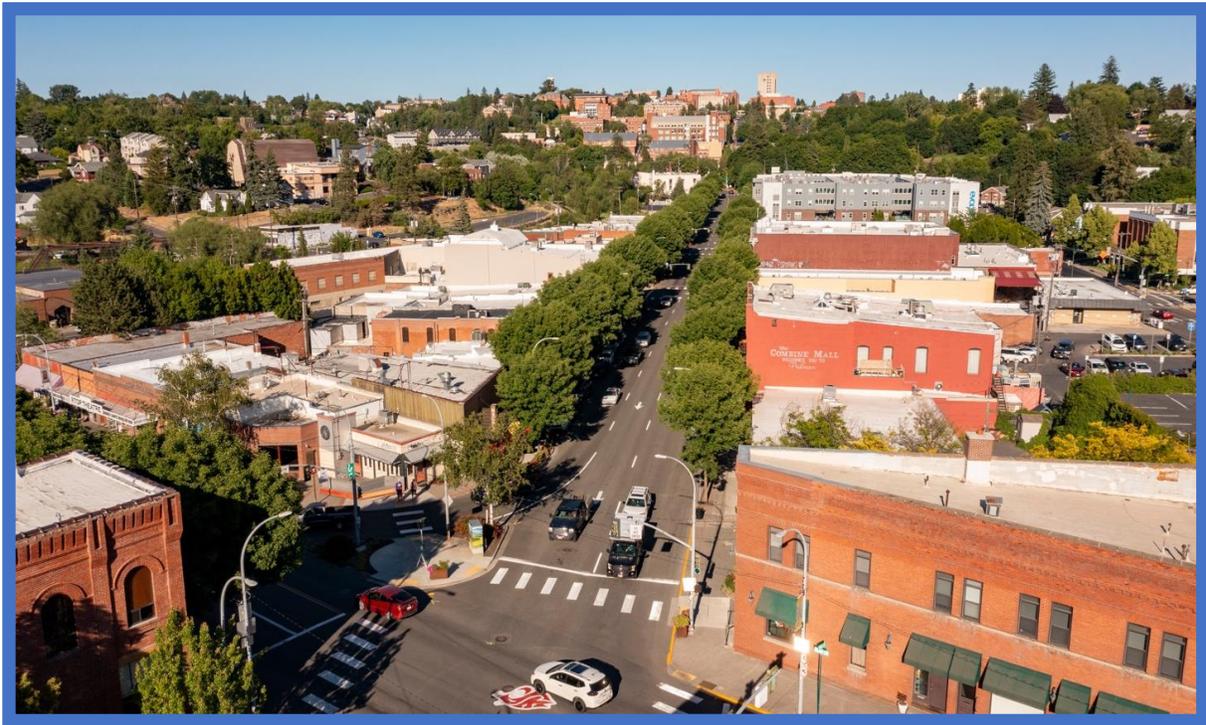

Report on Pullman Climate Change Survey



Courtesy of WSU Photo Services

Pullman, Washington

September 20, 2022



Prepared by Palouse Citizens' Climate Lobby

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Palouse Citizens' Climate Lobby thanks the City of Pullman and all entities that encouraged participation in the Pullman Climate Change Survey. Thanks especially to all the residents who responded to the survey and shared their thoughts.

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Introduction

The City¹ of Pullman is committed to action on climate change, as stated in the City's September 2021 Comprehensive Plan: "Pullman will develop and implement policies consistent with the best climate science available to both minimize anthropogenic climate change and reduce its impact."²

Pullman has a history of acting to improve energy efficiency and gain cost savings. For instance, in 2015, the City began installing LED street lights. In 2020, new solar panels on the City's Parks, Recreation, and Senior Center building began generating energy and saving the City money on electricity expenditures. In 2021, the City acquired its first all-electric buses, and three electric buses will be operating this year.

In fall 2021, Citizens' Climate Lobby (CCL) of the Palouse, an all-volunteer, non-partisan, non-profit organization, surveyed residents of Pullman to understand their current knowledge of climate change, concerns about local and global climate impacts, and level of support for City actions to address climate change.

The Pullman Climate Change Survey introduction asked residents to assist the City by taking the survey and stated that the anonymous results would be shared with City leadership and the public. This report is available at <https://cclpalouse.org/resources/report-on-pullman-climate-change-survey/> and the anonymized survey data is available at https://kynansapps.shinyapps.io/Pullman_Climate_Survey_2021/.

¹ Capitalization of the word 'City' denotes the city government of Pullman.

² City of Pullman Comprehensive Plan 2021
https://www.pullman-wa.gov/government/departments/community_development/planning/comprehensive_plan

Methods

The survey was constructed by Palouse Citizens' Climate Lobby (CCL) volunteers with assistance from WSU's Social and Economic Sciences Research Center's Survey Design Clinic in 2021. Quantitative and qualitative questions regarding climate change and action on it as well as respondent demographics were included in the survey. Responses were anonymous. Respondents were asked if they would like further information and/or would like to be involved in climate action in Pullman; if so, respondents could enter contact information on a form separate from the survey.

Palouse CCL offered the survey online to the Pullman public for five weeks in Oct-Nov, 2021; respondents opted in voluntarily. The survey was advertised through the City social media; local print and radio media; Chamber of Commerce announcements; notices in Pullman Disposal billings; tabling at public events; posters in local businesses' windows; announcements through the WSU Center for Civic Engagement (CCE), WSU Foley Institute for Public Policy and Public Service, and WSU classes; emails to numerous local officials and organizations (Appendix) asking for broad dissemination of the survey; and informal engagement with people in grocery store parking lots and in neighborhoods.

Quantitative questions in the survey used response scales where respondents chose from a series of statements to rate their attitude to a question. These responses were summarized by tabulating the frequency with which each item on the scale was selected for each question.

Qualitative questions instructed respondents to share their views on climate-related concepts and experiences. An inductive thematic analysis³ was used to analyze the qualitative responses. A respondent might mention one or several ideas, beliefs, or feelings; each mention was counted once. The specific mentions were categorized by patterns of meaning into themes.

Following the survey, demographic category responses were compared with US Census data for Pullman to gauge the demographic alignment of survey respondents with Pullman residents in general. Responses were grouped by demographic categories to determine if demographic information might explain response patterns.

Several considerations about the survey exist. It was not a randomized survey. It was offered to the Pullman public online and advertised in multiple ways. To reach residents who might not have computers with internet access or who had not yet heard of the survey, WSU CCE students and CCL members engaged with residents in grocery store parking lots and some neighborhoods to encourage participation via the residents' phones. It is possible that residents who have above or below average concern about climate change self-selected to answer the survey. It is also possible that the survey elicited responses that caused people to say climate change is important or not important. The survey results may or may not be generalizable to other Palouse populations.

³ Braun, Virginia and Clarke, Victoria. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2), 77-101.

