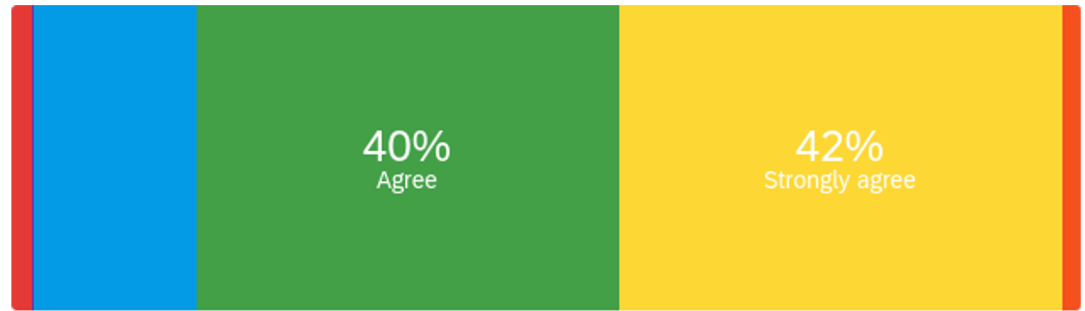
Data Collection and Analysis

- Survey designed in Qualtrics, and information about the survey was sent out to Bozeman residents as a bill insert from september.
- 56 usable responses
- Analysis was conducted for questions 16,17,19,21, & 23



Results - Connections to Waterways

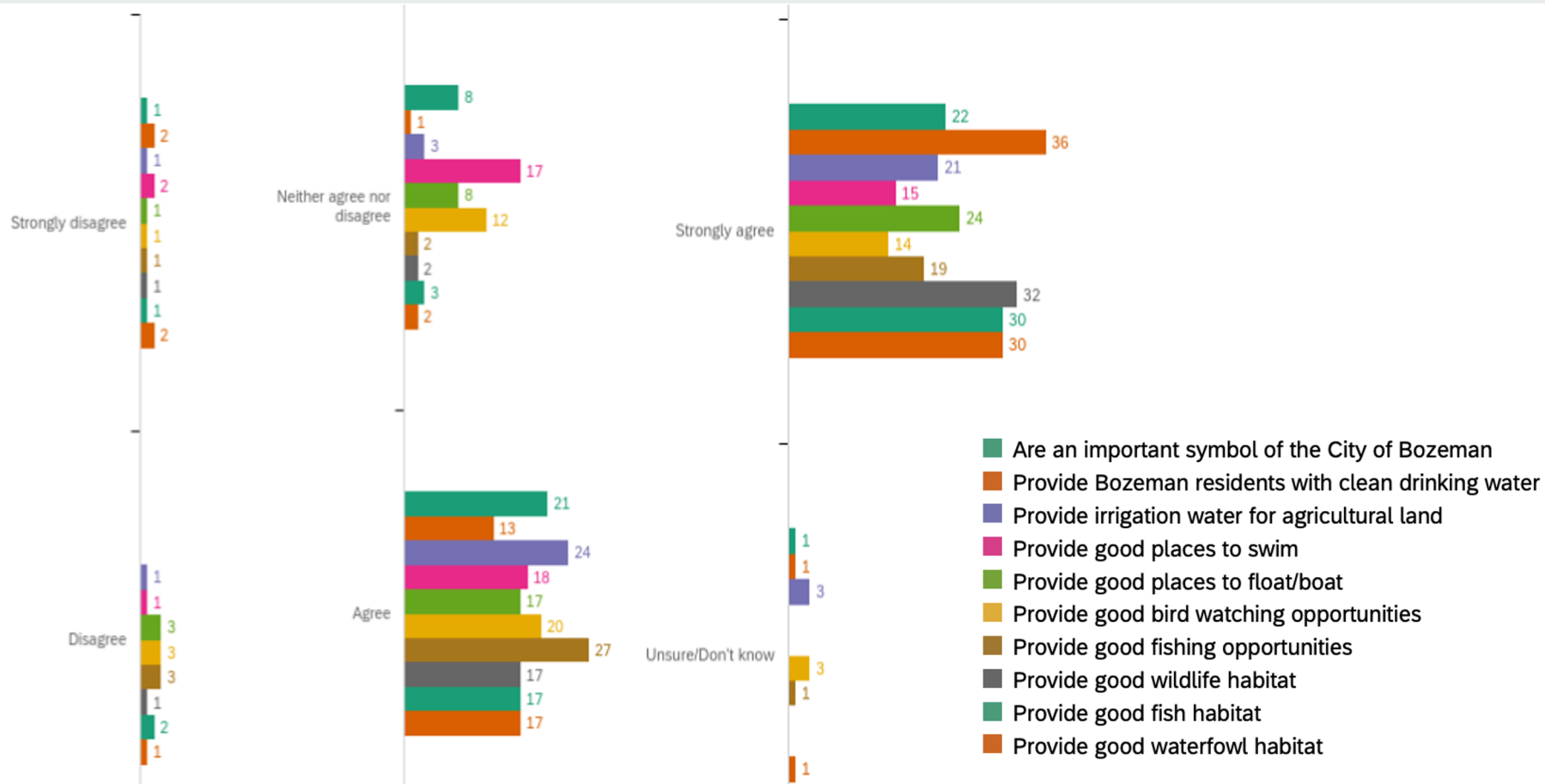
Q16 - Connection to Bozeman's waterbodies Please indicate your level of agreement or disagreement with the statements below. In general Bozeman's local waterbodies are important because they...



