



NEZ PERCE TRIBE CLIMATE CHANGE AND COMMUNITY WELL-BEING SURVEY: RESULTS AND DISCUSSION

Nez Perce Tribe Climate Resilience Team

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Acknowledgements

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Qe 'ci 'yéw 'yew!



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Executive Summary

The Nez Perce Tribe Climate Resilience Team conducted a staff and community survey with the goals to:

- Better understand perspectives and knowledge of climate change among tribal members and staff.
- Measure levels of concern about climate change among tribal members and staff.
- Develop a stronger understanding of respondent environmental observations as they relate to climate change.
- Learn how climate change is currently affecting tribal community members.
- Identify community members who are interested in future engagement and gather information about what kinds of activities these community members are most interested in.

The survey was conducted from 16 August to 31 October 2017, and consisted of 15 mixed-type questions. Two-hundred thirty-two complete responses were collected (225 online through REDcap survey software, and seven on paper).

Survey results indicate that:

- Most respondents appear to have a basic understanding of climate change and see it as a threat to their own lives and tribal resources. Some respondents see it as an immediate threat to their lives; others believe it will impact them at some point in the future. Most agree that climate is currently impacting traditional foods and practices.
- Respondents are generally concerned about climate change and its impacts, especially on water, weather, fish, and other natural resources.
- Many respondents have observed local environmental change over time and connect much of it to climate change.
- A large majority of respondents support tribal governmental action in adapting to climate change impacts, especially providing educational opportunities to community members and developing renewable energy resources.
- Many respondents are also interested in personal action and engagement, especially educational opportunities and workshops.

This survey has provided us with valuable information, as well as opportunities for future engagement and participation with community members, guidance for how to focus the vulnerability assessment and adaptation plan, and inspiration for how to incorporate local and traditional knowledge as a fundamental piece of tribal climate change adaptation strategies.

I. Introduction

Background

In 2016, the Nez Perce Tribe received funding to develop a climate change program focused on developing a Vulnerability Assessment (Assessment) and Adaptation Plan (Plan). The assessment and adaptation planning process includes evaluating environmental, biological, sociocultural, and infrastructure components, with a focus on participatory processes aimed at engaging and empowering the tribal community.

We chose to conduct a survey as a starting point for building a foundation for engaging the community and collecting local knowledge to inform the development of the assessment and plan. This survey was also conducted to obtain information for building the Assessment and Plan in a way that addresses concerns and meets the needs of community members.

Goals

The goals of the survey were to:

1. Better understand perspectives and knowledge of climate change among tribal members and staff.
2. Measure levels of concern about climate change among tribal members and staff.
3. Develop a stronger understanding of respondent environmental observations as they relate to climate change.
4. Learn how climate change is currently affecting tribal community members.
5. Identify community members who are interested in future engagement and gather information about what kinds of activities these community members are most interested in.

Methods

The survey included 15 questions of mixed type, including multiple choice/all that apply, true-false, open ended, and matrix-scale questions (see [Appendix A](#) for final survey instrument). Responses were collected from 16 August through 31 October 2017. A total of 232 complete surveys were collected.

Responses were mostly collected via REDcap¹, an online survey instrument hosted by the Northwest Knowledge Network. Seven surveys were collected on paper while tabling at Nez Perce Tribal General Council in September and entered by hand into REDcap.

¹ Paul A. Harris, Robert Taylor, Robert Thielke, Jonathon Payne, Nathaniel Gonzalez, Jose G. Conde, Research electronic data capture (REDCap) – A metadata-driven methodology and workflow process for providing translational research informatics support, *J Biomed Inform.* 2009 Apr;42(2):377-81.

The sample was collected through convenience sampling, rather than any strategic sampling frame. Thus, the survey results cannot be considered representative of the larger tribal community.

Recruitment efforts included sending out emails through the tribal email service, posting ads in the tribal newspaper, posting flyers in towns around the reservation, posting a link on Facebook, and tabling at General Council. Because there is no way to measure the number of people exposed to these recruitment tools, there is unfortunately no way to calculate response rate.

The recruitment strategy also included an incentive: respondents who completed the survey were given the opportunity to enter a drawing for one of three \$100 gift cards to Walmart.

Analysis included descriptive statistics of the quantitative questions (see [Appendix B](#) for frequency tables²) and qualitative coding of the open-ended questions using CAT³. One question (2b) was dropped from the analysis due to issues with the wording.

Demographics

The majority of respondents to the survey are enrolled members of the Nez Perce Tribe (71%), 9% are members of another tribe, 3% are tribal descendants, and 17% are non-native (Figure 1).

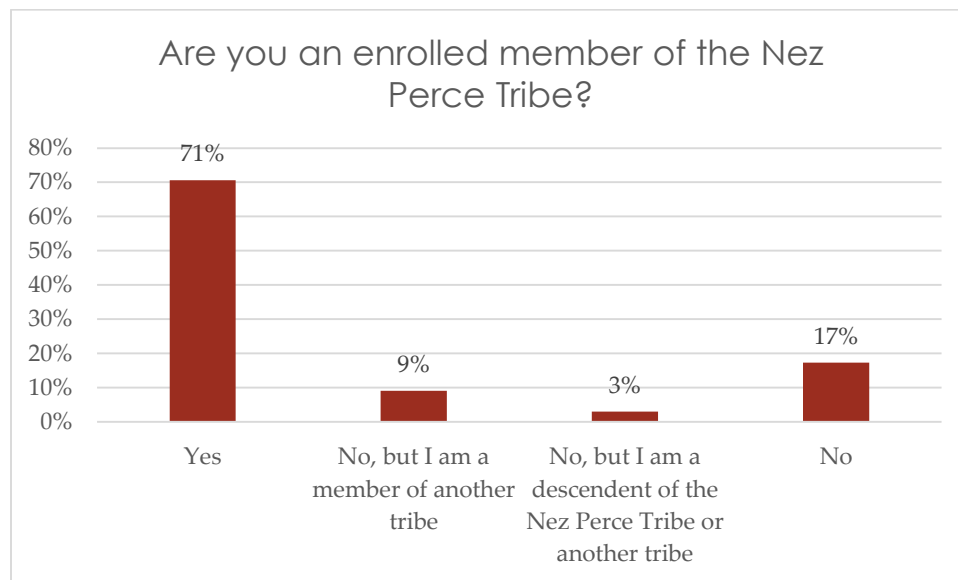


FIGURE 1

² Due to rounding, some totals do not equal exactly 100%. More detailed information is available upon request. Please email amberz@nezperce.org.

³ CAT (Coding Analysis Toolkit) is a free qualitative coding software provided by Texifter. <http://cat.texifter.com/>.

Women make up a larger portion of respondents (65%) than men (35%), and most respondents are 40 years old or older (68%), with people 18-39 years old making up 32% of respondents. The youngest respondent is 20 years old, the oldest is 86, and the median age for respondents is 45.

Most survey respondents work for the Nez Perce Tribe (79%), likely reflecting the use of the tribal email system in recruitment (Figure 2).

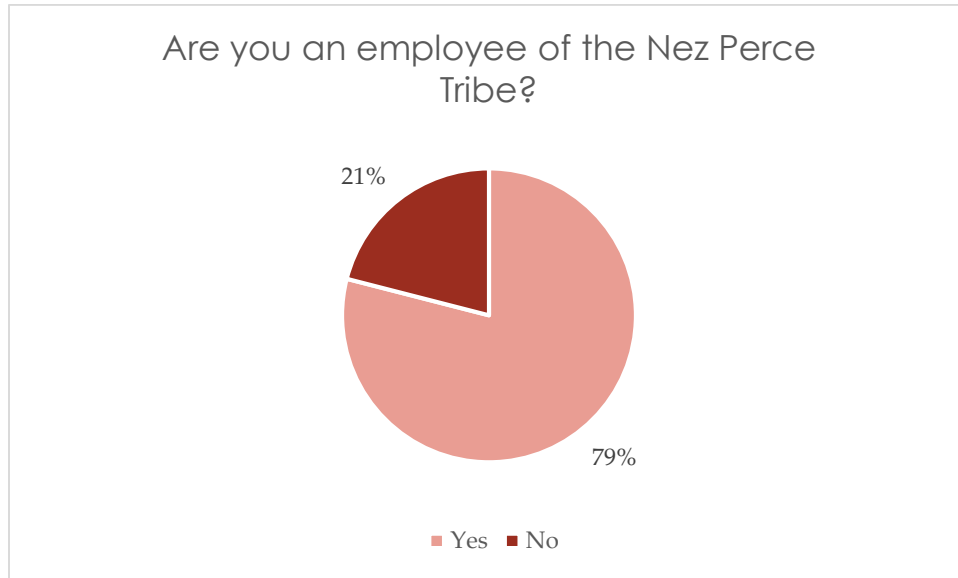


FIGURE 2

Twenty-one percent of respondents are employed in fields related to science and technology, 14% in health and medicine, and 12% in administration. Other vocations include education (6%), financial services (5%), human resources (1%), law (6%), retirement (4%), self-employment (2%), service industry (4%), social services (7%), tribal government (2%), and other (8%).

Sixty-four percent of respondents have at least a bachelor's degree (44% have a college degree and 20% have a graduate degree), 30% have some college experience, and 5% have a high school diploma (Figure 3). Thirty-two percent of respondents reported an approximate yearly household income of \$50,000-\$99,999 (Figure 4). These rates of education and income, which are well above both state and national averages, might reflect the high percentage of respondents who are employed by the Tribe and/or are employed in professional fields.