Results

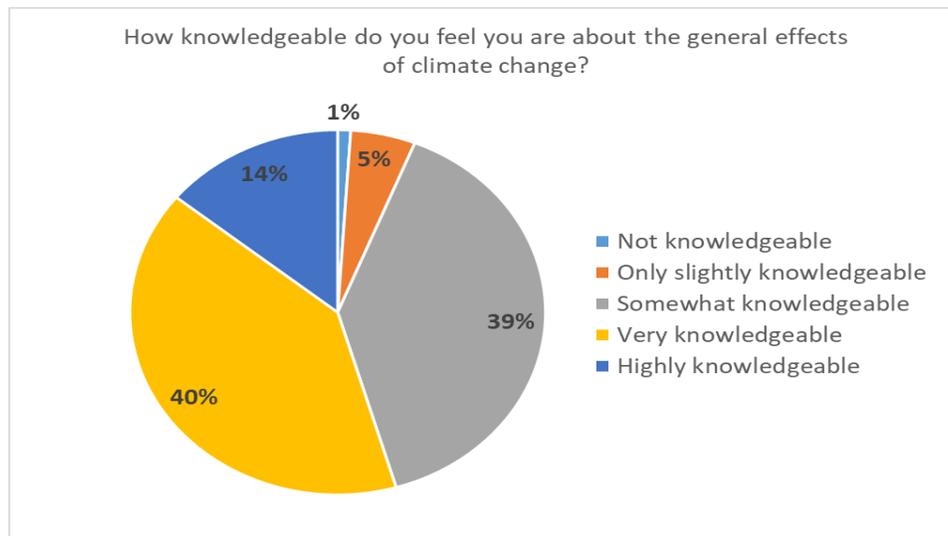
Respondent Demographics

The Pullman Climate Change Survey had 415 respondents. Comparison of the respondent demographics with 2020 US census data showed approximate demographic alignment between the respondents and Pullman residents counted in the census, for instance by age. However, survey respondents differ slightly from the census data in some dimensions. Females are somewhat overrepresented as respondents. Minorities as identified by the census (Hispanic, Latino, Spanish, Asian, Black or African American) are slightly underrepresented as survey respondents. Respondents with less than \$20,000 income are somewhat underrepresented and those with more than \$100,000 are slightly overrepresented. Residents with a bachelors or higher level of education are somewhat overrepresented as respondents.

Question 1: **How knowledgeable do you feel you are about the general effects of climate change?**

Over 90% of respondents identify themselves as at least somewhat knowledgeable about general effects of climate change, with 54% stating they are highly or very knowledgeable and 39% stating they are somewhat knowledgeable (Figure 1). Six percent said they are only slightly knowledgeable or not knowledgeable.

Figure 1. Responses to Question 1

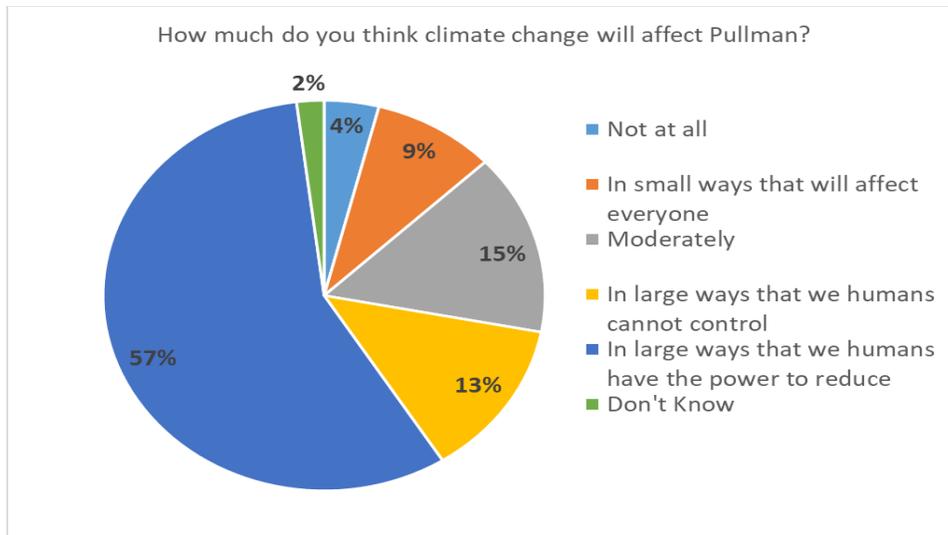


Question 2: **How much do you think climate change will affect Pullman?**

Ninety-four percent of respondents think climate change will affect Pullman (Figure 2). Fifty-seven percent think there will be large effects that humans have the power to reduce, and 13% think there will be large effects that humans do not have the power to reduce. Another 15%

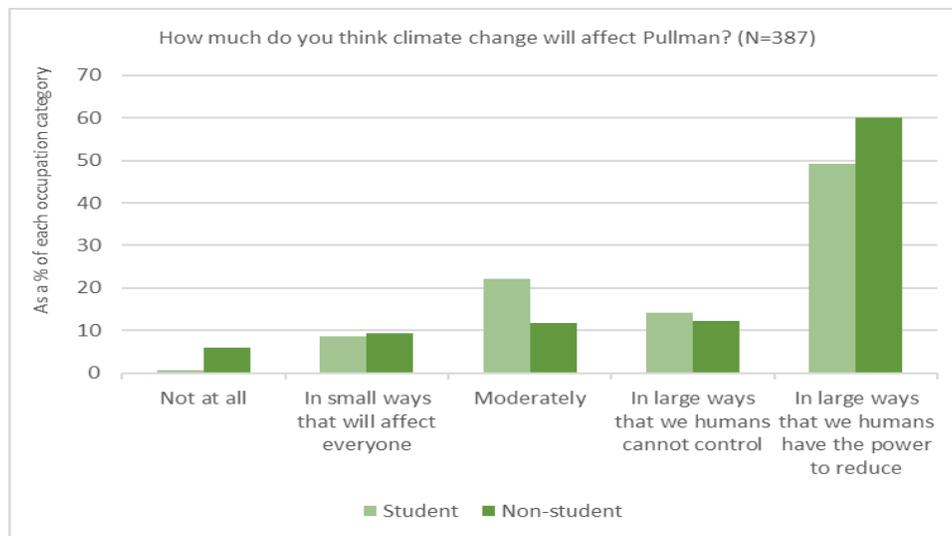
think there will be moderate effects for Pullman, while 9% say there will be small effects that will impact everyone. Four percent of respondents think there will be no effects and 2% don't know.

Figure 2. Responses to Question 2



Respondents across demographic categories of age, race/ethnicity, income, and occupation (student and non-student) register similar responses to this question, as illustrated by occupation responses (Figure 3).