Strongly disagree Disagree Neither agree nor disagree Agree

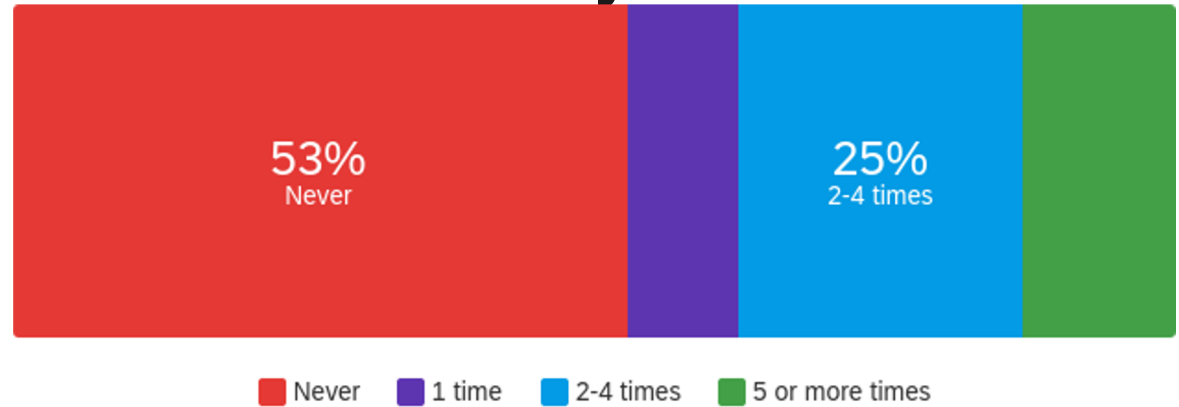
Strongly agree Unsure/Don't know

56 Total Responses

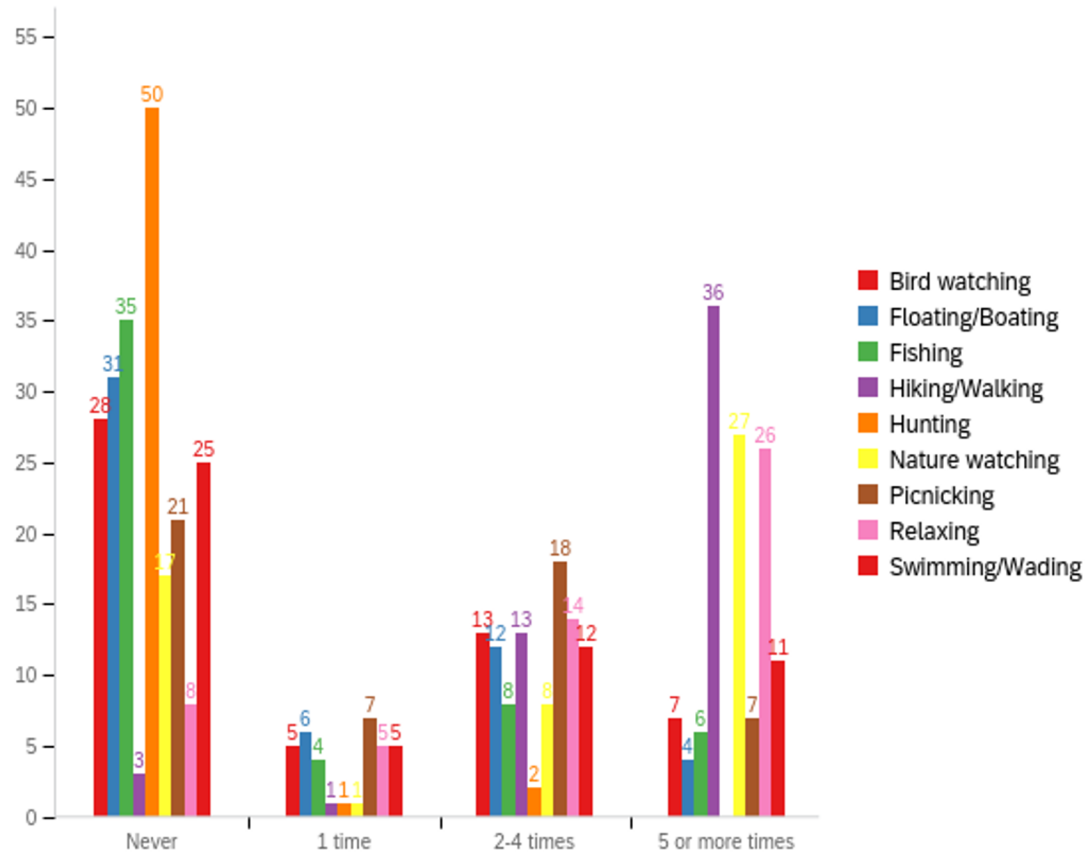


Results - Connection to Waterways

Q17 - In the last 12 months, how often, if at all, did you participate in the following activities in/adjacent to Bozeman Creek, the East Gallatin River, Mandeville Creek, or local ponds (e.g., Bozeman Beach)?

