S.GRONER ASSOCIATES, INC.

## Community Stormwater Survey Findings 2019

A survey was conducted among San Mateo County residents in order to better understand (a) how important water pollution is to residents of the County, (b) which types of potential stormwater activities residents engage with the most, (c) which types of events/activities residents engage with the most, and finally (d) to get a sense residents' knowledge of and support for green infrastructure in the County. Overall, 1214 individuals participated in the survey; 208 participated in the intercept survey and 1006 participated in the online survey. Table A provides a detailed summary of the demographic characteristics of these participants.

### Participant Demographics

Participants in the intercept survey had a more equal distribution across gender and age and were more likely to live in households that used languages other than English. Online participants tended to be more female (61.9% online v. 42.8% intercept) and older: 61.9% of online participants were female and nearly half (47.6%) of online participants were over age 56.

Overall, 77.1% of households spoke English only, however participants in the intercept survey were more than twice as likely to speak a language other than English at home.

Interestingly, the overall homeownership rate among participants was similar to that of the County's (58.2%).

The most common city of residence among intercept and online participants was Daly City and San Mateo, respectively. Overall, 19.5% of participants lived in San Mateo. The cities of Hillsborough, East Palo Alto and Colma each comprised less than 1% of the total sample and were therefore included in the "Other" category.

One question, "Which race or ethnicity do you associate with?" had a high refusal rate (n=407 or 33.5% of total sample) among survey participants and as such, meaningful insights regarding participants' race could not be made. For this reason, participants' race was omitted from Table A.

**Table A. Demographics by survey type**

| | Intercept n=208 | Online n=1006 | Combined* n=1214 |
|---|---|---|---|
| **Gender** | | | |
| Male | 57.2% | 29.4% | 34.2% |
| Female | 42.8% | 62.1% | 58.8% |
| Non-binary | 0.0% | 0.4% | 0.3% |
| Declined | 0.0% | 7.2% | 5.9% |
| **Age** | | | |
| 18-25 | 13.5% | 1.2% | 1.0% |
| 26-35 | 26.4% | 10.1% | 8.4% |
| 36-45 | 16.3% | 17.0% | 14.1% |
| 46-55 | 16.3% | 17.9% | 14.8% |
| 56-65 | 14.9% | 21.7% | 18.0% |
| 66+ | 12.0% | 26.1% | 21.7% |
| Declined | 0.5% | 6.4% | 5.3% |
| **Household languages** | | | |
| English | 47.1% | 83.3% | 77.1% |
| Bilingual English + Other | 39.9% | 8.7% | 14.1% |
| Monolingual (non-English) | 13.0% | 2.3% | 4.1% |
| Declined | 0.0% | 1.5% | 1.2% |
| **Single-family homeowner** | | | |
| Yes | 38.9% | 70.3% | 58.2% |
| No | 61.1% | 25.0% | 20.7% |
| Declined | 0.0% | 5.2% | 4.3% |
| **City of residence** | | | |
| San Mateo | 11.5% | 23.6% | 19.5% |
| Redwood City | 10.6% | 11.9% | 9.9% |
| Pacifica | 9.6% | 10.2% | 8.5% |
| Half Moon Bay | 0.5% | 6.7% | 5.5% |
| Daly City | 26.0% | 5.9% | 4.9% |
| Menlo Park | 4.8% | 4.6% | 3.8% |
| Belmont | 1.0% | 4.5% | 3.7% |
| South San Francisco | 3.4% | 4.1% | 3.4% |
| San Bruno | 6.7% | 3.7% | 3.0% |
| Burlingame | 2.9% | 3.5% | 2.9% |
| Foster City | 2.9% | 2.7% | 2.2% |
| Millbrae | 1.9% | 2.7% | 2.2% |
| Other | 18.3% | 7.5% | 6.2% |