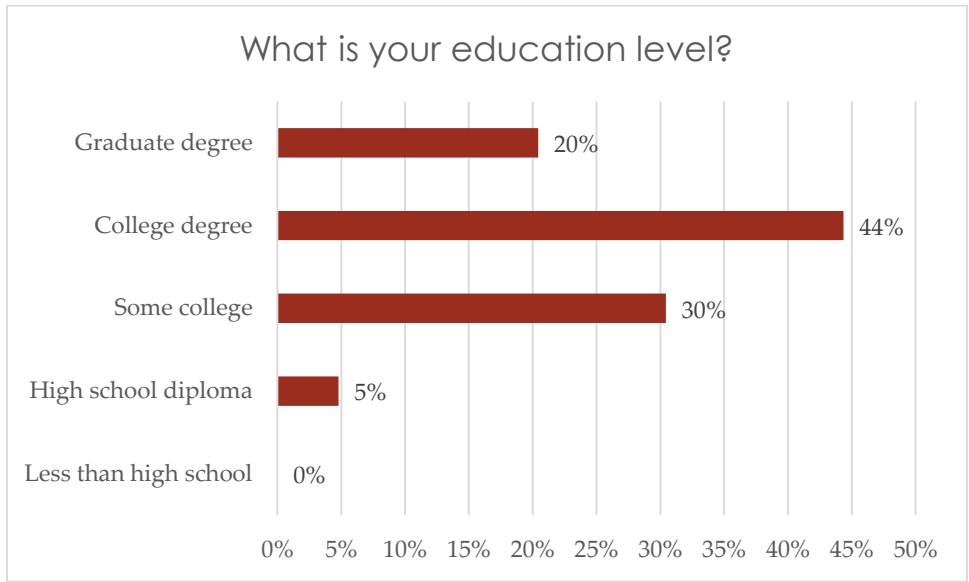


FIGURE 3

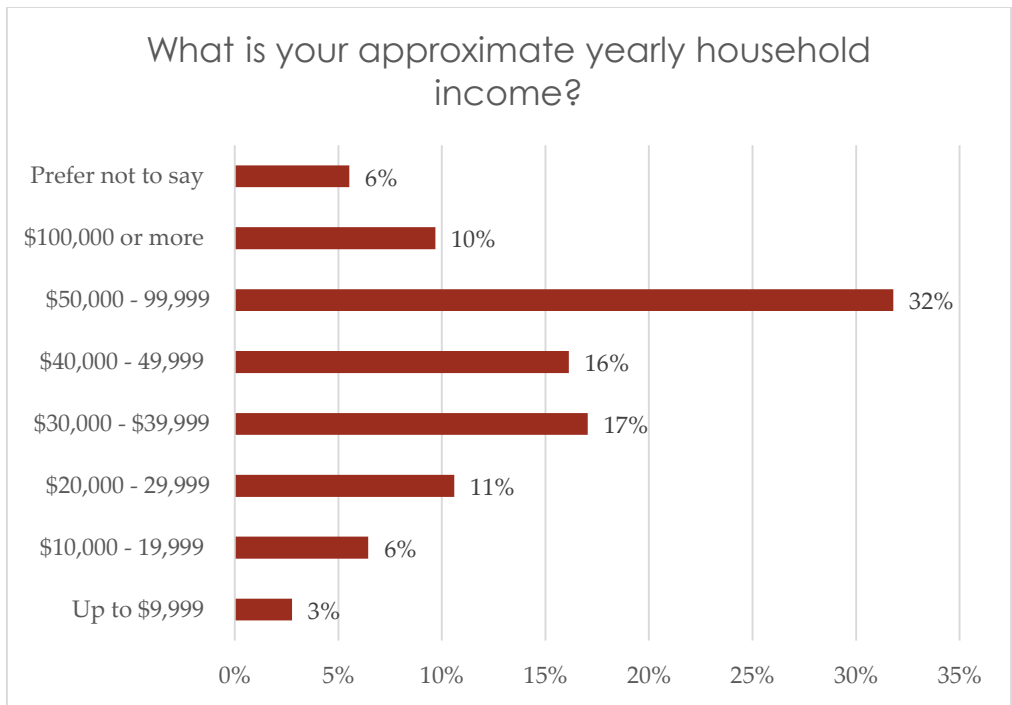


FIGURE 4

Most survey respondents live in Nez Perce County, ID (68.7%). Many of the rest live in other counties in Idaho, Oregon, and Washington, and less than 1% live in Arizona or California. Forty-six percent of respondents live in households composed of three to five people, 26% live in households with two people, 18% reside in households with more than five people, and 10% live alone.

Although our sample is not representative of the broader tribal community, these demographics provide useful insight into the sample of survey respondents. Knowing the demographics of our sample can help us see which parts of the population we have not communicated effectively with and need to reach out to. Demographic data also provide us with the opportunity to conduct deeper analysis in the future (such as cross tabulations) if the need arises.

II. Results and Discussion

Knowledge and perspectives

One major reason for developing this survey was to try to get a basic understanding of local perspectives on climate change and to measure how informed people are about climate change science.

Ninety-four percent of respondents said they have watched, read, or listened to information about climate change in the last six months (Figure 5). We did not ask whether that information supported scientific understandings of climate change or was skeptical of it, nor did we ask about the frequency of access to information about climate change. It is still useful to know that such a large majority of respondents have had climate change on their radar relatively recently.

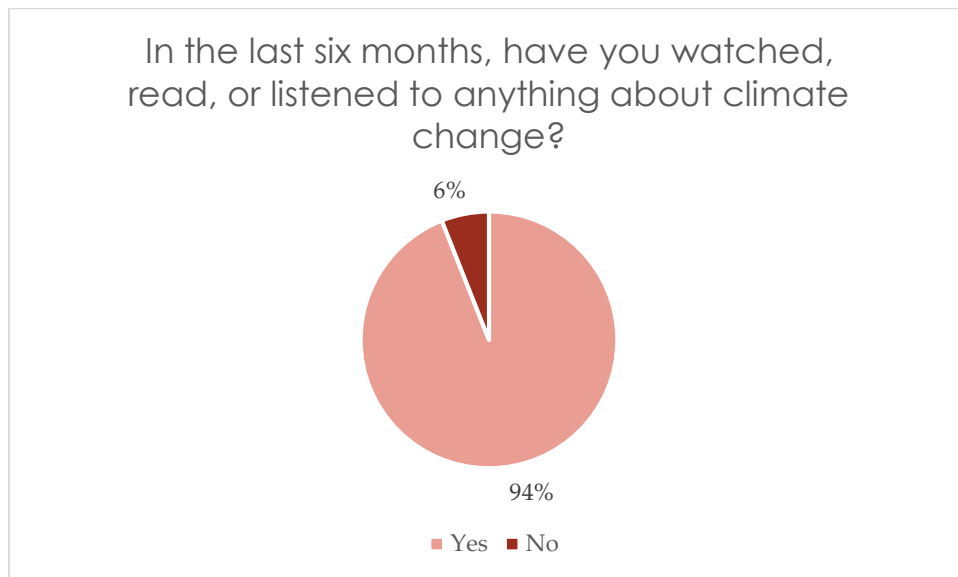


FIGURE 5

The most common sources of information about climate change were television (163), the internet (149), and the radio (109; Table 1). Again, we don't have some specific details that would be useful, such as what type of programming people engage with (such as news, documentaries, opinion articles, etc.) but knowing the most common media people access this information with provides us with ideas for how to move forward with outreach and education efforts that will reach as many people as possible.

TABLE 1

Which of these sources did you use to watch, read, or listen about climate change? (Choose all that apply)	
Television	163
Internet	141
Radio	109
Newspaper or magazine	76
A friend	66
Work	11
School	3
Scientific publications	3
Environmental organizations	2
Personal observation	2
Book	1
Church	1
Family	1

When asked to answer questions about the scientific foundation for understanding climate change, 91% of respondents answered correctly that the level of CO₂ in the atmosphere today is the highest it has been for at least 800,000 years. Sixty-one percent correctly answered false when asked to identify the truth of the statement, “Scientists do NOT generally agree about the impact of human activities on recent climate change.”

Thirty-two percent of respondents agree and 59% strongly agree that we are in a period of global climate change (Figure 6). Less than 10% of respondents said they are neutral (3%), that they disagree (1%) or strongly disagree (5%) with this statement. Interestingly, fewer agree (38%) or strongly agree (15%) that the climate changes naturally over time, and more claim neutrality (20%), disagree (22%), or strongly disagree (5%). Fifty-two percent strongly disagree and 30% disagree with the statement, “Human activity is NOT a major factor in recent climate change,” while 3% stated they are neutral, 5% agree, and 9% strongly agree.