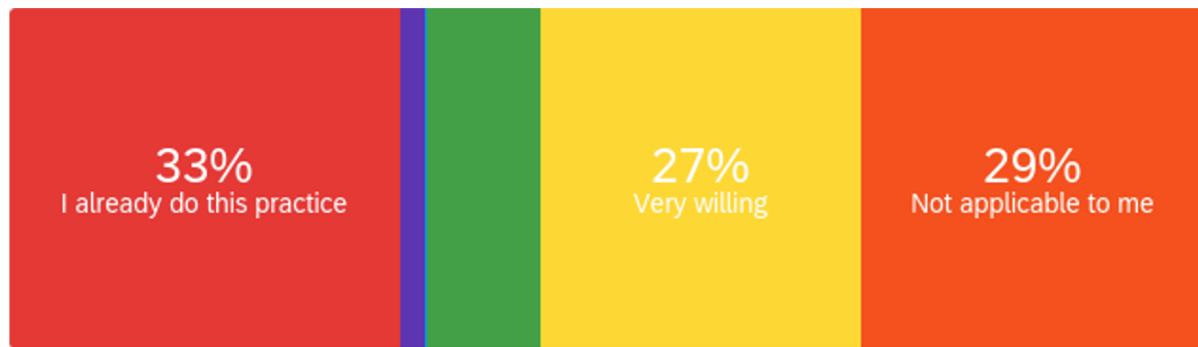


53 total responses



Results - Willingness to act and current actions

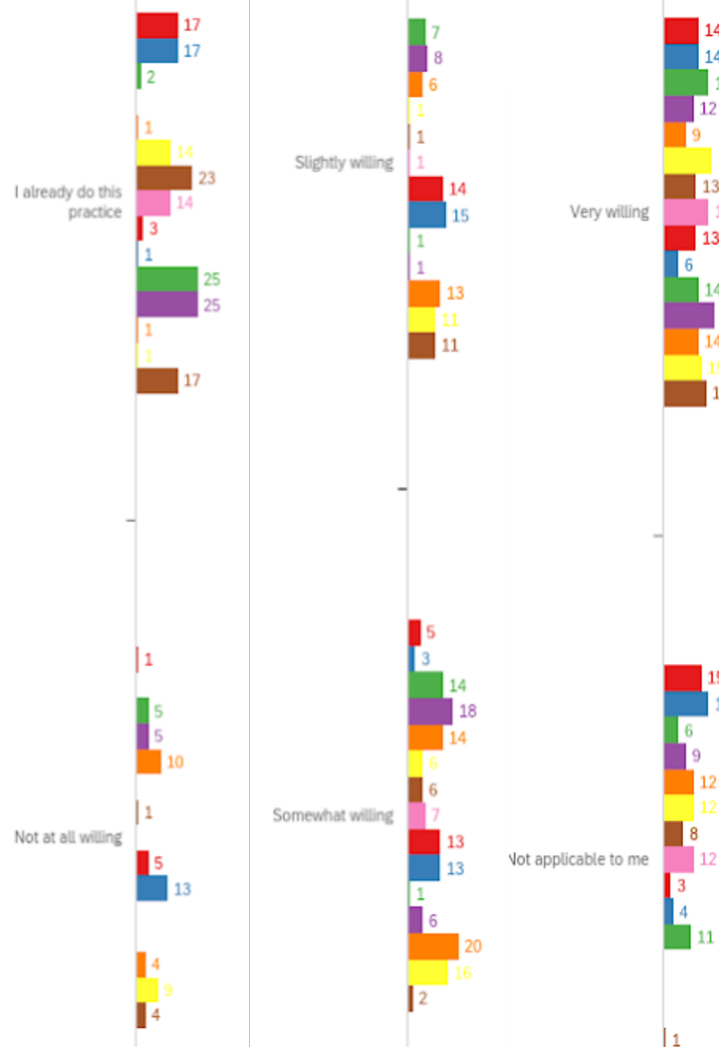
Q19 - Stormwater practices Please indicate which statement most accurately describes your level of willingness to do the practices listed below.



■ I already do this practice ■ Not at all willing ■ Slightly willing ■ Somewhat willing

■ Very willing ■ Not applicable to me

53 Total Responses



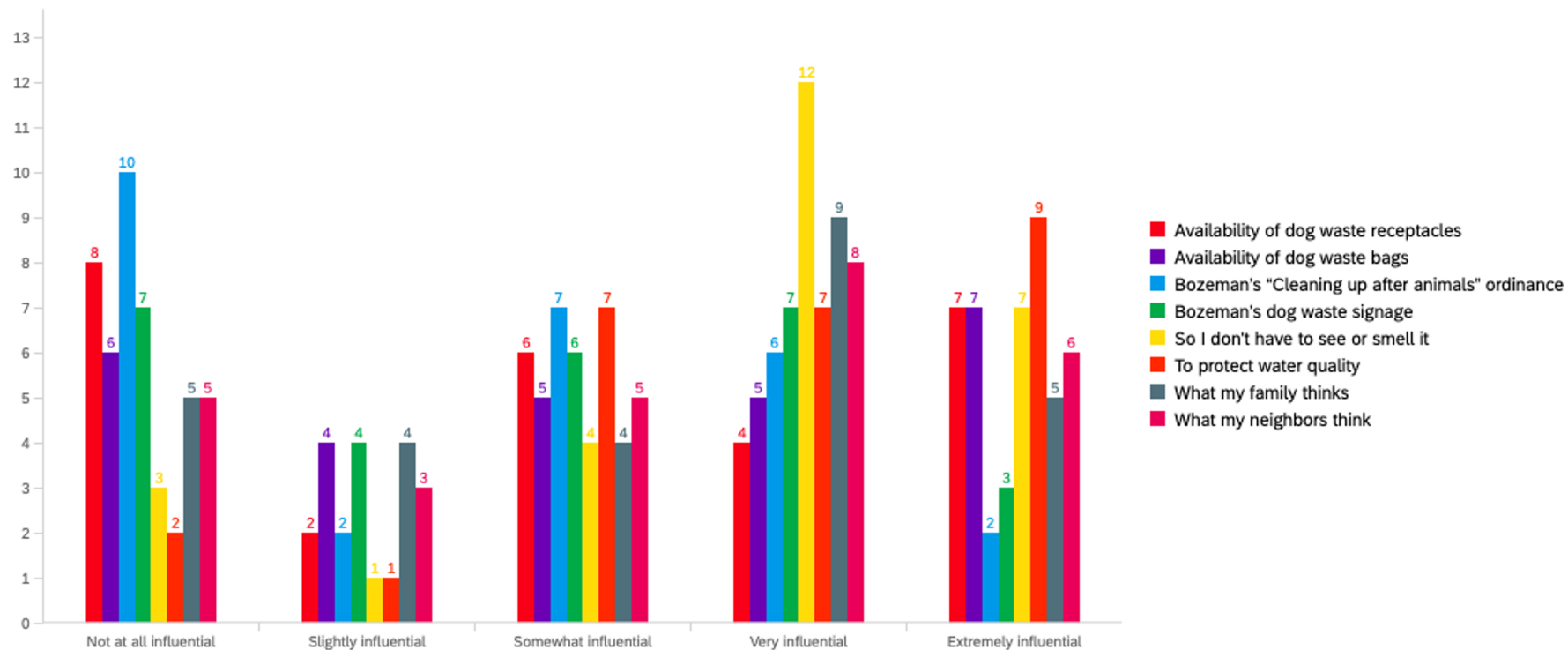
- Apply fertilizer at or below manufacturer guidelines during dry weather
- Apply pesticides at or below manufacturer guidelines during dry weather
- Install a rain barrel
- Install a rain garden
- Install permeable pavement or bricks for driveways
- Keep fertilizer off roads, driveways and sidewalks during dry weather
- Keep grass clippings off the road and on my yard or into a yard debris rece...
- Move my vehicle on a set schedule to facilitate street sweeping
- Participate in the City of Bozeman's Adopt-A-Drain program
- Pay more for stormwater services
- Pick up and properly dispose of dog waste
- Properly dispose of hazardous household waste (including batteries, chemica...
- Volunteer for a water clean-up event
- Volunteer for a water monitoring event
- Wash my car in a commercial car wash not in my driveway