Figure 3. Student and Non-student responses to Question 2

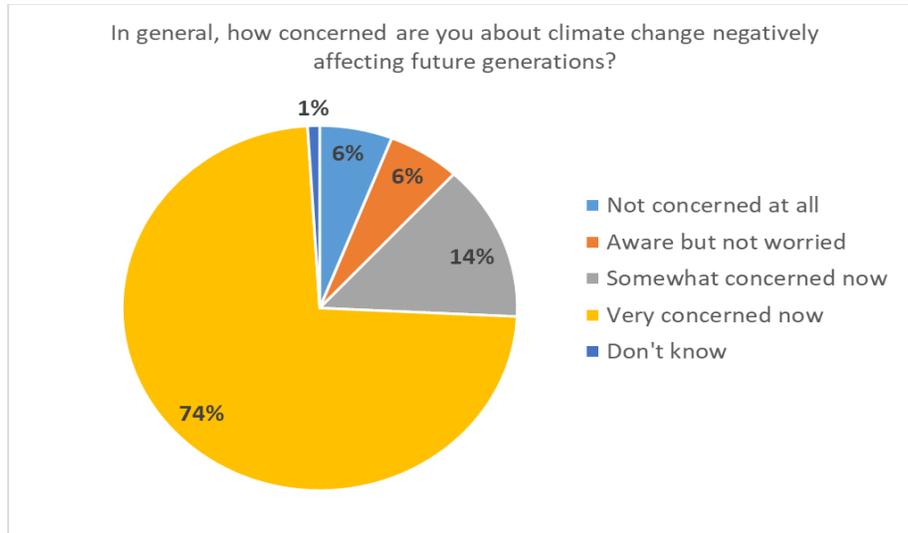


Question 3: In general, how concerned are you about climate change negatively affecting future generations?

Registering their concern about climate change negatively affecting future generations, 88% say they are concerned now, with 74% very concerned and 14% somewhat concerned (Figure 4).

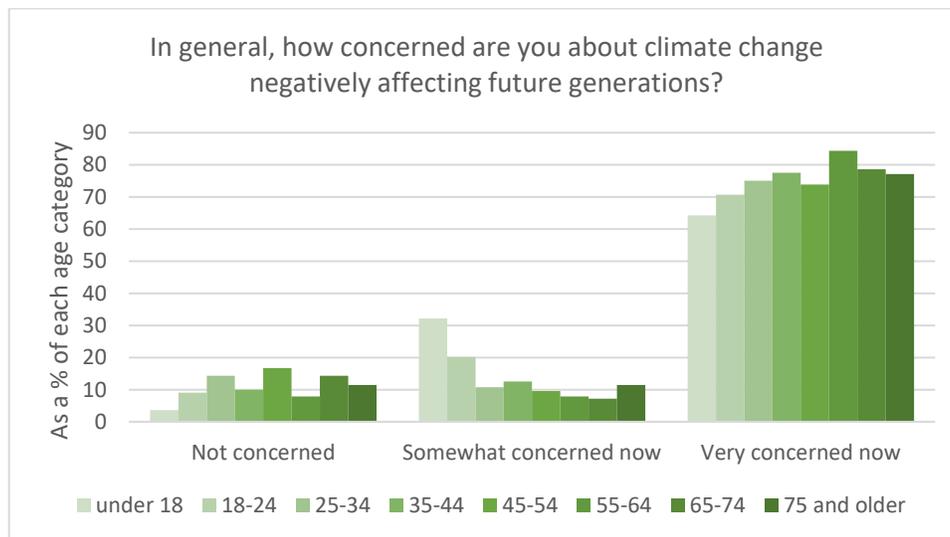
Six percent state they are aware but not worried and 6% say they are not concerned; 1% don't know.

Figure 4. Responses to Question 3



Across age categories, responses to Question 3 are aligned (Figure 5).

Figure 5. Age category responses to Question 3



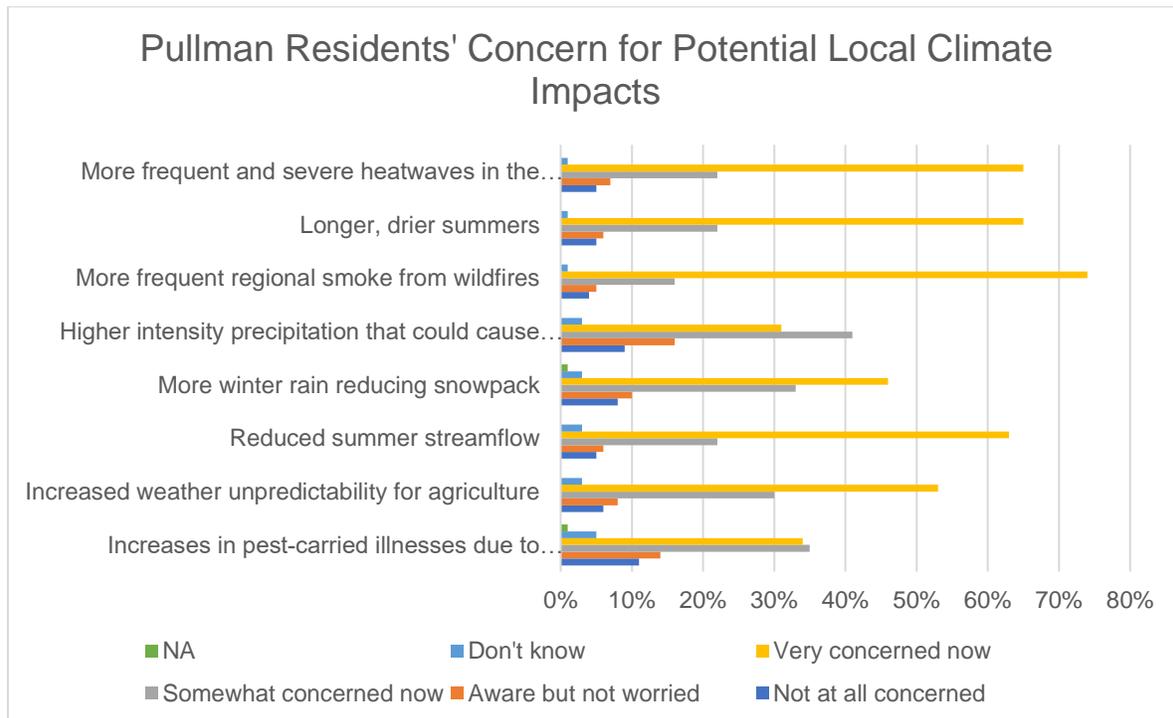
Question 4: **How concerned are you about the potential local climate impacts like those below?**

- **More frequent and severe heatwaves in the summer**
- **Longer, drier summers**

- **More frequent regional smoke from wildfires**
- **Higher intensity precipitation (likely to occur in winter/spring) that can cause flooding and/or soil erosion**
- **More winter rain reducing snowpack**
- **Reduced summer streamflow, lowering the quantity and quality of water**
- **Increased weather unpredictability for agriculture**
- **Increases in illnesses due to warmer temperatures (such as Lyme disease from ticks and West Nile virus from mosquitoes)**

Over 60% of respondents are concerned about each of the impacts listed under this question (Figure 6). More than 80% of respondents say they are very concerned or somewhat concerned now about five of the impacts: smoke from wildfires (90%), heatwaves and hotter summers each (87%), reduced stream flows and water (85%), and unpredictability for agriculture (83%).