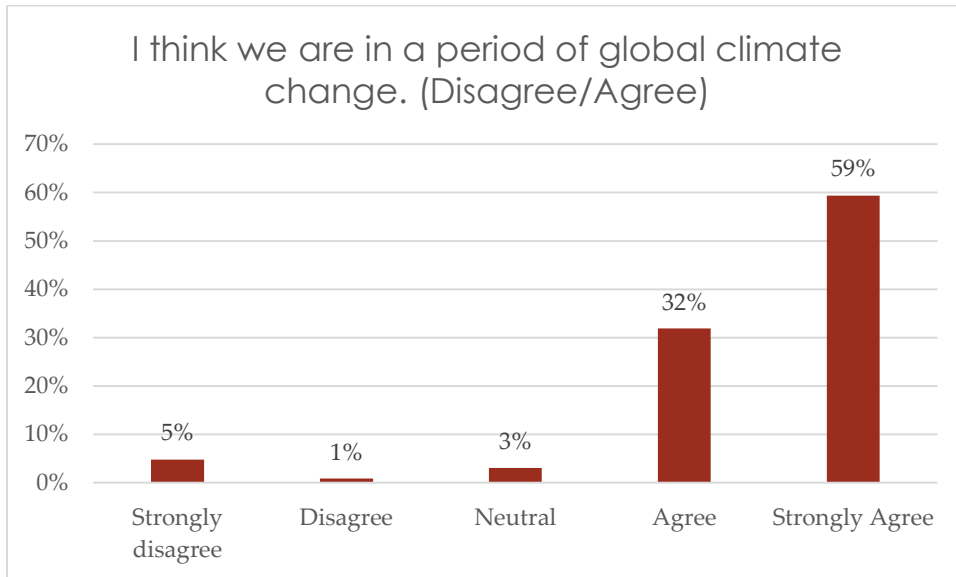


FIGURE 6

While there were some responses indicating a disbelief in the occurrence of climate change or its anthropogenic influences, overall these questions demonstrate that most survey respondents have at least a cursory knowledge of anthropogenic climate change and the scientific evidence that supports it. For the climate team this means that in addition to education efforts we can also put immediate work toward engaging people and developing opportunities for community action.

We also wanted to know how important respondents think the issue of climate change is. Sixty-eight percent of respondents said the issue of climate change is very important to them personally, 20% said it is important, 10% said it is somewhat important, 1% said it is not at all important, and 1% said they are neutral (Figure 7).

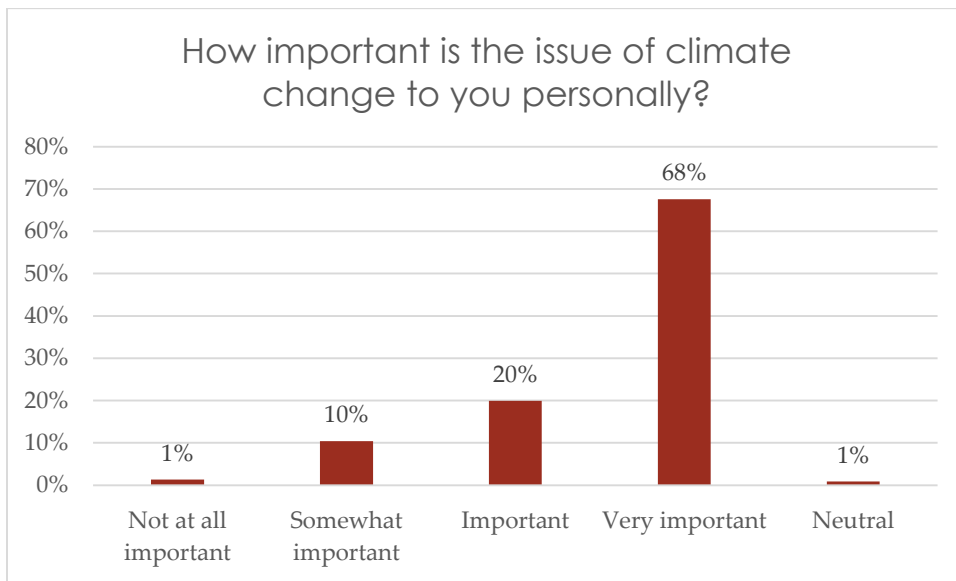


FIGURE 7

When asked how important it is for the Nez Perce Tribe to focus on adapting to the impacts of climate change, 2% of respondents said it is not important, 10% said it is somewhat important, and 88% said it is very important (Figure 8). There is clear support for tribal governmental action on climate change adaptation among survey respondents, lending a strong foundation to the tribal Climate Program. It is important to note that in open-ended responses some people expressed hopelessness about being able to make necessary changes in dealing with climate change, but throughout the survey the majority of respondents support a focus on adaptation.

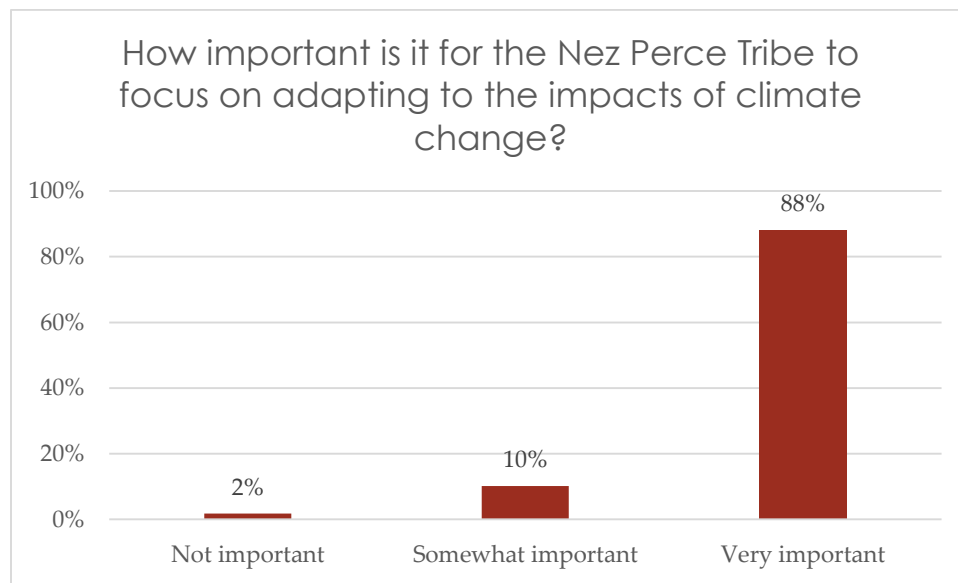


FIGURE 8

Observed changes

We hope to develop the vulnerability assessment and adaptation plan in a way that integrates local environmental knowledge. We provided respondents with a list of environmental issues or elements and asked them to choose all they have seen change over time.

While the main cause of the changes we identified is not always climate change, they are all things that can be exacerbated by a warming climate. For all but one of the changes listed in the questionnaire over 100 respondents indicated that they have observed them. The only item with fewer affirmative responses was for observed changes in the highest and lowest water levels in rivers and streams, which had 99 respondents.

The most common change respondents have observed is increased temperatures during the summer (197 respondents; Figure 9). Interestingly, observation of temperature increases in other seasons was less commonly reported; 176 respondents reported observing higher temperatures in winter, 119 for spring, and 102 for the fall. The second most commonly observed change was the frequency or severity of wildfire (180 respondents), followed closely by changes in surface water temperatures (176).

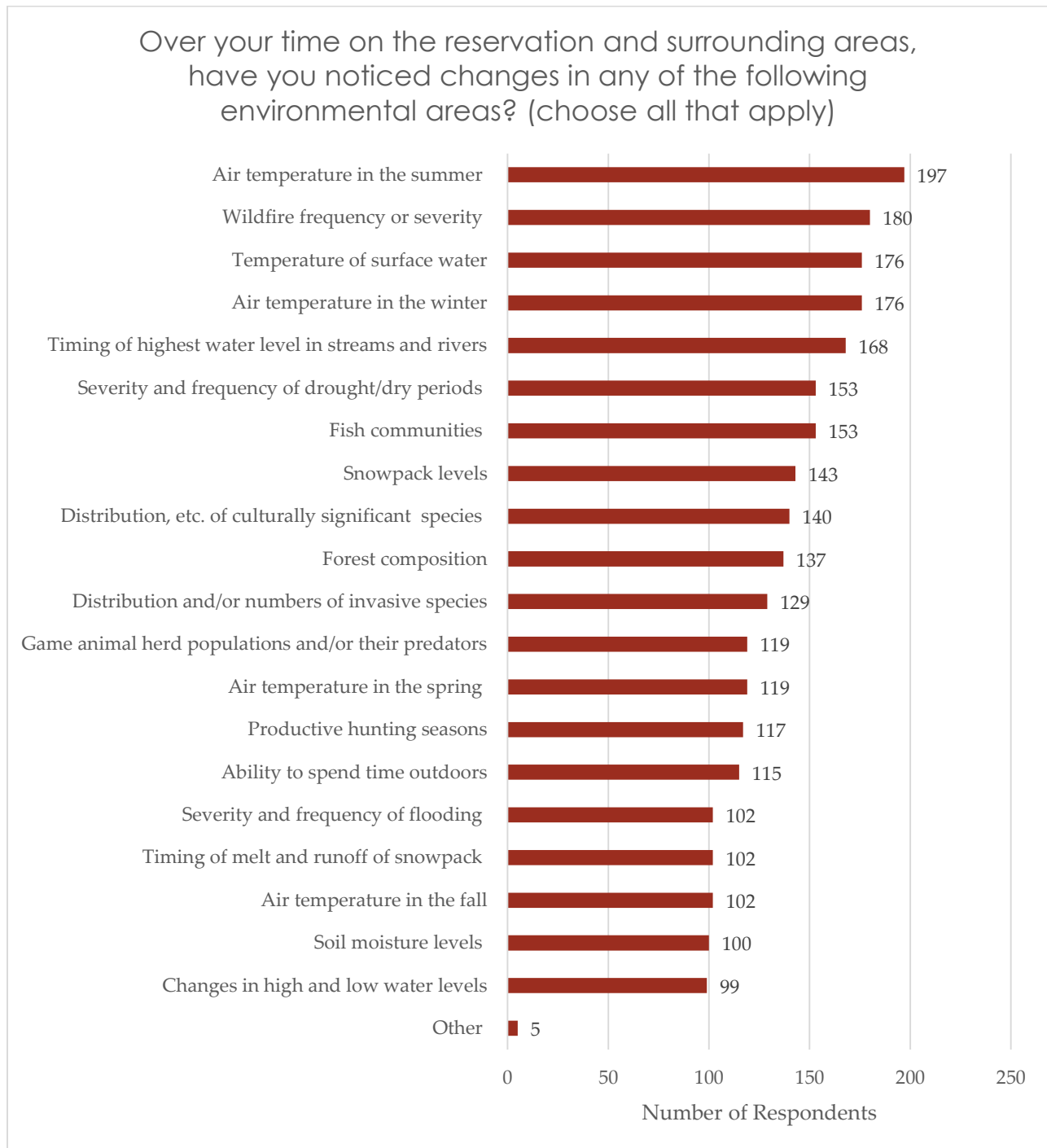


FIGURE 9

We also wanted to know what respondents see as the cause of the changes they have observed, and asked them to explain this in their response to an open-ended question (Table 2). Eighty-three respondents explicitly mentioned climate change as a cause of these observed changes, while two respondents said explicitly that they do not think climate change is a cause. There is the possibility that those respondents who mentioned climate change were biased by the nature of the survey itself and answered with what they thought was “correct,” but it is notable that many of these

respondents also mentioned other causes or impacts related to climate change. Six respondents said they did not know what caused the observed change, while forty-nine mentioned human causes that were not explicitly tied to climate change in their answer. Thirty respondents mentioned natural causes (also not explicitly tied to climate change). These narrative responses were categorized for analysis (Table 2).