Results- Willingness to act and current actions



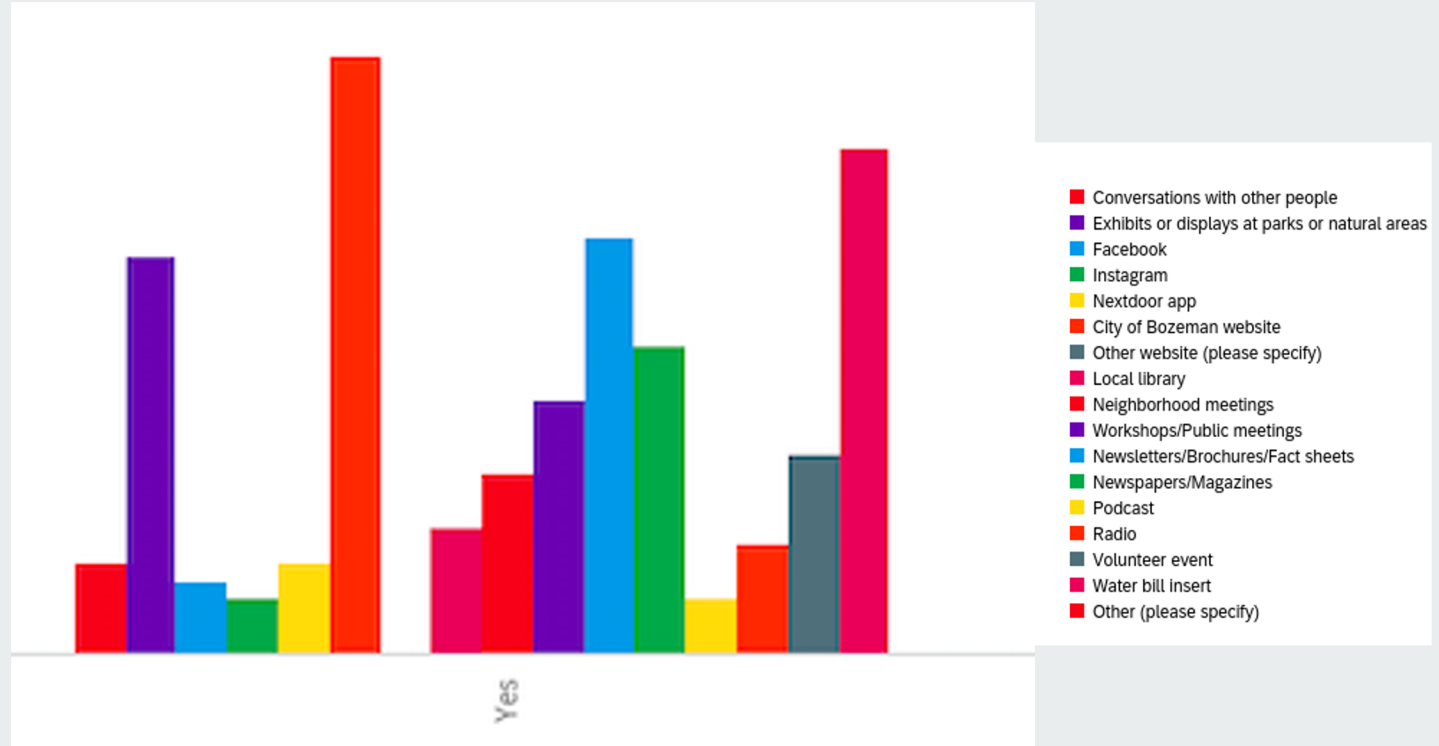
Q21- Please Indicate how influential, if at all, the following are on your motivation to pick up dog waste.





Results- Connection to waterways

Q23- If you were to seek information about stormwater management, where are you likely to seek that information?





Conclusions

Connection to Waterways:

- Most people believe bozeman's waterways are important for a variety of reasons
- Clean drinking water and good wildlife habitat among the top categories for "strongly agree"
- Hiking/walking, nature watching, relaxing, among the top categories for "5 or more times".
- Most people get stormwater info from water bill inserts and the city website.

Willingness to act and current actions:

- Majority of respondents already participate or are very willing to participate in actions.
- Installing Rain barrel, moving car off street for cleaning, and disposing of hazardous household waste properly amount the top categories for "very willing."
- Paying more for stormwater services top category in "not willing at all."
- People mostly willing to pick up dog poop if they have a dog.

Recommendations

- Rain barrel program for city residents (i.e. installing a rain barrel gives you discounts on stores/restaurants around town, or 20% off regular stormwater service bill).
- Maintain local parks near bozeman creek
- More simplified and modern exposure/ education
 - Street art, signage at park, emails, etc.
- More information/advertising on city of Bozeman Website.