Figure 6. Responses to Question 4



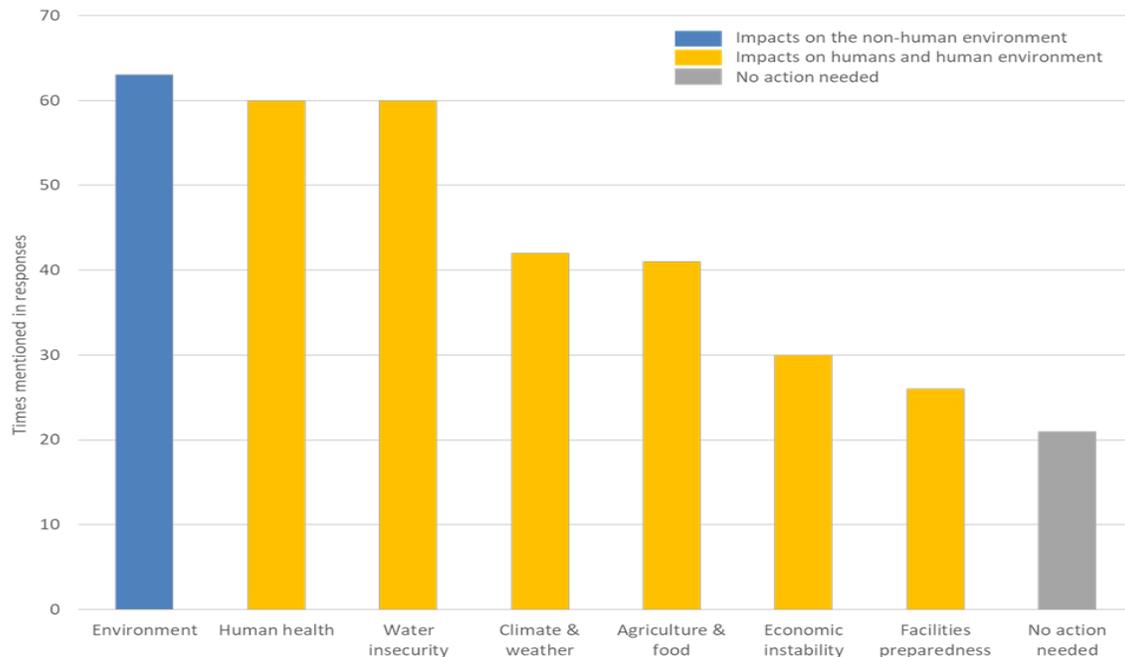
Over 50% of respondents are very or somewhat concerned about the impacts of higher intensity precipitation, more winter rain and less snowpack, and increases in illnesses due to warmer temperatures.

Across all impacts, respondents are least concerned about increases in illnesses and higher intensity precipitation, with 25% saying they are either aware but not worried or not at all concerned about both of these impacts. One to 5% of respondents answer “Don’t know” about the impacts listed in this question.

Question 4 Open-ended extension: Are there any other potential local climate impacts you are concerned about?

Respondents mention concerns about local impacts 322 times and indicate no concern or that no action is warranted 21 times (Figure 7). Responses citing concerns comprise two theme areas: *Impacts on Humans and Human Environments* (259 mentions) and *Impacts on the Non-Human Environment* (63 mentions).

Figure 7. Responses to Question 4 extension: “Are there any other potential local climate impacts you are concerned about?”



Impacts on Humans and Human Environments includes concerns in the sub-theme areas of *health* (60 mentions), *water insecurity* (60 mentions), *climate and weather variability* (42 mentions), *agriculture and food* (41 mentions), *economic instability* (30 mentions), and *facilities preparedness* (26 mentions). Explanation and interpretation of the impacts are included in the Discussion section of this report.

Question 5: Compared to yourself, how knowledgeable do you believe the average resident of Pullman is about climate change and its future effects?

Sixty-one percent of respondents believe the average resident is somewhat or much less knowledgeable. Thirty-six percent of respondents believe the average resident is equally knowledgeable or somewhat more knowledgeable than they are.

Question 6: Compared to yourself, how concerned do you believe the average resident of Pullman is about climate change and its future effects?

The majority of respondents believe that the average resident is less concerned than they are about climate change, with 47% saying the average resident is somewhat less concerned and 16% saying the average resident is much less concerned. Twenty-eight percent of respondents believe the average Pullman resident is equally concerned as they are. Eight percent say the average resident is somewhat or much more concerned.

Question 6 Open-ended extension: **Why did you answer the previous question (question #6) this way?**

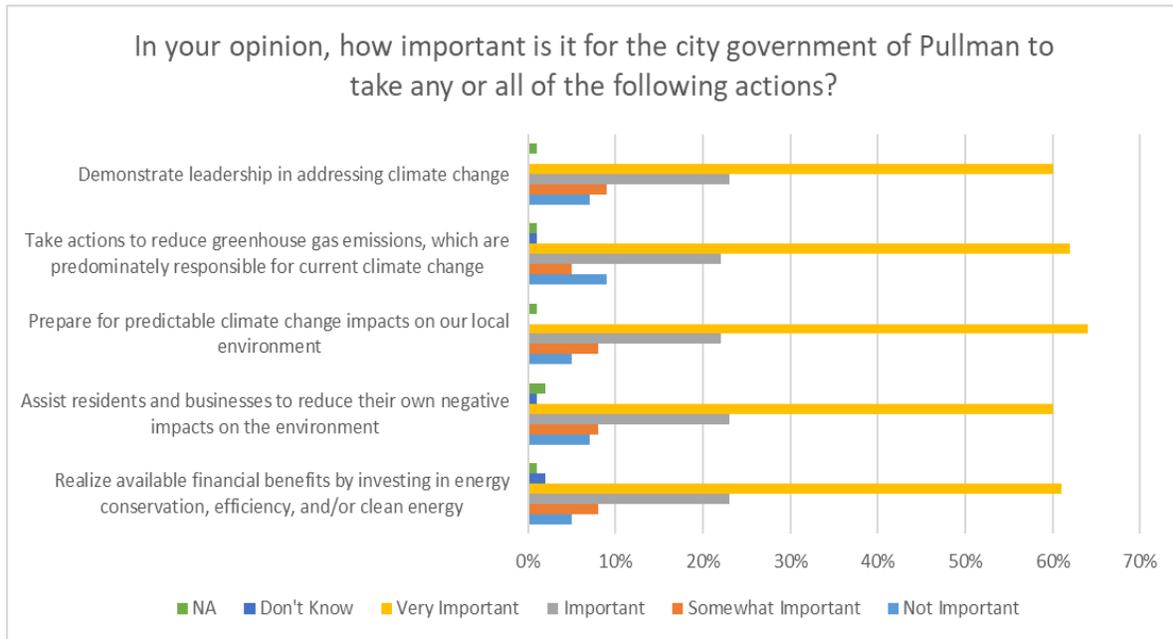
Respondents mention many reasons for their answers to Question 6. The reasons comprise four themes: *Personal Opinion* (583 mentions), *Education and Experience* (247 mentions), *Climate Communications* (246 mentions), and *Level of Action* on climate (205 mentions). Explanation and interpretation of the respondents' reasons are included in the Discussion section of this report.