***Combined rates represent the total average across all survey participants (n=1214).**

**Table B. Participants' sources for environmental information and social media engagement**

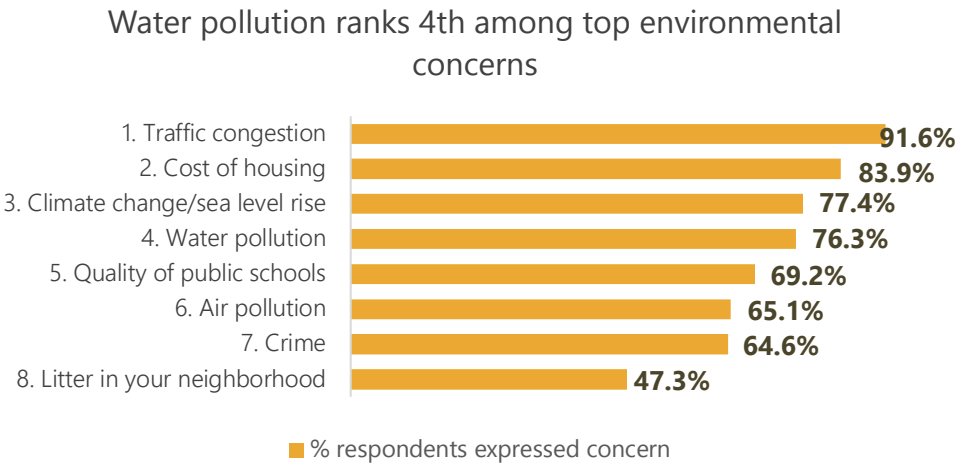
| | Intercept n=208 | Online n=1006 | Combined* n=1214 |
|---|---|---|---|
| **Most used social networking platform** | | | |
| Facebook | 56.7% | 48.4% | 49.8% |
| Instagram | 24.5% | 21.9% | 22.3% |
| LinkedIn | 10.6% | 15.6% | 14.7% |
| Twitter | 12.0% | 11.4% | 11.5% |
| Do not use social media | 0.0% | 5.7% | 4.7% |
| Nextdoor | 0.0% | 3.8% | 3.1% |
| Other | 24.5% | 4.6% | 8.0% |
| Declined | 10.6% | 18.3% | 17.0% |
| | | | |
| Internet search | 63.0% | 82.0% | 78.7% |
| Government agency | 14.4% | 7.3% | 8.5% |
| Social network platform | 6.3% | 3.3% | 3.8% |
| Friend/family | 12.0% | 2.0% | 3.7% |
| Radio/newspaper | 2.4% | 1.5% | 1.6% |
| Don't know | 11.1% | 1.3% | 3.0% |
| Other | 13.0% | 2.5% | 4.3% |
| Declined | 1.4% | 0.6% | 0.7% |

The most commonly used social networking platform was Facebook (49.8%), followed by Instagram (22.3%) and LinkedIn (14.7%). Notably, 17.0% of online participants declined to respond to the question regarding use of social media platforms. It's possible that this is because they don't use social media and therefore felt the question didn't apply to them (the question didn't have a "Don't use social media" response option). Some stated this by indicating "other" and then explaining that they don't use social media (8.0%).

When asked, "Where would you go if you wanted more information about good environmental practices?" most participants stated that they would use an internet search (68.0%) followed by a government agency (6.0%).

**How important is water pollution is to residents of the County?**

Most participants expressed concern over water pollution. Overall, 76.3% of participants stated that they were 'moderately' or 'very' concerned'. Concern over water pollution was more prevalent among online participants (79.8%) than intercept participants (59.1%). Water pollution ranked fourth overall among a list of eight environmental concerns (third among online and fifth among intercept participants).



**What types of potential stormwater activities residents engage with most?**

Overall, most participants (72.7%) have heard, read or seen information about how to minimize or dispose of stormwater pollutants. Participants in the online survey were much more likely than intercept participants to have encountered this information (75.6% versus 58.7%).

Participants were most likely to have spent time working on their lawns (67.8%) or gardening (64.7%) in the past three months. However, online participants were more likely to engage in these activities than intercept participants; 70.0% of online participants worked on their lawns compared to only 54.8% of intercept participants and 66.5% of online participants gardened compared to 56.3% of intercept participants. Overall, about half of participants stated that they had picked up litter (55.6%). Participants were least likely to have spent time walking a dog (43.0%) or working on a vehicle (38.4%) in the past three months.

Regarding car washing behaviors, most participants take their cars to a car wash to get washed (67.2%); the remainder either wash their car at home (24.9%) or don't own a car (4.1%). 4.2% declined to respond to the question or were unsure.