Citations

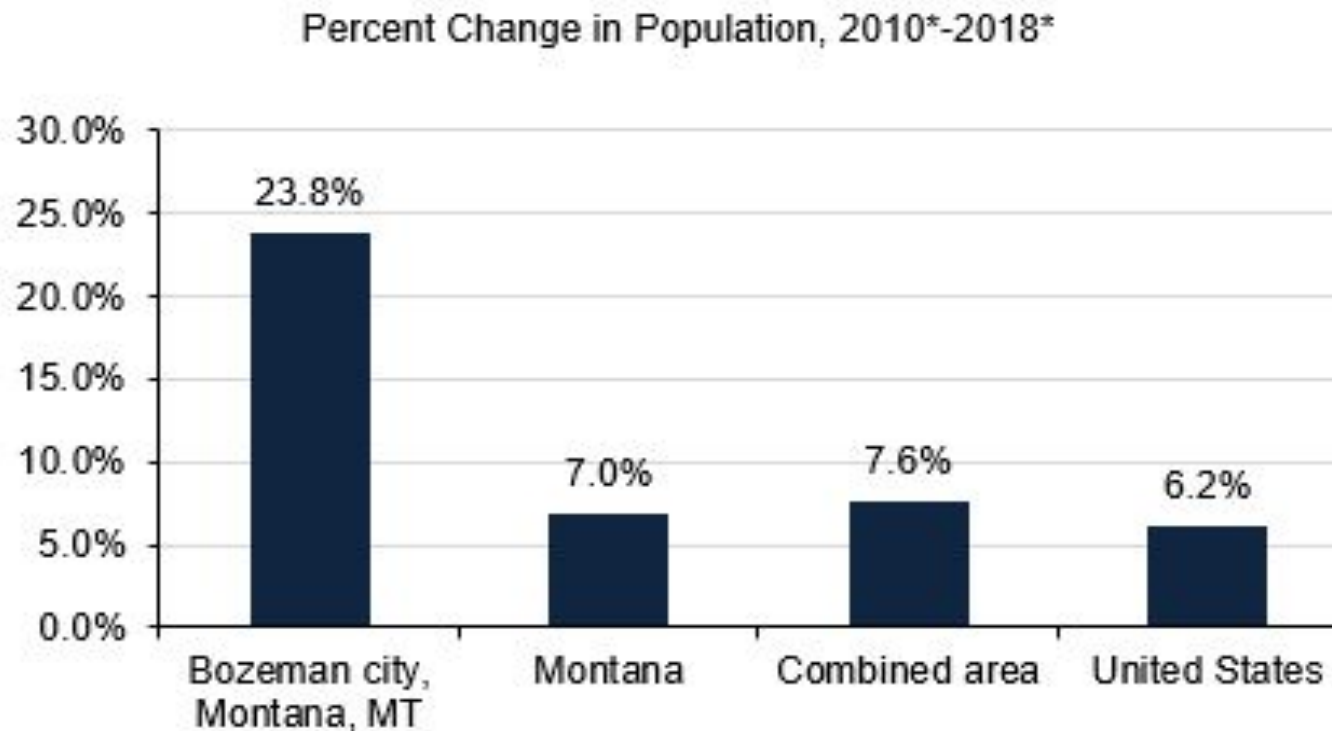
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Bozeman Stormwater System and How It's Perceived by the Community

Josh Eaton & Levi Simonson

Bozeman's Growing Population



- Bozeman experienced annual average 4.3% growth rate between 2010-2018 (ACS, 2018).
- This growth rate showcases a large relative population change compared to the rest of Montana and the United States.



Bozeman's Stormwater Division

- The stormwater system is directly connected to Mandeville Creek, Bozeman Creek, and the East Gallatin River.
- Bozeman's stormwater enters these systems "untreated"



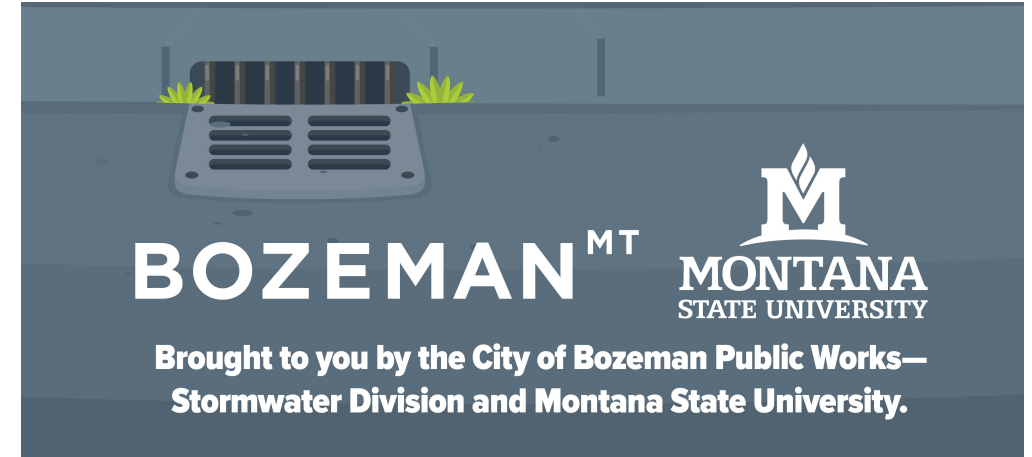


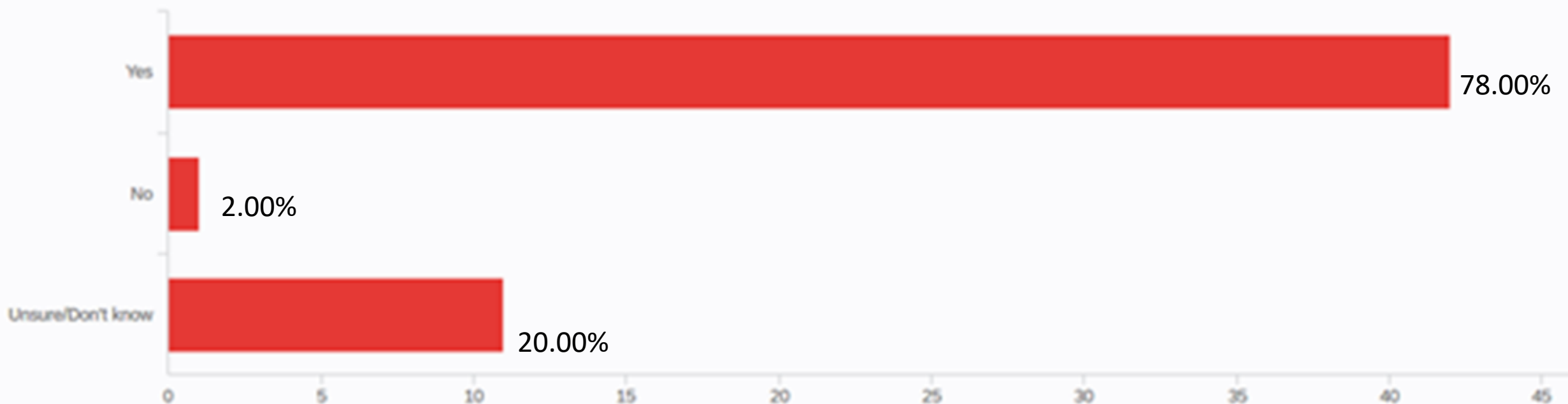
Current Municipal Stormwater Discourse

- There is direct evidence the municipal water impacts adjacent waterways (Papangelakis p.6).
- Multiple studies agree there is a disconnect between city's stormwater divisions and the local residents (Burns p. 2-3 & Roy p.4)
- There are also monetary challenges with implementing green infrastructure within cities (Spatari., 2017).