TABLE 2

If you have observed any of the above changes, what do you think the causes are?	
Climate change	83
Human causes	49
Natural causes	30
Don't know	6
Not climate change	2
Various	1

Some respondents did mention human and natural causes without connecting them to climate change, but many of the things mentioned either contribute to or are exacerbated by climate change. For example, one respondent said, "I've noticed in particular the invasive species of Star Thistle. With the hot weather, this particular species takes over and suffocates the local plant life and is not a good source of food for our animal population. Change in weather patterns and longer drought season cause this species to thrive." Changing patterns and rates of invasive species can indeed be partly attributed to climate change and are exacerbated by its effects⁴. Other respondents mentioned human causes of environmental change such as dams. Dams impact wildlife, especially fish, and these impacts might exacerbate future effects from climate change⁵.

Some respondents commented on human and natural issues that are interconnected in complex ways. One respondent said the changes they have observed are caused by, "Lack of moisture. Warming of river temperatures. Lack of snow, making lower snow pack areas. Lower moisture impacts growth of plants. Dry places make places more vulnerable for fires -which will and has impacted our air qualities." Another attributed observed change to, "Habitat loss, habitat fragmentation, climatic shifts, forest management practices, agriculture management practices, etc."

Survey respondents have observed a variety of environmental change over their time on the landscape, much of which is likely connected to climate change. They see the causes of these

⁴ Jessica J. Hellmann, James E. Byers, Britta G. Bierwagen, Jeffrey S. Dukes, Five Potential Consequences of Climate Change for Invasive Species, *Conserv Biol.* (22)3:534-543.

⁵ Union of Concerned Scientists. Environmental Impacts of Hydroelectric Power, https://www.ucsusa.org/clean_energy/our-energy-choices/renewable-energy/environmental-impacts-hydroelectric-power.html. Accessed 20 December 2017.

changes as complex and interconnected, but widely attributable to human activity. These observations of change and thoughts about what has caused that change point to a substantial amount of local environmental knowledge among survey respondents.

We did not ask respondents to describe details such the magnitude of the changes they have observed, so this information is only a starting point for further examination. However, it provides a useful foundation for approaching future engagement with local knowledge and observations related to climate change.

Impacts

To help us prioritize our adaptation efforts, we asked survey respondents about climate change impacts on their lives and tribal resources.

When asked to specifically detail how the observed environmental changes above will impact respondents, their families, and the Nez Perce Tribe, respondents listed a variety of ways (Table 3). Ability to rely on fishing was the most commonly mentioned (57 respondents), with gathering second (38), and hunting third (30). Eighteen respondents brought up impacts from wildfires, 17 mentioned water issues, 16 discussed impacts on the air/air quality, and 15 said their ability to spend time outside has been impacted. Others mentioned impacts on food quality and availability (14), human health (14), increased temperatures (13), and the Nez Perce culture/lifestyle (10). Many other impacts were listed by fewer than 10 people, including quality of life, economy, recreation, and agriculture. These responses have been categorized in Table 3.

TABLE 3

If you have noticed any of the changes listed in question 12, how do such changes impact you, your family, and the Nez Perce Tribe?	
Fishing	57
Gathering	38
Hunting	30
Fire	18
Water	17
Air	16
Time spent outside	15
Food	14
Human health	14
Temperature	13
Culture/Lifestyle	11

A large majority of respondents clearly see climate change as an immediate threat. Eighty-six percent said climate change is already harming Nez Perce Tribal members on and off-reservation,

5% said they believe it will begin causing harm in 5-10 years, 6% said 10-25 years from now, 1% said 25-50 years from now, and 2% said it will never harm tribal members (Figure 10).

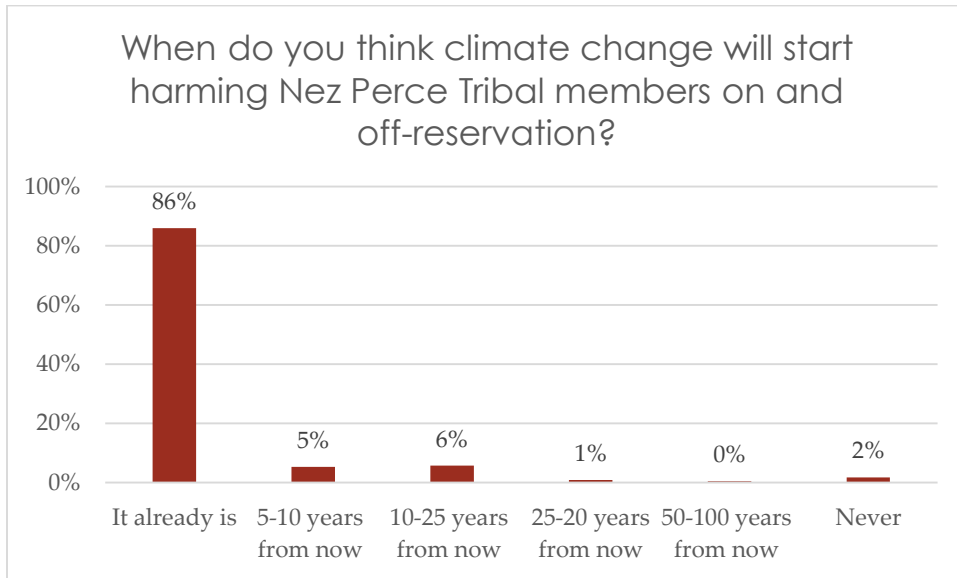


FIGURE 10

Responses were very similar when people were asked when they think climate change will begin harming treaty reserved resources on and off-reservation (Figure 11). Eighty-six percent said climate change is already harming these resources, 7% said it will begin harming them in 5-10 years, 3% said 10-25 years, 1% said 25-50 years, and 2% said climate change will never harm these resources.

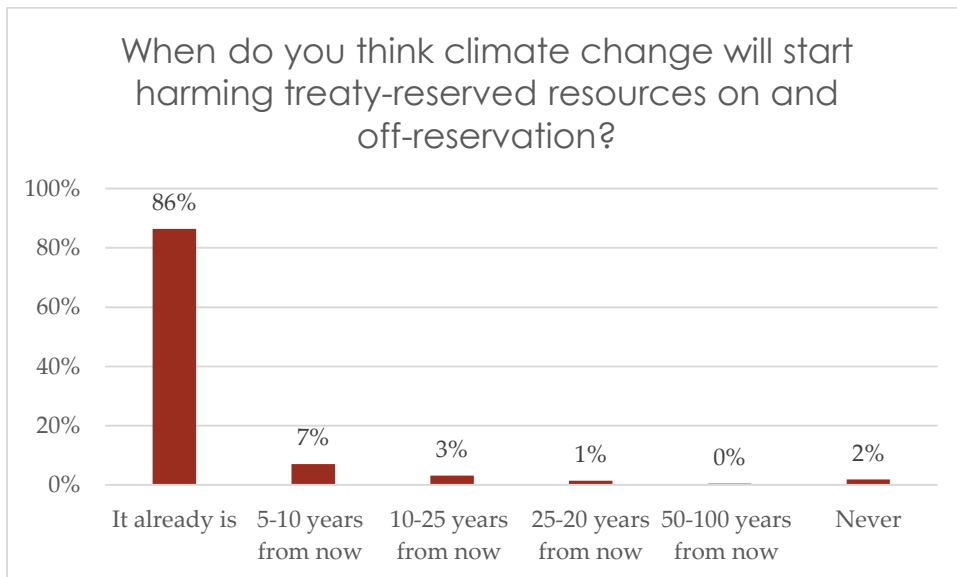


FIGURE 11

In terms of personal impacts, forty-six percent of respondents agree and 17% strongly agree that their daily activities are currently being impacted by climate change (Figure 12). Twenty-three percent are neutral, while 9% disagree and 4% strongly disagree with this statement.