Question 7: **In your opinion, how important is it for the city government of Pullman to take any or all of the following actions?**

- **Demonstrate leadership in addressing climate change**
- **Take actions to reduce greenhouse gas emissions, which are predominately responsible for current climate change.**
- **Prepare for predictable climate change impacts on our local environment**
- **Assist residents and businesses to reduce their own negative impacts on the environment (such as reducing energy and/or water use)**
- **Realize available financial benefits by investing in energy conservation, efficiency, and/or clean energy**

Over 80% of respondents state that it is very important or important for the City of Pullman to take each of the actions listed; 60 to 64% answer “very important” for each item (Figure 8). Five to 9% of respondents say action on all of the items is somewhat important. Another 5 to 9% say action is not important. One to 2% of respondents say they “Don’t know” regarding three of the actions.

Figure 8. Responses to Question 7



Responses across demographic categories are largely aligned, as shown in results by race/ethnicity (White and Non-White) (Figure 9) and income bracket (Figure 10). The race/ethnicity categories were dichotomized as White and Non-White due to the low response rate of various race/ethnic categories to each question. This dichotomization allows extraction of some information from the survey on this dimension.

Figure 9. White and Non-White responses to Question 7 City action option of reducing greenhouse gas emissions

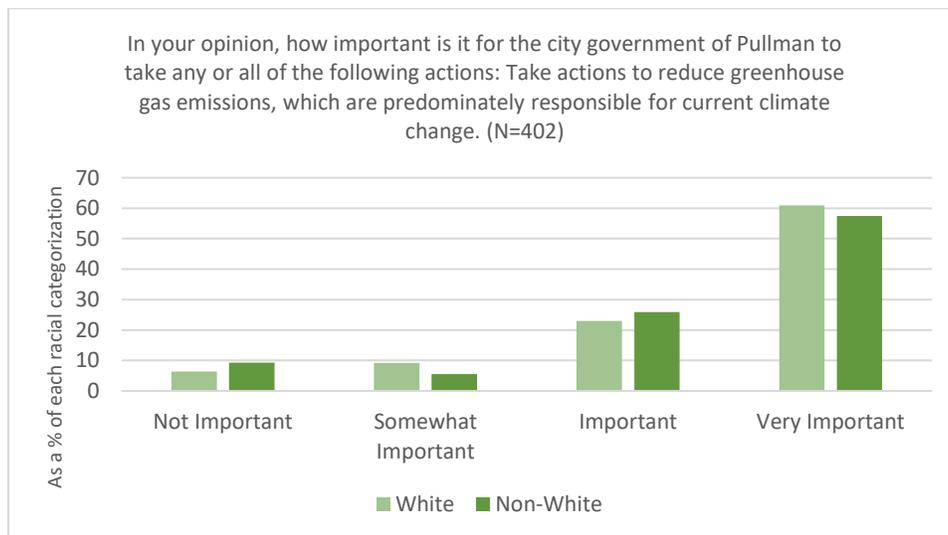
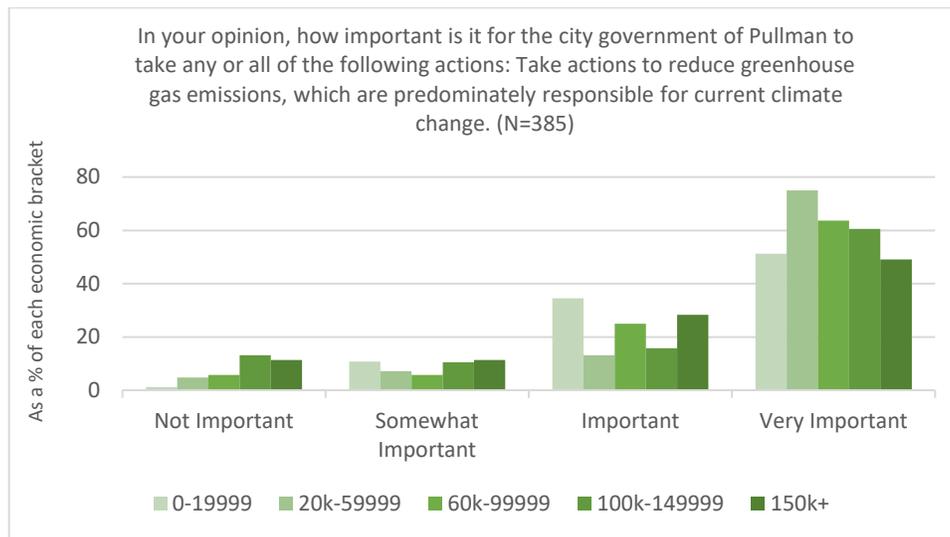


Figure 10. Income category responses to Question 7 City action option of reducing greenhouse gas emissions



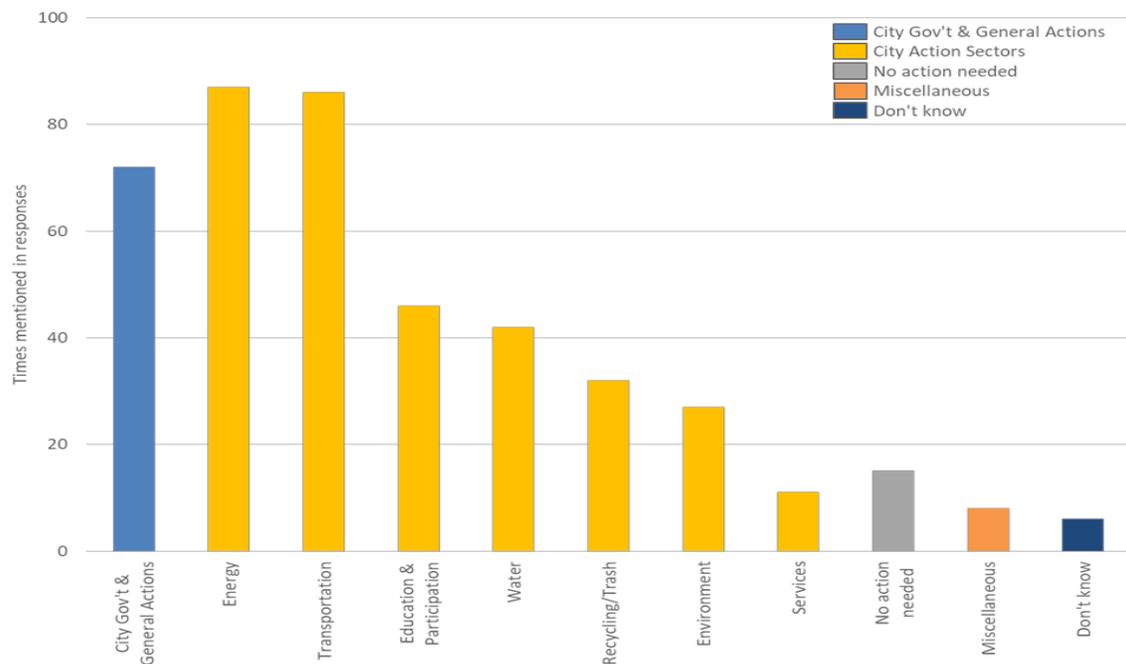
Question 7 Open-ended extension: **If you would like, could you explain why you answered the way you did for any of the actions in the previous question (question #7)?**