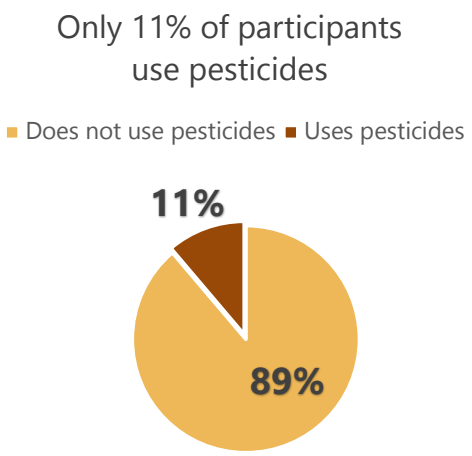



**Table C. Participants' engagement in potential stormwater activities**

| | Intercept n=208 | Online n=1006 | Combined* n=1214 |
|---|---|---|---|
| **Have you seen, read or heard about how to dispose of pollutants or minimize what goes into the Bay?** | | | |
| Have seen | 58.7% | 75.6% | 72.7% |
| Have not seen | 36.5% | 11.8% | 16.1% |
| Unsure | 4.8% | 11.6% | 10.5% |
| Declined | 0.0% | 0.9% | 0.7% |
| **Which of the following have you or someone in your household done in the last 3 months?** | | | |
| Worked on lawn/yard | 54.8% | 70.0% | 67.4% |
| Gardened | 56.3% | 66.5% | 64.7% |
| Picked up litter | 61.1% | 54.5% | 55.6% |
| Walked a dog | 44.7% | 42.6% | 43.0% |
| Worked on vehicle | 45.7% | 36.9% | 38.4% |
| Declined | 5.3% | 2.5% | 3.0% |
| **Do you wash your car yourself or take it to a car wash?** | | | |
| Take to car wash | 53.4% | 70.1% | 67.2% |
| Wash at home | 28.4% | 24.2% | 24.9% |
| Do not own a car | 13.5% | 2.2% | 4.1% |
| Unsure | 1.9% | 2.7% | 2.6% |
| Declined | 4.8% | 0.9% | 1.6% |

Regarding pesticide use, most participants reported not using pesticides in their home and garden; only 11% of participants stated used pesticides. Pesticide use was equal across intercept and online survey types (11.1% and 11.2%, respectively).

## What types of events and activities do residents engage with most?

**Table D. Participant engagement in community organizations and events**

| | Intercept n=208 | Online n=1006 | Combined* n=1214 |
|---|---|---|---|
| **Participation by organization type** | | | |
| **Environmental organization** | 5.8% | 21.8% | 19.0% |
| Sierra Club | 2.9% | 7.7% | 6.8% |
| Greenpeace | 1.0% | 0.9% | 0.9% |
| Audubon | 0.0% | 0.9% | 0.7% |
| Nature Conservancy | 0.5% | 2.0% | 1.7% |
| Other | 1.4% | 12.0% | 10.2% |
| **Religious organization** | 21.2% | 19.7% | 19.6% |
| Christian | 9.6% | 8.4% | 8.6% |
| Catholic | 4.8% | 5.1% | 5.0% |
| Jewish | 0.0% | 1.0% | 0.8% |
| Other | 4.8% | 5.2% | 5.1% |
| **Business group** | 8.2% | 8.7% | 8.1% |
| Chamber of Commerce | 1.4% | 1.3% | 1.3% |
| Other organization type | 6.7% | 6.8% | 6.8% |
| **Local civic organization** | 5.3% | 13.3% | 11.9% |
| **Other organization type** | 16.8% | 25.0% | 23.6% |
| **Participation by event type** | | | |
| Outdoor recreation | 71.2% | 83.5% | 81.4% |
| Music event | 55.8% | 54.5% | 54.7% |
| Sporting event | 49.0% | 39.4% | 41.0% |
| City Council, County Board or other govt. mtg. | 17.8% | 27.7% | 26.0% |
| Neighborhood, homeowner or resident's mtg. | 16.8% | 27.9% | 26.0% |
| Parent-Teacher Organization mtg. | 24.5% | 20.5% | 21.2% |
| Community stakeholder mtg. | 17.3% | 21.7% | 20.9% |
| Community workshop | 20.7% | 20.5% | 20.5% |

Engagement in community organizations and events was similar across survey types. As such, only the combined totals are shown. Participants were equally as likely to participate in a religious organization in the past year as they were to participate in an environmental one (19.6% and 19.0%, respectively).

Most participants had engaged in some type of outdoor recreation in the past year (81.4%). Approximately half of participants also attended music events (54.7%) and sporting events (41.0%). Participants were least likely to have attended a community stakeholder meeting (20.9%) or community workshop (20.5%).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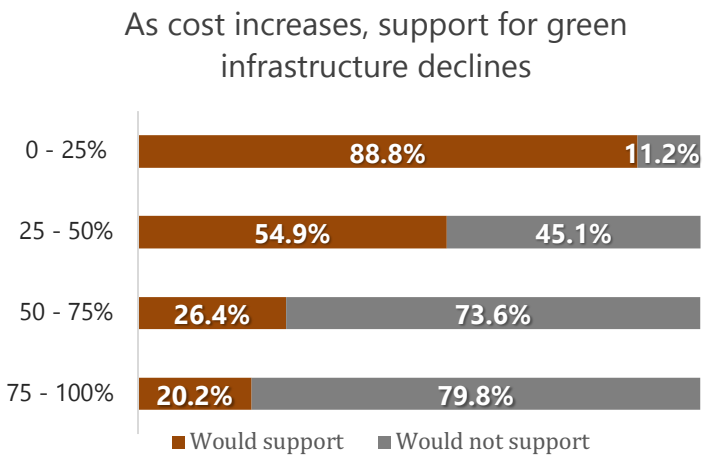
**Do residents understand what is meant by "green infrastructure"? To what extent do they support government investment in green infrastructure?**