Survey Background

- The City of Bozeman partnered with MSU students to create a survey to better their understanding of how Bozeman residents recognize the stormwater system.
- Using academically accepted survey techniques our class developed a survey of questions ranging from short responses to agree/disagree scale-based questions.
- Our group focused in on questions 4, 8, 12, 16.





Q4: To the best of your knowledge does the City of Bozeman have a stormwater management program?

50 respondents

#	Answer	%	Count
1	None	0.00%	0
2	A little	10.00%	5
3	Some	36.00%	18
4	A lot	52.00%	26
5	All	2.00%	1
	Total	100%	50

Q8: In your opinion, how much pollution in Bozeman waterways comes from stormwater if any?

50 respondents

Q12: Before you took this survey, did you know that the City of Bozeman's Stormwater Division provided the following services?

#	Question	Yes		No		Total
1	Completes flood control projects	51.02%	25	48.98%	24	49
2	Educates the public about stormwater	73.47%	36	26.53%	13	49
3	Inspects construction sites	51.02%	25	48.98%	24	49
4	Installs stormwater treatment devices	63.27%	31	36.73%	18	49
5	Maintains and repairs the public storm sewer	85.71%	42	14.29%	7	49
6	Monitors water quality	85.71%	42	14.29%	7	49
7	Regulates stormwater management in new development	63.27%	31	36.73%	18	49
8	Responds to pollution events	57.14%	28	42.86%	21	49
9	Sweeps and cleans streets	55.10%	27	44.90%	22	49

49 respondents

Q16: PLEASE INDICATE YOUR LEVEL OF AGREEMENT OR DISAGREEMENT WITH THE STATEMENTS BELOW. IN GENERAL BOZEMAN'S LOCAL WATERBODIES ARE IMPORTANT BECAUSE THEY...

#	Question 16	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Unsure/Don't Know
1	Are an important symbol of the City of Bozeman	2.04%	0.00%	12.24%	40.82%	42.86%	2.04%
2	Provide Bozeman residents with clean drinking water	4.08%	0.00%	0.00%	24.49%	69.39%	2.04%
3	Provide irrigation water for agricultural land	2.04%	0.00%	4.08%	46.94%	40.82%	6.12%
4	Provide good places to swim	4.08%	2.04%	30.61%	34.69%	28.57%	0.00%
5	Provide good places to float/boat	2.04%	4.08%	14.29%	32.65%	46.94%	0.00%
6	Provide good bird watching opportunities	2.04%	6.12%	24.49%	34.69%	26.53%	6.12%
7	Provide good fishing opportunities	2.04%	6.12%	4.08%	48.98%	36.73%	2.04%
8	Provide good wildlife habitat	2.04%	2.04%	4.08%	30.61%	61.22%	0.00%
9	Provide good fish habitat	2.04%	4.08%	6.12%	30.61%	57.14%	0.00%
10	Provide good waterfowl habitat	4.08%	2.04%	4.08%	30.61%	57.14%	2.04%

49 respondents

Conclusion

- Our survey was not a simple random sample. Accordingly, the results cannot be applied back to the population of Bozeman at large
- The survey provided insight into the way that the local waterbodies are a part of the community through recreation and as a water resource
- Its important to note that a large proportion (80%) of respondents knew that the city runs a stormwater division
- Moreover, almost 90% of the respondents understood that stormwater can pollute local water systems

Recommendations

- The city needs to make sure to take a water and planning approach to stormwater management, allowing for a wider perspective on the stormwater system, appeal to outdoor culture within Bozeman.
- Community engagement aspects discussed within class to help better include and inform to community in stormwater related planning decisions
- Bozeman has a youthful and growing population that loves the outdoors, appeal to that sense.



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A photograph of a concrete stormwater culvert. The culvert is a large, dark, cylindrical structure made of concrete, partially submerged in water. A metal grate is visible at the end of the culvert, with water flowing over it. The surrounding area is covered with green grass. The text "How Does Stormwater Affect Bozeman?" is overlaid on the image in white, bold, sans-serif font.

How Does Stormwater Affect Bozeman?

By: Joe Peoria and Matthew Mounsey
Montana State University
GPHY 491

Context

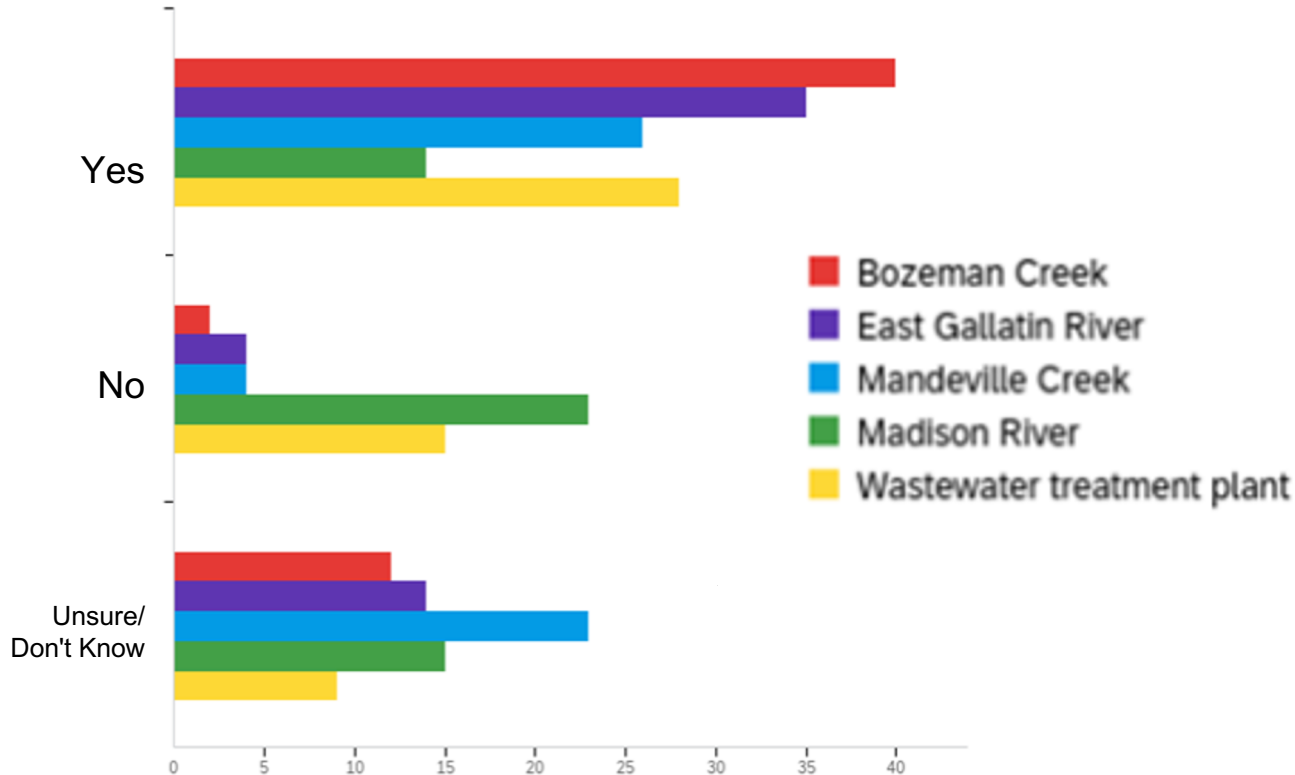
- Bozeman has grown 23.8% since 2010 (U.S. Census Bureau, 2018)
- 20,325 Total Housing Units (U.S. Census Bureau, 2018)
- "Residents who are attached to their neighborhood through social ties are likely to be civically engaged in water resource protection." (Pradhananga & Davenport 2017)