In explaining their answers to Question 7, respondents’ cited reasons that comprise three themes. Under the theme *City Action Is Needed* (306 mentions), respondents specify that climate change action is urgent and it is the City’s responsibility to act. Under the theme *Other Action Is Needed* (76 mentions), respondents call for all parts of the society to act, including city partnerships with other governments, funding entities, and the private sector. In the theme *City Action Is Not Needed* (24 mentions), respondents do not believe climate change is an issue the City needs to address. Further explanation and interpretation of the respondents’ reasons are included in the Discussion section of this report.

Question 8 (Open-ended responses): **In addition to the actions listed in question #7, please list any other actions you would like to see the City of Pullman take to address climate change on a local level.**

Respondents’ answers fall into two major themes (Figure 11). In the theme *City Government and General Actions* (72 mentions), respondents call for City organizational changes and general actions in areas such as incentives, promotions, codes, and development. Under the theme *Sectors for City Action* (331 mentions), respondents specify many actions they want the City to take in the sub-theme areas of *energy* (87 mentions), *transportation* (86 mentions), *education and public participation* (46 items), *water* (42 mentions), *recycling/trash* (32 mentions), *environment* (27 mentions), and *services* (11 mentions). Some responses are classified as *No Action* (15 mentions), *Miscellaneous* (8 mentions) and *Don’t Know* (6 mentions). Explanation and interpretation of the respondents’ answers are included in the Discussion section of this report.

Figure 11. Responses to open-ended Question 8: “In addition to the actions listed in question #7, please list any other actions you would like to see the City of Pullman take to address climate change on a local level.”



Question 9: Are you interested in participating on a citizen committee to explore and recommend climate-friendly actions the city might take?

Thirty-six percent of respondents support a citizen committee but decline to serve on it and 30% are unsure about serving on it at this time. Twenty-one percent of respondents are interested in participating in the committee. Twelve percent are not interested in participating.

Question 10: Are you interested in participating in a workshop to learn more about climate change and help shape Pullman’s continuing response to it?

Thirty-four percent of respondents are interested in participating in a workshop and 37% are unsure about participating. Twenty-seven percent are not interested.

Discussion

Key survey results

1. Most respondents consider themselves knowledgeable about climate change and are concerned now about climate change affecting future generations.
2. Most respondents think climate change will affect Pullman and the majority think humans have the ability to reduce climate impacts.
3. The majority of respondents are concerned about potential local climate change impacts on humans and on the environment.
4. Most respondents think it is important for the City to lead in action on climate change.
5. Respondents suggest many ways the City can and should act.
6. The majority of respondents support and/or want to serve on a citizen committee or be involved with workshops to explore ways the City can act on climate change.

Discussion of findings and example quotes from respondents

1 Most respondents consider themselves knowledgeable about climate change and are concerned now about climate change affecting future generations.

Almost all respondents (93%) identify themselves as at least somewhat knowledgeable about the general effects of climate change.

Most respondents are concerned about climate change and its impact on future generations. As the age of the respondent increases, responses change slightly from being somewhat concerned now to being very concerned now. The majority of respondents (64%) also think other Pullman residents are less concerned than they are. This perception may indicate that the amount of public discussion on climate does not match the actual concern residents feel.

“Hopefully the students are knowledgeable and care. I believe they care more than my generation did and I believe my generation also cares a lot.”

Respondents who believe that the average Pullman resident is less concerned about climate change than they are base that estimation on their personal opinions, their educational fields related to climate, and their work experiences, for instance in science and firefighting. In addition, respondents say climate communications and discussion in various venues and the level of climate action by individuals and the City influences their response.

Respondents' belief that they are more concerned than others could indicate that they are less likely to act (for example, be a vocal advocate for climate action) because of the common human influence of wanting to conform with others, in this case, with their neighbors.⁴

2 Most respondents think climate change will affect Pullman and the majority think humans have the ability to reduce climate impacts.

Almost all respondents (94%) think climate change impacts will affect Pullman. A small proportion of respondents (4%) think there will not be climate impacts in Pullman.

"Everyone I know is talking about the increase in summer heat, the lower water table, the increase in fires."

Importantly, the majority of respondents (57%) think that although those impacts may be large, humans can act and have the power to reduce the effects. This confidence in being able to effectively address climate impacts is borne out later in the survey by respondents' many recommendations for action.

3 The majority of respondents are concerned about potential local climate change impacts on humans and on the environment.

Regarding concern about current and potential climate impacts, the majority of respondents (60% to over 80% depending on the specific impact) say that they are somewhat to very concerned. A minority of respondents (4% to 11% depending on the impact) indicate that they are unconcerned about climate impacts. When asked to describe climate impacts of concern, respondents identified many effects, as discussed below.

Impacts on Humans

Respondents are most concerned about local climate impacts on humans. Residents describe risks in terms of *health, water security, weather and climate variability, agriculture and food, economic instability, and facilities preparedness.*

Health. Some of the items cited in conjunction with health risks are poor air quality due to wildfire smoke and dust pollution, hotter temperatures and heat waves, floods, more disease transmission from animals to humans as a result of animal habitat changes, and lack of adequate medical care in a disaster. Respondents recognize the increasing risks for vulnerable groups including those with low income and with preconditions such as respiratory and heart diseases, as well as the young and elderly. As an example, one respondent with an asthmatic child reported that, during a recent smoke event, no appointment with any respiratory doctor in

"With changing climates, especially this past summer's heat dome, I had to rescue one elderly neighbor, unaware of the danger that she was in and suffered from."

⁴ Knowledge at Wharton. (2016, June 14). *Invisible influence: what really shapes our decisions.* <https://knowledge.wharton.upenn.edu/article/the-hidden-forces-that-shape-behavior/>

the region was available for four weeks. People also worry about health as related to their quality of life and that of future generations.