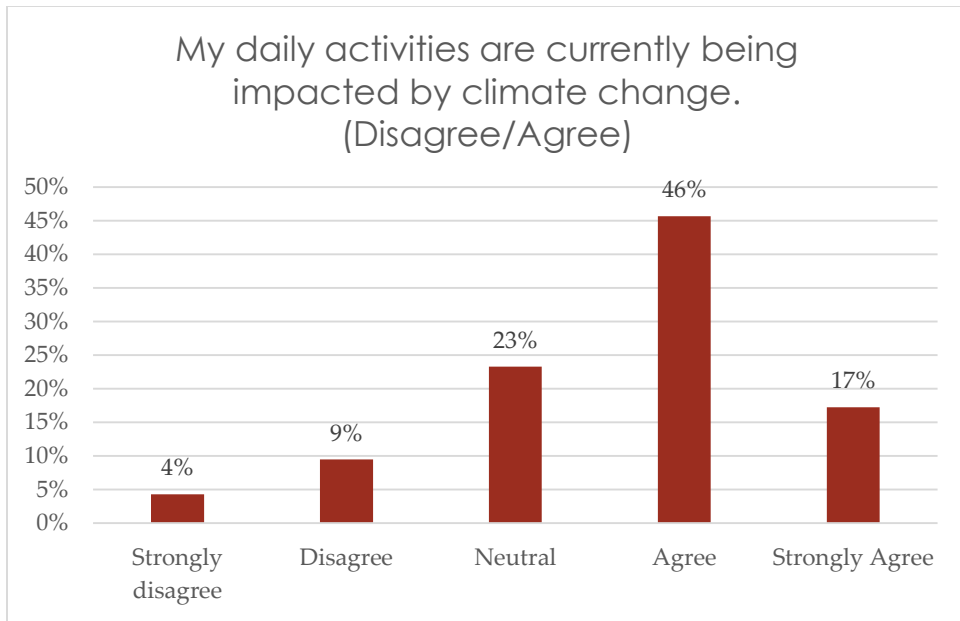


FIGURE 12

When asked to consider the statement that their daily activities will be impacted by climate change in the future, more agree (50%) and strongly agree (30%), and fewer are neutral (11%), disagree (5%), or strongly disagree (3%, Figure 13). This indicates that while most respondents see climate change as a personal issue, not everyone has identified direct impacts to their daily life yet.

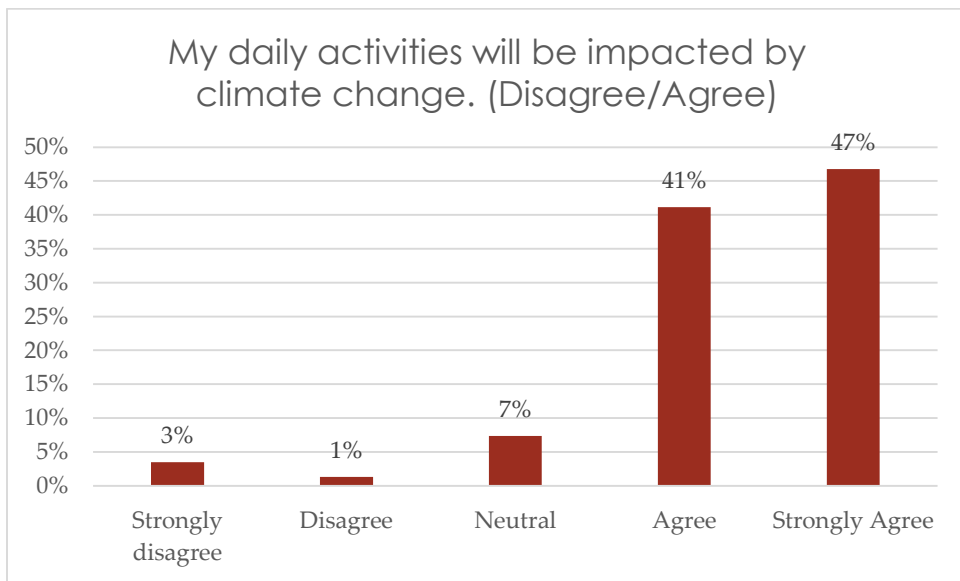


FIGURE 13

Respondents were also asked to rate their agreement with the statement “Nez Perce native foods and traditions are currently being impacted by climate change” (Figure 14). Forty-one percent agree and 47% strongly agree with this statement, while only 7% are neutral, 1% disagree, and 3% strongly disagree.

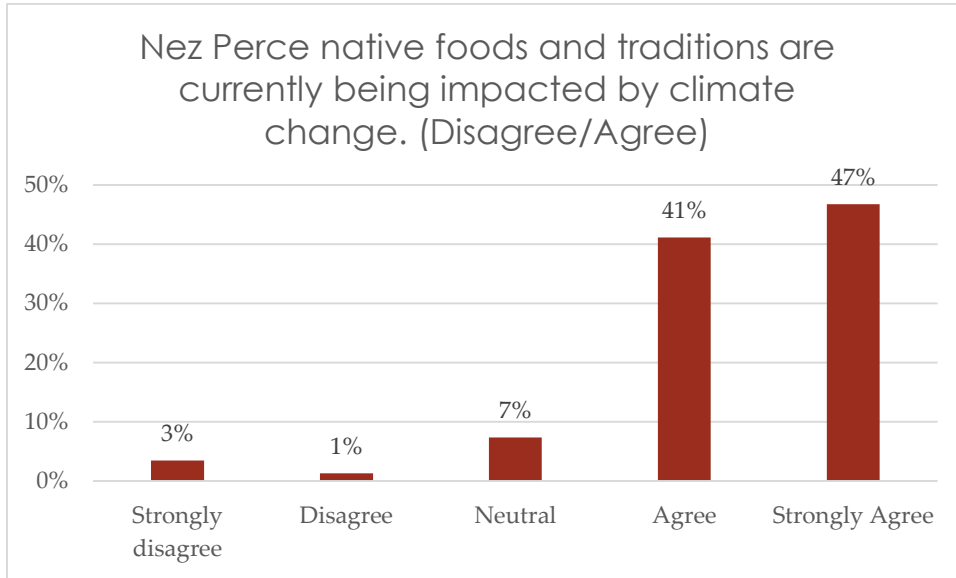


FIGURE 14

These responses change only a small amount when respondents were asked to rate agreement with the statement, “Nez Perce native foods and traditions will be impacted by climate change.” Fifty-six percent of respondents stating that they strongly agree, 36% agree, 3% neutral, 1% disagree, and 3% strongly disagree (Figure 15).

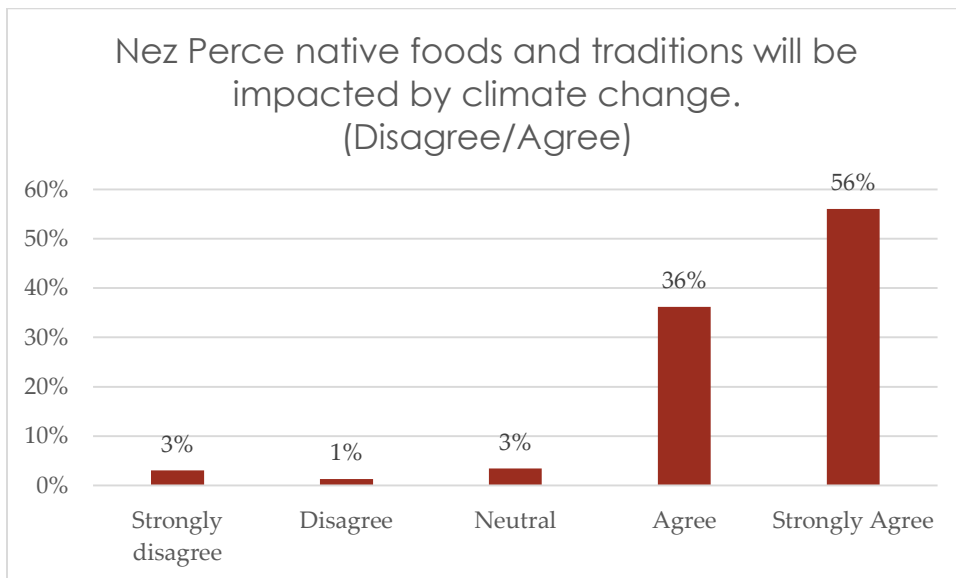


FIGURE 15

Overall, respondents appeared to be very thoughtful about the complexity of climate change impacts, acknowledging its broad reach into almost all aspects of life:

“These changes have impacted my family personally for years now. We have experienced lower numbers in herd animals that we hunt. We have experienced less and dry roots and berries because of extreme temperatures and lack of snow pack. The snow run off is going faster than ever so the river gets low fast which prevents us from certain fishing. Invasive species are starting to cover sections of land that used to be covered by native plants and species.”

Concerns

We aim to understand what tribal community members are most concerned about when it comes to climate change and its impacts, with the hope that this will help us prioritize the focus of our assessment and plan. We asked survey respondents to rate how concerned they are about the impacts of climate change on a large variety of resources and activities, and to list their top three concerns overall.