Research Questions



1. How do the people of Bozeman understand and perceive where stormwater goes, how it affects water quality, and what pollutants can be transmitted through it? (Q6 & Q7)
2. Where are there gaps in residents' knowledge pertaining to the stormwater management system in Bozeman and their own impact on water pollution? (Q6 & Q7)
3. How many people in Bozeman are affected by excess runoff (flooding), and how many times of the year are they affected? (Q14)
4. What stormwater pollution mitigation practices do the people of Bozeman currently practice, and which ones are they most willing to begin practicing? (Q17)

Q6: To the best of your knowledge, please indicate whether or not you think the City of Bozeman's stormwater drains into the following: (N=61)



- 45.9% of respondents (n=28) stated they thought stormwater was treated by a waste treatment plant.
- 64.5% (n=40) of respondents stated stormwater drains into Bozeman Creek.

Q7: The items listed below are sources of water quality pollution across the country. In your opinion, how much of a problem, if at all, are the following sources in the Bozeman area? (N=59)

Fertilizers/chemicals used on golf courses: 3.4 Waste from domestic pets(dogs, cats, etc.): 2.9

Fertilizers/chemicals used on farm fields: 3.3 Automotive fluids(motor oil,antifreeze, etc.): 2.9

Fertilizers/chemicals used on lawns: 3.3 Improperly maintained septic systems: 2.9

Debris/Erosion From Construction sites: 3.3 Discharge from Industry: 2.6

Fertilizers/chemicals used on non-residential landscaping: 3.1 Manure from farm animals: 2.6

Trash and illegal dumping: 3.0 Car wash soap: 2.5

Erosion from streams/river banks: 2.9 Grass Clippings: 2.3

Erosion From Farm Fields: 2.9 Leaves: 2.3

Severity of Pollution:

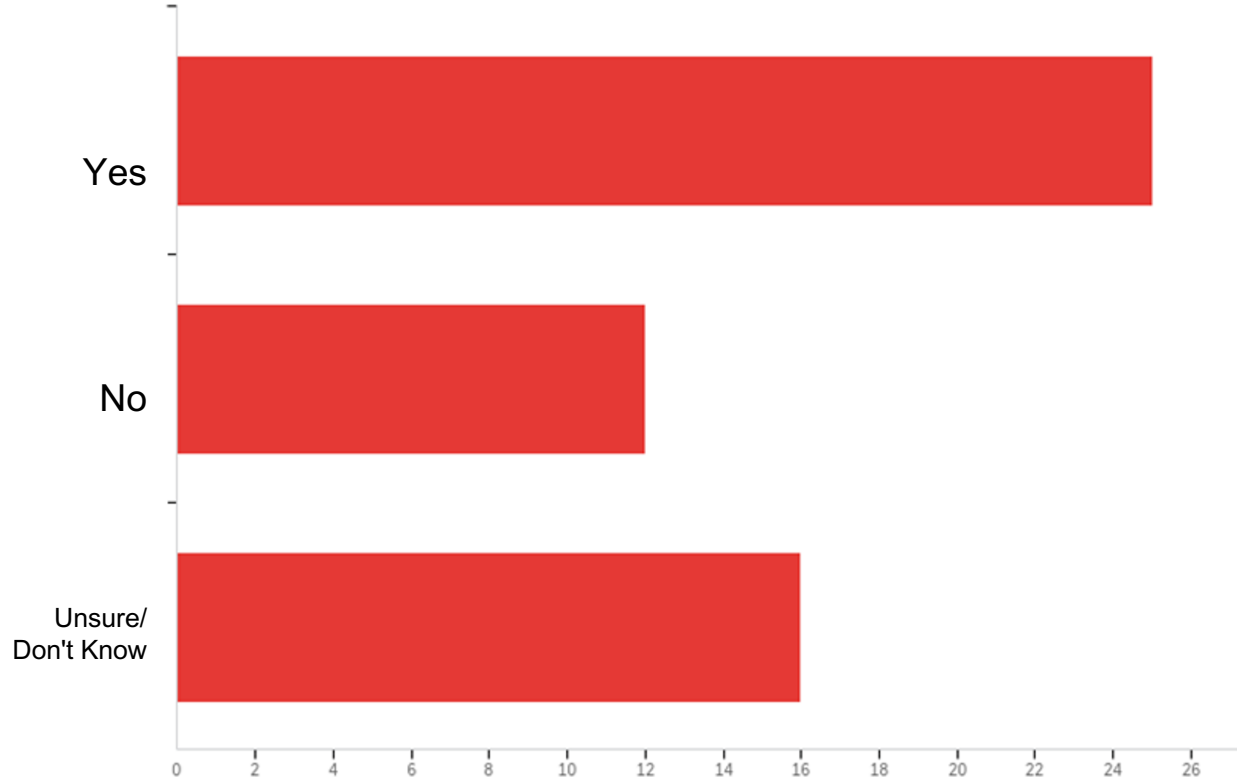
1 = No Problem

2 = Slight Problem

3 = Moderate Problem

4 = Severe Problem

Q10: Do you pay a monthly bill for stormwater services? (n=57)



- 21.1% of respondents (n=12) stated they did *not* pay a bill for stormwater service, and 28.1% (n=16) were unsure.

