

Bozeman Stormwater Survey

Selected Results

Does Bozeman stormwater drain into water treatment plant?

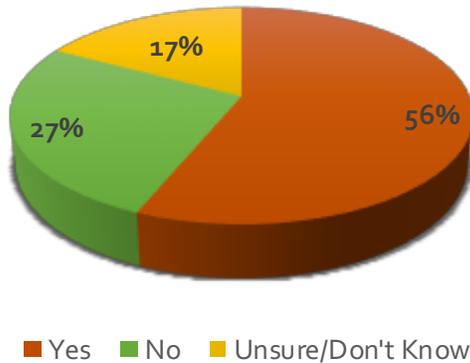


Figure 1: Corresponding to question 6 of the survey, focusing on Bozeman’s local waterways Results illustrated in the chart above suggest a disconnect between how City of Bozeman’s Stormwater Division and Bozeman residents. Of the survey respondents, 56% answered that Bozeman’s stormwater drained through a water treatment plant. However, the City’s stormwater drains directly into Bozeman Creek, Mandeville Creek, and the East Gallatin River, not a treatment plant.

Willingness to do Practices

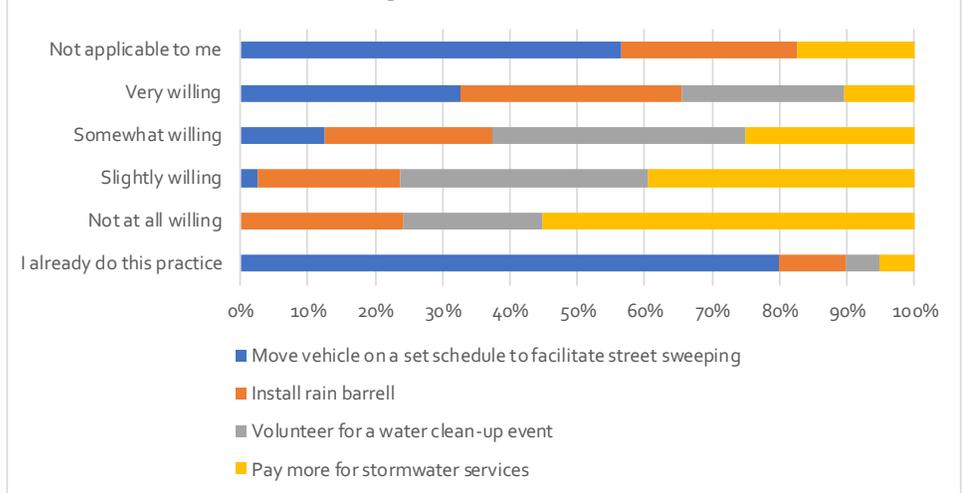


Figure 2: Corresponding to question 19 of the survey, showing a subset of water quality protection practices respondents’ have, or are willing to, adopt.

Results suggest that respondents were generally willing to participate in the practices posed in the question. Of the practices shown here, respondents were most willing to move their cars for street sweeping, and most answered that they already moved them. Respondents were least willing to pay more for stormwater services.

Overview

Start/End Date

The survey was sent out in utility bill inserts starting on September 22, 2020. The survey was closed November 30, 2020.

Goal

To collect information about how Bozeman residents understood, viewed, and interacted with their stormwater management system.

Survey Development/Administration

The survey was developed by students enrolled in the Montana State University GPHY 491 Environmental Planning and Management Toolkit course with best practices in survey design. Administered completely online, the survey was sent to Bozeman stormwater utility customers (n=16,000). We received 76 complete responses, where at least one survey question was answered.

Demographic information was asked for the purposes of analysis, but no identifying information was collected, and thus respondents remained anonymous. Survey data were collected with MSU IRD approval under IRD SC092220-EX.

Please note that this survey was a convenience sample, with a small number of responses. Thus, the survey results should not be generalized to the entire City population. The data collected provide insights into Bozeman residents’ stormwater and water resource perceptions, as well as communication preferences.



Montana State University

GPHY 491 Environmental Planning & Management Toolkit Class survey, in partnership with the City of Bozeman Stormwater Division.

Bozeman Stormwater Survey

Key Takeaways

Effective Education Efforts

Over the past two decades, the City has carried out education initiatives for their stormwater system. We contend these efforts have proven effective because respondents illustrated a good understanding that the City actively manages a stormwater system.

Disconnect of Stormwater Interaction with Local Waterbodies

Although respondents knew that stormwater pollution can negatively impact the local water system, and that Bozeman had a stormwater management system, they generally did not know where water drained. 56% of respondents incorrectly thought that stormwater went through a water treatment plant before it was dumped back into the local creeks and river.

Stormwater Mitigation Techniques

Respondents indicated that they were willing to participate in water pollution mitigation practices, yet their willingness dropped for activities related to increased taxes/fees.

Respondents Identify Heavily with Local Waterways

Respondents made it clear that local waterbodies are an important aspect of their daily lives. Accordingly, the Stormwater Division should try to appeal to this sense of place and community.

Recommendations

Drain Artwork

Many of the City's storm drains are already marked "Drains to river: dump no waste" to inform residents that the waste dumped into the drains flows directly into adjacent waterbodies. In high traffic areas of Bozeman, the creation of street drain artwork could prove an effective way to catch people's eye in a pleasing way, all while informing them that the drains direct stormwater into local waterways. Local artists could follow City approved artwork themes depicting fish and other aquatic animals to help spread the message.

Increased Outreach to New Residents and College Students

Bozeman is quickly growing, and a large proportion of the population attends Montana State University. On average our survey respondents had lived in the City for almost 14 years. Further analysis should be conducted to understand how short-term residents identify and interact with the stormwater system and the neighborhoods in which they reside. The City could also inform new residents about the Stormwater Division's efforts to new bill payers and college students.

Increased Advertisement of Volunteer Opportunities

Survey results indicated that respondents are interested in volunteering for clean-up and water monitoring events. As such, the Stormwater Division could implement more volunteer opportunities for Bozeman residents. Event recruitment should affirm the projects' link to the health of Bozeman's waterways. As the survey results show, respondents care about water quality, recreate along local waterways, and are willing to help protect water resources.

Appeal to the Outdoors

Survey results show that respondents enjoy natural aspects of the town, particularly including nearby waterways. Overall, respondents agreed or strongly agreed with questions discussing the importance of Bozeman's local waterbodies. Moreover, respondents tend to hike and fish the most, as compared with other recreational activities, among the local waterways. The City may be missing a key outreach component by not relating water cleanups to healthier rivers and beneficial outcomes like healthy fish.