When asked to rate how concerned they are about climate change impacts on certain resources and aspects of life, respondents expressed the most concern about water and natural resources. The nine areas of the most concern are (Figure 16):

1. Water quality (69% of respondents indicate they are very concerned about water quality, 27% are concerned)
2. Extreme weather events: drought and heat (67% are very concerned, 29% are concerned)
3. Water quantity (66% very concerned, 30% concerned)
4. Water resources in general (66% very concerned, 28% concerned)
5. Damage to ecosystem and habitats (65% very concerned, 29% concerned)
6. Extreme weather events: flooding and storms (64% very concerned, 28% concerned)
7. Amount of water in rivers and streams (62% very concerned, 31% concerned)
8. Fishing (62% very concerned, 29% concerned)
9. Wildlife population sizes (62% very concerned, 29% concerned)

Top Overall Concerns

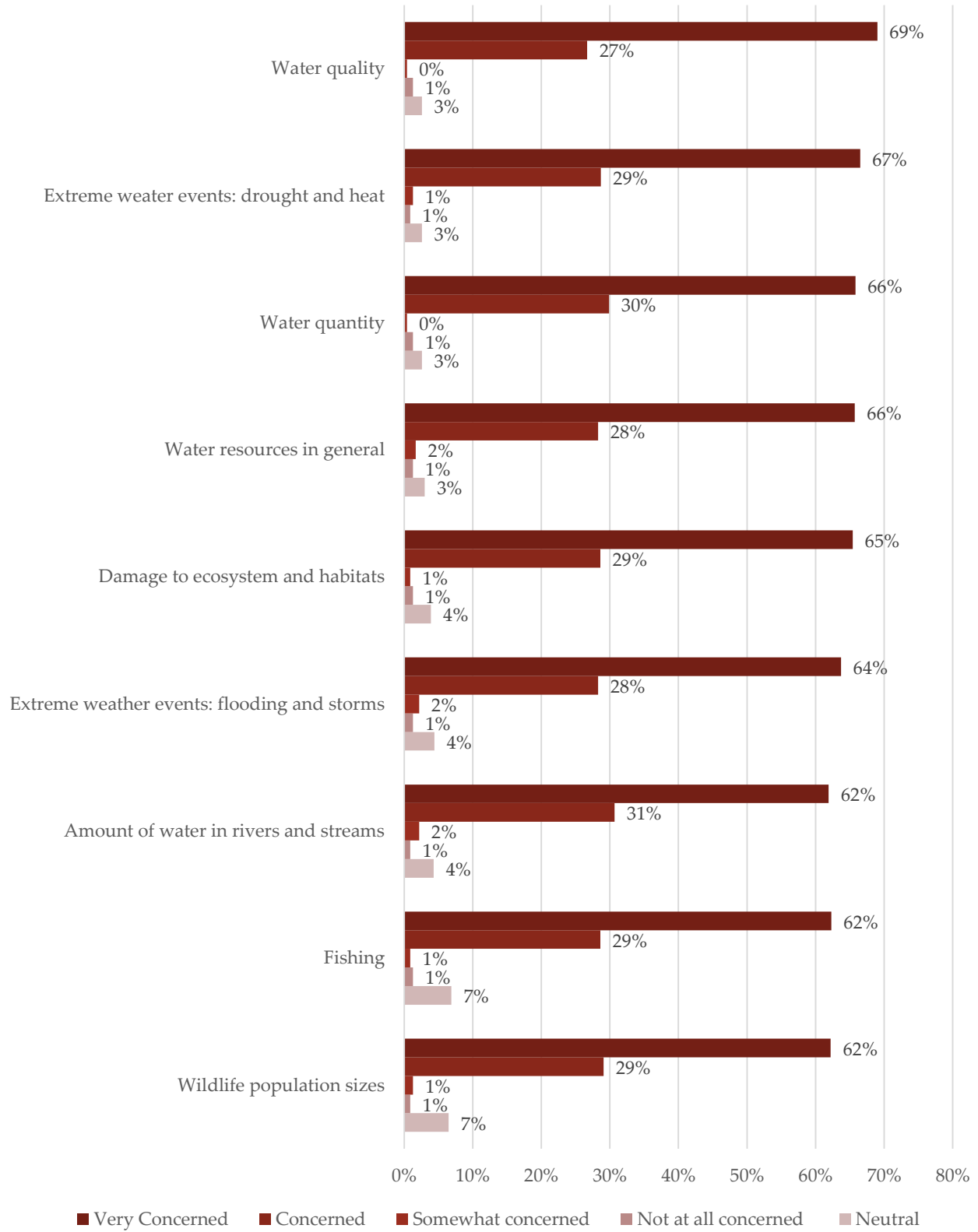


FIGURE 16

These results are reflected in the open ended responses to the request for respondents to list their top three concerns related to climate change impacts. Concern about water in general was mentioned 89 times by respondents, almost twice as much as any other item (Table 4). Damage to ecosystem and habitats was mentioned 47 times, and fishing 46 times. Respondents identified extreme weather in general as a main concern 32 times, water quality 32 times, and water quantity 31 times.

TABLE 4

Top concerns (open end responses)	
Water (general)	89
Ecosystems and habitats	47
Fishing/fish populations	46
Extreme weather (general)	32
Water quality	32
Water quantity	32
Gathering plants, roots, berries, medicines	31
Hunting	26
Wildlife	21
Human needs and well-being	18
Seasonal changes	17
Extreme weather (drought and heat)	15
Public health	15
Snowpack	14
Traditional foods and medicines	14
Extreme weather (flooding and storms)	12
Food accessibility	12
Life in general	10
Temperature changes	10
Weather (general)	10

With the exception of fishing, food resources generally did not have as many respondents who rated themselves as “very concerned.” For most, however, a majority of respondents did indicate that they are at least concerned (Figure 17). Food accessibility (49% very concerned, 39% concerned) and food resources in general (49% very concerned, 40% concerned) were the food items of most concern. Forty-three percent of respondents said they are very concerned about hunting, while 44% said they are concerned. Respondents do not appear to be as concerned about impacts to gardening, with only 30% very concerned and 46% concerned. Out of all the food resources listed, respondents indicate the least amount of concern overall for gathering roots and berries, with 38% who are very concerned, and only 9% concerned. The majority of respondents (52%) indicated that they are neutral regarding gathering roots and berries.

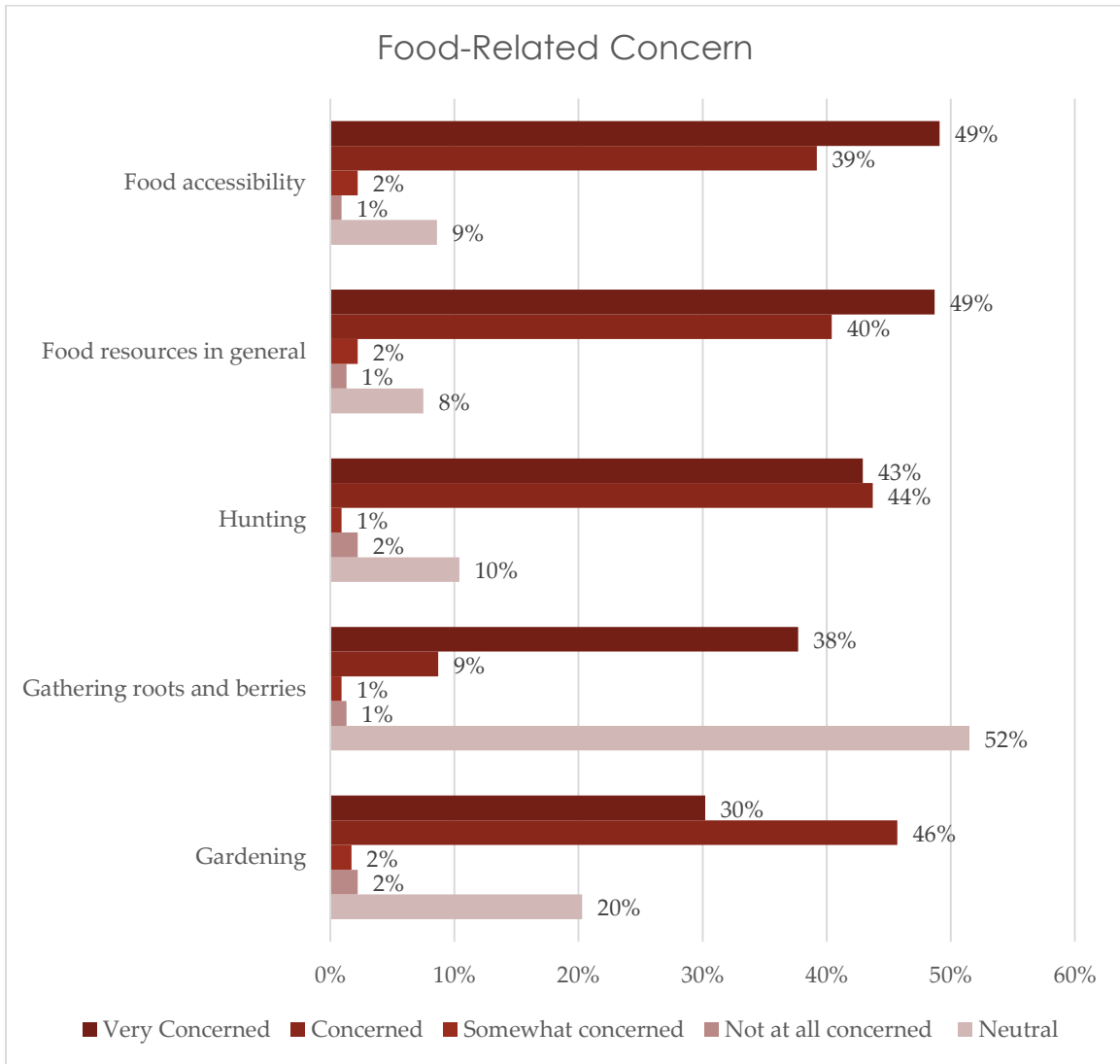


FIGURE 17

When respondents were asked to list their top three concerns (Table 4), food issues were among the top issues mentioned for many respondents, including traditional foods. Thirty-one respondents mentioned gathering roots and berries specifically, while 14 mentioned traditional foods and medicines more generally. General food resources were mentioned 30 times, and hunting 26. Food accessibility was mentioned 12 times.