Water Insecurity. Water insecurity is a particular concern for Pullman respondents, with many specifically mentioning aquifer drawdown and some recognizing that climate change would result in more water usage and simultaneously less natural aquifer recharge. People are concerned that the lack of water conservation by residents, city, businesses, and WSU poses a challenge to maintaining a clean, reliable water supply. Respondents express concern that backup water supplies are at risk in addition to the aquifer, and that reduced summer stream flows that will lower the quality and quantity of available water.

“This year has shown us the Grande Ronde aquifer needs immediate recharge solutions. Climate change will make this more urgent each year.”

Weather and Climate Variability. The impact of increased weather and climate variability on humans is a climate concern. Respondents list events and conditions which affect them now and which are predicted to worsen: hotter summers; drought; decreasing snowpack; precipitation changes; and extreme events such as heat waves, cold snaps, and storms. People tie weather and climate variability to concerns such as more garden pests, animal health problems, less deep water in soil for trees, and risk of fires.

["I'm concerned about..."]

“Erratic weather patterns, shorter gardening, and increased pests.”

“Greater chance of ice storms and sub-zero temps in winter.”

Agriculture and Food. Climate risks to agriculture and food are concerns shared by many respondents. People describe impacts on local agriculture such as increased weather unpredictability, drought and extreme weather disruptions, more crop pests and disease, increase in chemicals use, soil health decline, and soil erosion increase. Consequently, respondents are concerned that agricultural production and food security will decrease and negatively impact our local community and economy.

“Weather variability and temperatures may require farmers to change farming procedures and crops and thus increase the already difficult farm management situation.”

“Lower crop yield and eventual food availability issues.”

Economic Insecurity. Economic insecurity in general is a climate impact concern for respondents. The primary concern is an increase in inequity, including a growing public services

["I'm concerned that..."]

“Most foreseeable changes also have negative effects on our local economy.”

“The climate crisis [is] increasing the cost of living and food for low-income communities.”

need, price increases, job instability, and unsafe housing (for instance, housing without air conditioning during a heat wave or without an air filter during a smoke event). People also mention the climate impacts of rising insurance rates, increasing supply chain disruptions, population growth and subsequent higher resources demand, the arrival of climate refugees, general political unrest, and strain on the resilience of our community.

Facilities Preparedness. Concerns about facilities preparedness are mentioned in relation to public and private buildings, utilities, and systems. People are concerned about energy availability and reliability, particularly in an extreme weather event. They also note that climate change will increase energy demand that would, in turn, worsen climate change unless renewable energy is used. Respondents are concerned that buildings should be energy efficient, equipped with air conditioning and/or air filters, and retrofitted instead of abandoned for new construction. A minority (8%) of respondents call for more public transportation as well as public and private emissions-free transportation.

“Many residences don't have air conditioning and, even those who have the means to add it will use additional energy.”

["I'm concerned about..."] “Infrastructure failure.”

Impacts on Environment

Respondents are also concerned about climate impacts on the local environment. Respondents identify impacts including biodiversity decrease, threats to native species, ecosystem disruption, invasive species, and habitat loss. People cite other environmental impacts such as declines in regional snow pack and stream flows, native pollinator species, and forest health. Two of the various impacts on animal populations that are mentioned are more algal growth in waterways that robs salmon and steelhead of oxygen and more diseases like hemorrhagic fever in the deer population.

“Loss of insects as pollinators and as an essential part of the ecosystem will have far reaching impacts.”

4 Most respondents think it is important for the City to lead in action on climate change.

Four-fifths of respondents say it is important for the City to demonstrate leadership in addressing climate change, including reducing greenhouse gas emissions, assisting residents and businesses to reduce their contributions to impacts, preparing for predictable climate change impacts, and realizing financial benefits by taking climate actions. Although there is no substantial difference in opinions across income brackets, there is slightly less support for government action from the lowest and highest brackets.

Respondents' level of support for City actions follows three themes: *city action is needed, other action is needed, and city action is not needed.*

City Action Is Needed. Approximately 90% of respondents think *city action is needed*. People surveyed want the City to identify climate change as an important, even urgent, issue, and they state that individual action is not enough. They note that City government is responsible to work for the well-being of its residents and businesses and should lead in dealing with climate change. Respondents call for the City to set climate policies and provide climate-related education, assistance, and incentives to residents and businesses. Respondents suggest that the City can demonstrate that effective actions are possible and be an example for action locally and beyond. Respondents also state that by acting now, the City will spend less and be better prepared for climate impacts, as well as realize economic benefits over the long term.

“Most folks really care and want to change, but need governance and collective action to feel empowered to change.”

Other Action Is Needed. A minority of respondents say *other action is needed*, including coordinated efforts across all levels of government. Some think state and federal efforts should lead on climate action. Many respondents remark that individual actions should be part of climate solutions and a few respondents call for business and corporate action.

City Action Is Not Needed. Lastly, a minority of respondents (3.5%) say *city action is not needed*. They state that climate change is not an issue, that local action will not impact global warming, or that the City should instead concentrate on other issues like public safety and roads.

5 Respondents suggest many ways the City can and should act.

When respondents were asked to specify what additional actions they would like the City of Pullman to take, many ideas for action were suggested. The actions include strategies for mitigation (prevention of further climate change) and adaptation (ways to deal with climate change impacts). Respondents want climate change actions to encompass City and the Pullman community at large.

City Government and General Actions

Respondents state that they would like to see the City make changes in its operation and organization and take actions to address climate change. People surveyed want the city to promote conservation via rebates, rewards, tax breaks, prizes, and recognition. Respondents want Pullman to work with other cities, garner state and federal grants, and support state and

“Adopt building codes to encourage low CO₂ building products, energy savings, deconstruction vs. demolition.”

“I would like the city to encourage residents to make significant changes and offer rebates for making those changes.”

“Establish a climate committee, develop a climate action plan, set goals and strategies for emissions reductions, and follow through.”

federal initiatives that address climate change. Respondents call for a City climate office with assigned staff to develop a climate action plan to reduce greenhouse gas emissions; to work with other staff, residents, and businesses for community-wide emissions reductions; and to enforce regulations. Respondents want City leaders to encourage cluster and high-density residential development and prevent further urban sprawl. People call for the City to put climate change adaptations in place such as fire safety programs, fire buffers, and flood buffers.

Sectors for City Action

Energy. Respondents identify *energy* more often than any other sector that they want the City to address. People surveyed call for the City to invest in solar energy and other renewable power sources and to support local, clean power generation and storage that is connected to the wider grid. In addition, some respondents suggest that the City divest from fossil fuels. This suggestion on divestment aligns with results from a separate 2021 survey of WSU students by the WSU Environmental Sustainability Alliance. Approximately 70% of WSU student

["I want..."] "Efficient systems in all city buildings for heat, cooling and water systems."