Q14: In the past 12 months, how many times if at all, have the following flooding events impacted you? (n=55)



- Flooding of city streets: **45.5%** experiencing at least once
- Flooding in yards and basements: **3.6%** experiencing at least once

Q14 Con't (n=55)

<u>Flood Event</u>	<u>Never</u>	<u>1-2 Times</u>	<u>3-4 Time</u>	<u>5+ Times</u>	<u>Not Applicable</u>
Flooding on Bozeman's sidewalks	74.5% (n=41)	25.5% (n=14)	0%	0%	0%
Flooding on City Streets	54.5% (n=30)	34.5% (n=19)	7.3% (n=4)	3.6% (n=2)	0%
Flooding in Parking Lots	67.3% (n=37)	25.5% (n=14)	5.5% (n=3)	0%	1.8% (n=1)
Flooding in Local Parks	70.9% (n=39)	20.0% (n=11)	7.3% (n=4)	1.8% (n=1)	0%
Flooding in My Basement	96.4% (n=53)	3.6% (n=2)	0%	0%	0%
Flooding in My Yard	96.4% (n=53)	3.6% (n=2)	0%	0%	0%

Q17: Stormwater practices. Please indicate which statement most accurately describes your level of willingness to do the practices listed below: (n=52) means

Install a rain garden: 4.2

Install a rain barrel: 4.1

Move my vehicle on a set schedule to facilitate street sweeping: 4

Apply pesticides at or below manufacturer guidelines during dry weather: 4

Install permeable pavement for driveways: 4

Apply fertilizer at or below manufacturer guidelines during dry weather: 3.8

Keep fertilizer off roads, driveways and sidewalks during dry weather: 3.8

Volunteer for a water clean-up event: 3.7

Participate in the City of Bozeman's Adopt-A-Drain program: 3.6

Volunteer for a water monitoring event: 3.5

Pay more for stormwater services: 3.3

Pick up and properly dispose of dog waste: 3.2

Keep grass clippings off the road and on my yard or into a yard debris receptacle: 3.0

Properly dispose of hazardous household waste(including batteries, chemicals, light bulbs, and automotive fluids): 2.8

Wash my car in a commercial car wash not in my driveway: 2.8

1 - I already do this

2 - Not willing

3 - Slightly willing

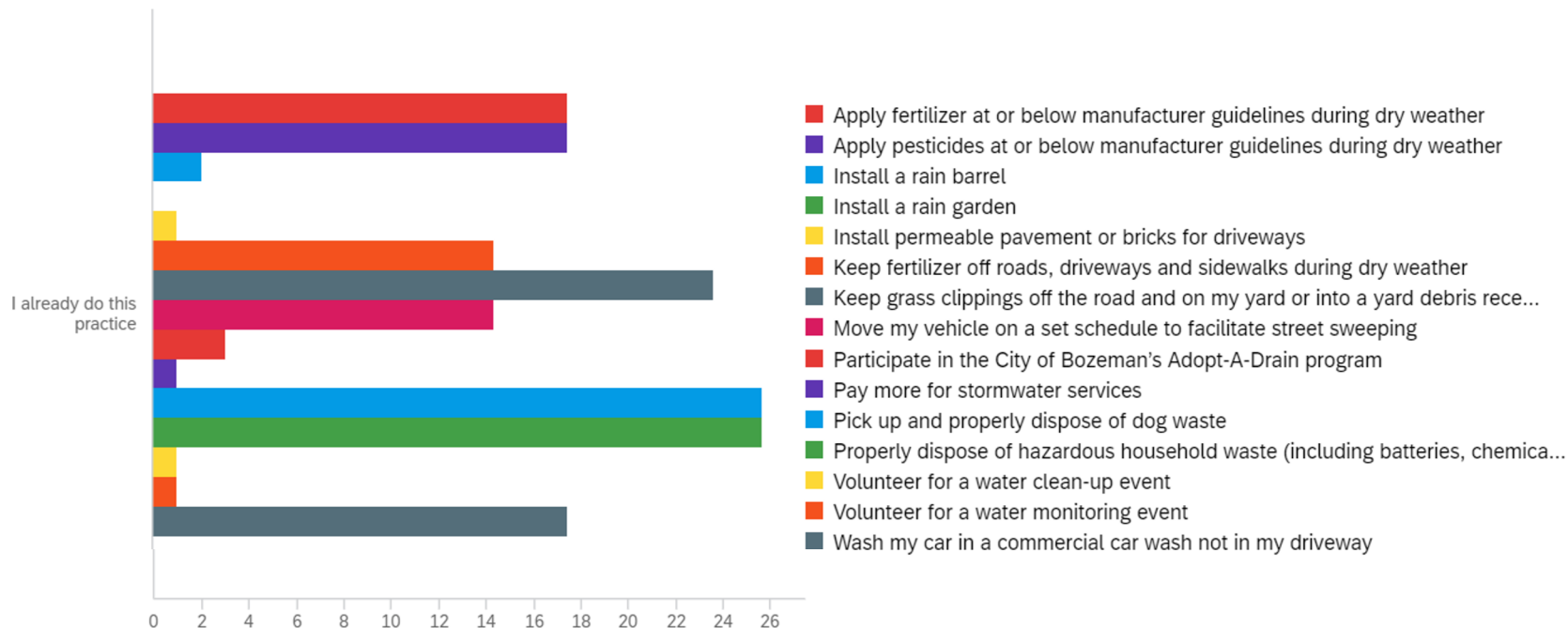
4 - Somewhat Willing

5 - Very willing

6 - Not Applicable

1's and 6's were removed from the analysis

Q17 (Continued)



Summary & Recommendations

- 45.9% believed stormwater is treated: explore more options for related education?
- 28.1% were unsure if they paid a bill for stormwater utility: consider more information in the billing process.
- 45.5% had experienced street flooding in the last year: continue to prioritize maintenance of streetside storm drains & flood mitigation
- More public outreach to explain the effects of grass clippings, hazardous household waste, and the act of washing your car in your driveway.