Respondents expressed a varied amount of concern for topics related to human needs and well-being (Figure 18). Fifty-two percent of respondents indicated that they are very concerned about human needs and well-being in general, and 37% are concerned. Public health also raises a fair bit of concern among respondents (46% very concerned, 36% concerned). Climate change impacts on housing caused less concern, with 24% of respondents choosing very concerned and 39% concerned. Infrastructure is of the least concern in this grouping, with 21% of respondents very concerned, and 39% concerned. However, it is notable that for each of these items more than half

of respondents are at least concerned, and rates of neutrality are relatively high for some (public health 15%, housing and infrastructure 27%).

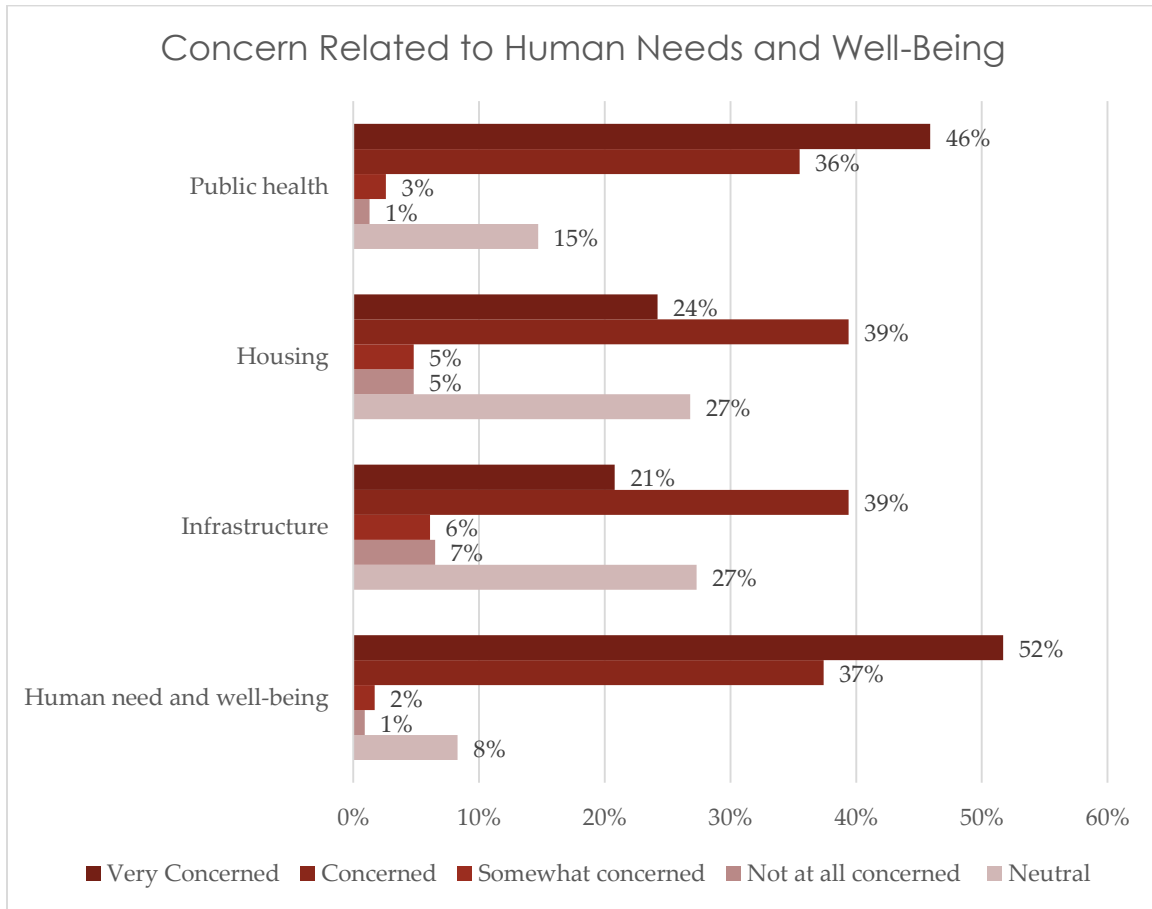


FIGURE 18

Respondents indicated the least amount of concern related to issues of industry, economy, and recreation (Figure 19). These issues, in general, all had around 40% of respondents who said they are concerned, but most had 30% or fewer respondents say they are very concerned. When asked to list their top three concerns overall, these particular issues were mentioned much less often than others (such as natural resources, food), with none being mentioned by 10 or more respondents.

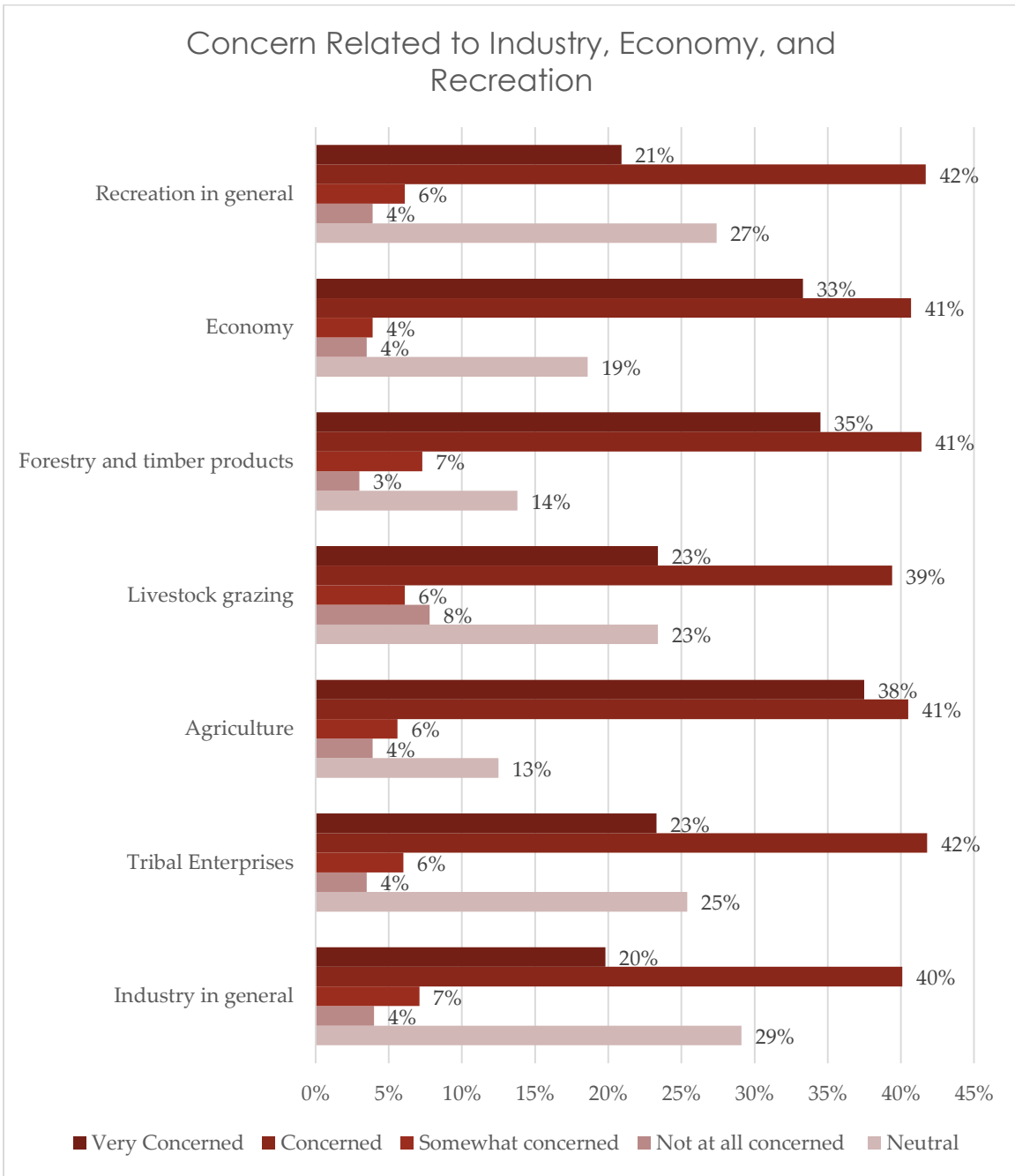


FIGURE 19

In other open-ended responses throughout the survey, some people did comment on the potential impacts of climate change on the economy, while others mentioned the need to look into renewable energy as a possibility to develop green jobs on the reservation:

“An area not talked about too much here is the Tribe's Economy. We should be pushing for clean renewable energy and the accompanying businesses industries to support that clean renewable energy. Green jobs are one of the fastest growing industries in the U.S. and the world, I suspect. Green industries are more to the traditions of the Nimiipuu, as sustainable development.”

In the list of potential concerns provided to the respondents, we did not explicitly include many cultural components other than gathering, hunting, and fishing. So it is important to acknowledge that in open-ended comments some respondents made it clear that they are very concerned about the impacts of climate change on their cultural ways and traditions:

“Well the Nez Perce entire way of life and being, which is already in jeopardy due to years of assimilation and other political and religious means, however, whatever we have saved and are practicing today is in direct threat to continuing. Climate change could literally change our entire way of being and doing. This is alarming.”

Clearly there are concerns that weigh more heavily than others on the survey respondents as a group. However, respondents individually are concerned about a wide array of issues associated with climate change. Again, we see the complexity of climate change and its effects.

Priorities and actions

As the climate team moves from developing a vulnerability assessment and adaptation plan to proposing and implementing actual actions, we must choose where to focus funding requests and efforts. In order to do this effectively and make sure that we are meeting the needs of community members, we asked survey respondents what their priorities are and what actions by the tribe they support.