["I suggest that the City have..."] "More investment in solar power."

"Subsidize old construction and/or require new construction to have energy efficient appliances and solar power when appropriate."

respondents said WSU should divest from fossil fuels.⁵ Pullman Climate Change Survey respondents also want carbon neutrality for City infrastructure and activities as well as for City-contracted activities. Respondents call for the City to create incentives for energy efficiency and retrofitting for efficiency in residences and businesses. Respondents say the City should require new construction to be energy efficient through, for example, only Energy Star appliances, no gas appliances, and green materials use.

Transportation. Many respondents also want to see *transportation* sector actions. They call for an all-electric City fleet of vehicles, more public transportation, and more EV charging stations. People surveyed list a number of desired non-vehicular changes, such as more walkways, bikeways, and bike sharing options. Respondents want re-establishment of a Pullman – Moscow public transport as well as rail service between Pullman and other Washington cities.

"Include more walk-only zones, more transportation routes, more bike safe areas, design neighborhoods for walkability, etc. Promote work-from-home infrastructure like high speed internet as a public good."

["I call for..."] "Installing high load charging stations to speed adoption of EVs."

⁵ Collette, B. (2021, December 23). Cougs call attention to WSU's use of fossil fuels. *The VanCougur Student Newsmagazine*. Retrieved August 11, 2022, from <https://thevancougur.com/cougs-call-attention-to-wsus-use-of-fossil-fuels/> .

Education and Public Participation. Respondents want City action in the *education and public participation* sector. People surveyed say residents should be involved in the City of Pullman's climate plans and actions early and often. They list a need for City-sponsored workshops, forums, panels, and committee work, as well as other climate activities for adults and children. Topics for education and participation include information about climate change; ascertaining what climate actions people want; how the City can assist residents and businesses; and specific information on xeriscaping, water conservation, retrofitting buildings, and fire safety. Other desired actions include public service announcements, signs posted around town, news stories, and a national climate festival in Pullman.

“Establish education and outreach programs that explain climate adaptation and mitigation to all citizens including children, college students and adults of all ages.”

“I would like a climate change forum of some sort that opens the floor to residents to hear their concerns and ideal solutions.”

Water. Respondents also want action on *water* concerns. Most mention the need for water conservation and reuse. People want the City to promote water conservation and drought-resistant landscaping, make water more expensive, and enforce water conservation regulations. Respondents call for only greywater to be used for City vegetation and for incentivizing residents, businesses, and WSU to do likewise. People also want the City to ensure water quality.

“Discourage or prevent lawn watering, especially by WSU and other large entities. Encourage native plants and drought tolerant landscaping.”

“Increase cost of water in summer months to encourage water conservation and provide money for greening projects.”

Recycling/Trash. Respondents say City action is needed in the area of *recycling/trash*. Residents surveyed call for improvements in the recycling system to include glass and to make sure recycled items are marketed and not put into the trash stream. Recycling and trash receptacles should be easily accessible all across town, especially in apartment and other cluster housing. Respondents indicate a need for a composting system that would source from residences, restaurants, and WSU. People surveyed also ask for regulations on plastics and foam containers.

“I think it should be easier to recycle any recyclable materials throughout the city of Pullman and on the WSU campus.”

Environment. Respondents say City action is needed on *environment*. People surveyed want the City to reserve more green spaces and plant more trees and vegetation, especially native species and species with edible fruits. The City should increase sustainability by supporting small, local farms and incentivizing gardening in Pullman, as well as promoting soil health and banning some pesticides and herbicides. Respondents also call for restoration of streambanks and other City natural areas.

“Plant more trees downtown and support the founding of community gardens.”

“Work with city-adjacent farmers and agricultural industry to implement climate-smart practices that reduce emissions and reduce ag inputs.”

Services. Respondents want improvement of the *services* sector for residents who face challenges exacerbated by climate change. People want the City to provide a fund for those in crisis, more affordable housing, assistance to buy air conditioners and air filters, shelter from extreme weather events, and initiatives to reduce poverty.

“Create better safety nets for our communities when people are adversely affected by climate change.”

“Have money put aside to help local residents in need due to crisis.”

6 The majority of respondents support and/or want to serve on a citizen committee or be involved with workshops to explore ways the City can act on climate change.

Respondents want a citizen committee that will investigate potential climate actions and then recommend actions to the City. Some citizens are prepared to volunteer their time and expertise for this effort, as more than a fifth of respondents say they would be interested in serving on the committee.

In addition, over a third of respondents want to participate and another third might participate in workshops. They want to learn more about climate change and to contribute to the City’s response to it.

Conclusion

The survey results show that Pullman residents who responded to the survey are concerned about climate change and its local impacts and they want the City to act to address them. They expect the City to lead efforts to slow climate change and to prepare for and implement actions to address climate change impacts. Residents have many suggestions for actions across City sectors, business, institutions, and individuals. Some respondents want educational workshops and more public discussion on climate change and on ways to take action. Some are ready to serve on citizen committees to explore potential actions and make recommendations to the City. Respondents thought other residents were not as concerned as they are about climate.

Future research could explore how City climate actions could stimulate the local economy, what climate actions similar cities are taking, how willing Pullman residents would be to support certain climate-related policies (for example, a green building code), a comparison of this survey's results with those of residents in the region or state, and/or how the City could increase its collaboration with other entities acting on climate change.

Appendix

Additional entities contacted for support in disseminating the survey

Pullman 2040
Neill Public Library
League of Women Voters of Pullman
Foley Institute for Public Policy and Public Service
Whitman County Democrats
Whitman County Republicans
WSU Young Democrats
WSU College Republicans
Pullman Civic Trust
Pullman Rotary
Pullman Kiwanis
Palouse Basin Aquifer Committee
Palouse Conservation District
Community Action Center
Palouse Discovery Science Center
Associated Students of Washington State University
WSU Graduate and Professional Student Association
WSU Environmental Sustainability Alliance
Pullman High School Key Club
Pullman High School Junior Statesmen
Spokane Falls Comm. College Service-Learning Club
Palouse Audubon Society
Palouse Land Trust
Palouse Peace Coalition
Palouse Upstanders
Palouse-Clearwater Environmental Institute
Palouse Environmental Sustainability Coalition
Phoenix Conservancy
Friends of the Clearwater
Palouse Sierra Club
Palouse Prairie Foundation
Citizens' Climate Lobby - Palouse
Moscow Food Coop
Palouse Bicycle Collective
Sacred Heart Catholic Church
Trinity Lutheran Church
Concordia Lutheran Church
Pullman Islamic Association

Pullman Presbyterian Church
Simpson United Methodist Church
Community Congregational Church of Christ
St. James Episcopal Church
Emmanuel Baptist Church
Jewish Community of the Palouse
Pullman-Moscow Friends Meeting
Unitarian Universalist Church of the Palouse