Most participants recognized the term "green infrastructure" (60.6%) and showed strong support for spending on green infrastructure if it cost 0-25% more than traditional infrastructure (88.8%). Intercept participants were less likely than online participants to support green infrastructure if it cost 75-100% more than conventional infrastructure (13.0% intercept versus 21.7% online).

There was not a significant difference in support for green infrastructure across survey groups and, in fact, intercept survey participants were slightly more likely than online participants to support green infrastructure if they know that it reduces pollution in neighborhoods (+6.7%) and makes communities greener (+10.0%) and safer (+12.1%).




Participants are most likely to support green infrastructure if they know that it reduces pollution

INTERCEPT

1. Reduces **pollution** in waterways and ocean (83.7%)
2. Makes communities greener (81.7%)
3. Reduces **pollution** in neighborhood (81.3%)
4. Makes communities safer (80.8%)
5. More resilience to climate change/sea level rise (68.8%)
6. Less prone to flooding (64.9%)

ONLINE

1. Reduces **pollution** in waterways and ocean (79.8%)
2. Reduces **pollution** in neighborhood (74.6%)
3. Makes communities greener (71.8%)
4. Less prone to flooding (71.6%)
5. More resilience to climate change/sea level rise (69.7%)
6. Makes communities safer (68.7%)

## Limitations

Given that participants in the online survey were recruited via member agency and agency partner social media accounts or email newsletters, and that they opted to participate (as opposed to being randomly selected), there is an inherent degree of selection bias which resulted in a higher rates of pro-environmental responses among this sample. Specifically, online survey participants expressed greater familiarity with the subject matter and reported higher levels of concern over water pollution and water quality. Online survey participants were also more likely to belong to environmental organizations like the Sierra Club and Nature Conservancy. Additionally, because the intercept surveys were conducted in-person, it's possible that favorable responses are slightly inflated due to social desirability bias – or the tendency of some participants to report and answer in a way they deem to be more socially acceptable than would be their "true" answer.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## Key Takeaways

- ✓ Most residents are concerned about water pollution; it ranked as the fourth greatest concern among participants, just after "climate change/sea level rise".

- ✓ Most participants (72.7%) have heard, read or seen information about how to minimize or dispose of stormwater pollutants.

- ✓ Pesticide use has declined in the last 10 years based on the 2009 "Attitudes Towards Stormwater Pollution", from 15% in 2009 to 11% in 2019.

- ✓ There appears to be somewhat strong support for green infrastructure, especially when it addresses residents' concerns about pollution. It should be noted that climate change was listed as a top environmental concern but was not indicated as a popular reason for supporting G.I., suggesting that while residents may be concerned about climate change from a broad/global point of view, they do not necessarily support or believe that local green infrastructure is the answer.

## Recommendations

- ✓ Residents of San Mateo County are engaged in their community and active in environmental organizations. It is likely that residents would be receptive a community-wide call to action or community goals around stormwater. When possible, provide feedback to the community about the impact of their behavior or progress towards a community-goal.

- ✓ Facebook Ads and Google Ads may be an effective outreach tactic given that Facebook was the most popular social networking platform (49.8% engagement overall) and 78.7% of respondents were most likely to use an internet search to learn about good environmental practices.

- ✓ With a 24.5% usage of Instagram among residents, ramping up posts and advertisements on that platform should be an area of focus for internet-based education for the upcoming fiscal year.

- ✓ Residents report high levels of engagement in outdoor recreation and gardening. Partnerships with local outdoor recreation retailers such as R.E.I. and/or nurseries may be an effective way to reach residents likely to engage in potential stormwater activities.

- ✓ Residents are about equally as concerned about water pollution as they are about climate change. Messaging that includes climate change is likely to engage residents.


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- ✓ Efforts should be made to spread awareness of green infrastructure and its benefits. Even with only 60.6% of respondents saying they've heard the term, there was still strong support for it. This suggests that if residents know that green infrastructure can effectively address their concerns about pollution and improving communities (i.e. making them more "green" and safer), they are likely to support it. Additionally, GI messaging that includes reducing pollution in waterways, ocean, and neighborhoods seems to be the one that resonates most with residents.


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