When asked what three priorities⁶ they would choose to focus on for climate change planning, respondents most commonly identified education (110 respondents; Figure 20). Developing renewable energy resources was a close second, mentioned by 102 people. Eighty-two respondents listed water issues and 62 identified ecological restoration as major priorities.

⁶ The survey text asked respondents to list their top three general priorities, and top three natural/environmental resources priorities. There was notable overlap between the answers, so they were combined into a single group for coding, with duplicates from individual respondents removed.

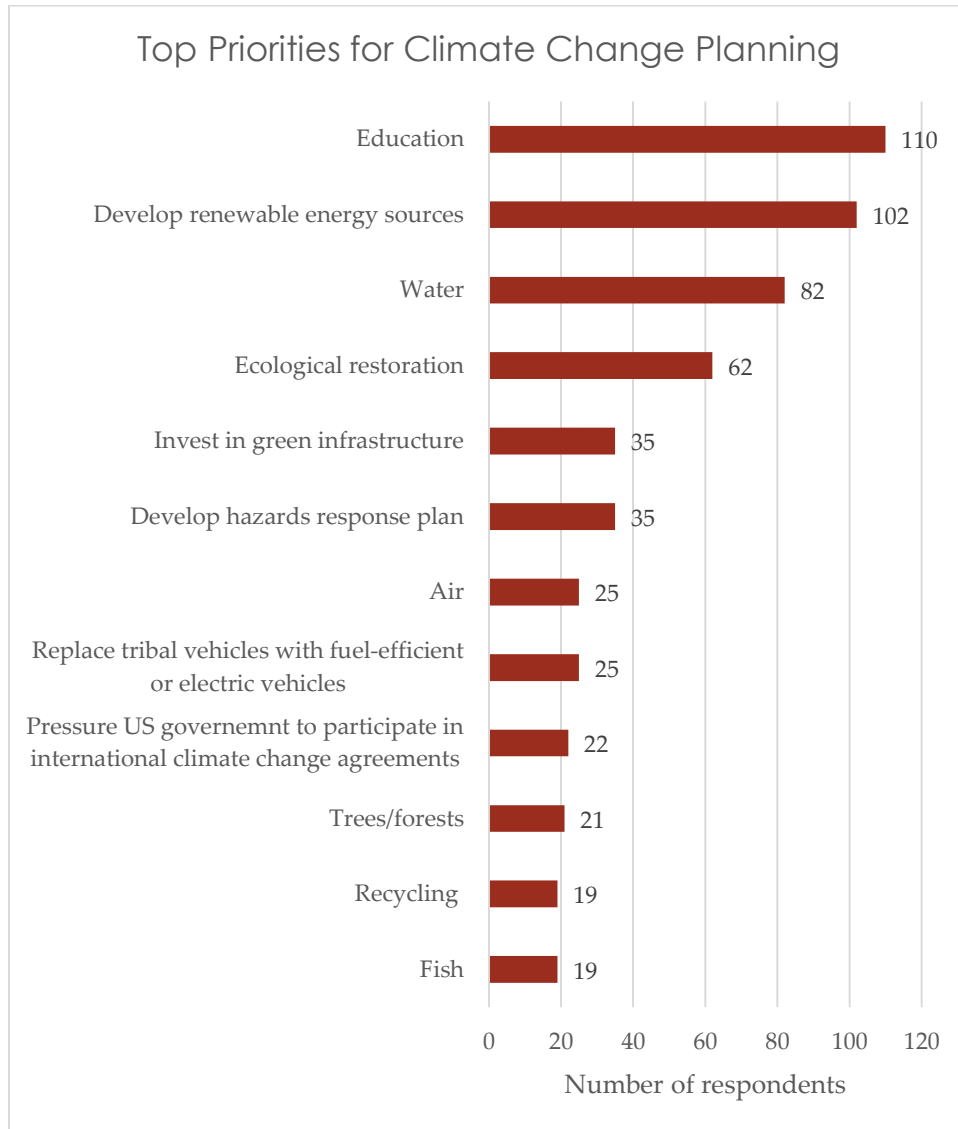


FIGURE 20

We also asked respondents to comment on what adaptation or mitigation actions they support at the personal and tribal level. When asked which personal conservation actions they currently take or would be willing to take (Figure 21), respondents clearly demonstrated an interest in and capacity for individual actions. Most respondents, for example, have already taken the step of replacing their home light bulbs with energy efficient options (88%), and 62% recycle.

There are some actions that a smaller percentage of respondents currently take, but that spark a lot of interest. Twenty-seven percent of respondents currently compost food waste, but 44% would like to in the future and 17% would like more information. Gardening also garnered interest among respondents, with 41% who currently garden, 39% who would like to in the future, and 8% who express interest in getting more information. Walking, biking, or carpooling had similar numbers as gardening, with 42% who currently do so, 42% who would like to in the future, and 5% who want more information.

In the list below, please select all of the conservation actions that you already or or would be willing to do.

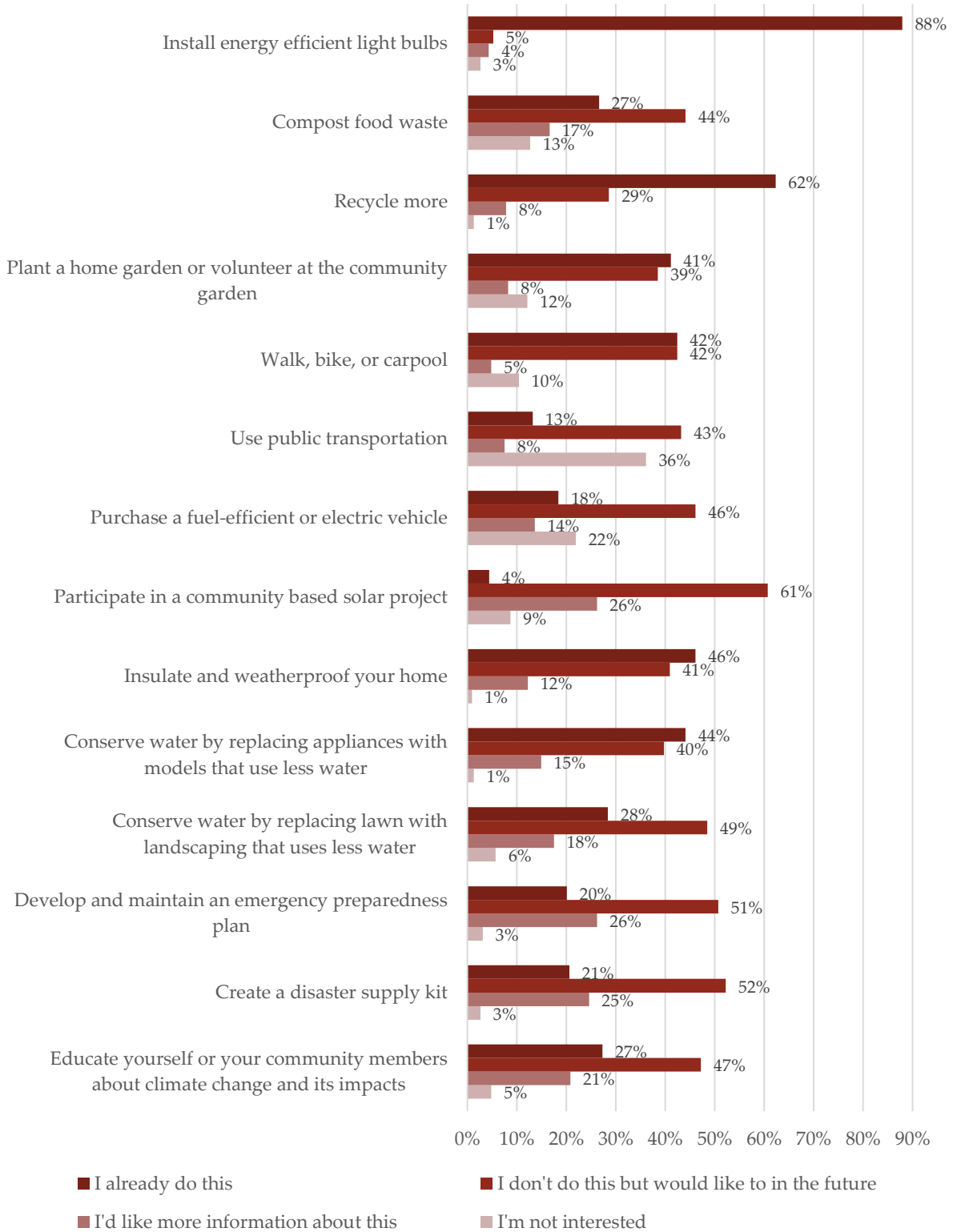


FIGURE 21

There are some actions that saw relatively high amounts of disinterest. Thirty-six percent of respondents have no interest in using public transportation, and 22% have no interest in purchasing a fuel efficient or electric vehicle. These responses may reflect the relative inaccessibility of these alternative methods of transportation, as well as the lack of electric vehicle infrastructure and recreational preferences of respondents. However, the interest in walking, biking, and carpooling points to the potential for growth of less carbon-intensive transportation options in the region.

Survey respondents also indicate strong support for conservation actions by the tribal government (Figure 22). Two hundred eleven respondents say they would support the development of renewable energy resources by the tribe, the action that has the most support. Respondents also indicate a lot of support for education efforts by the tribe, including education about human causes of climate change (190 respondents), and education about strategies for adaptation (183). These responses are in line with the listed priorities of respondents from above.

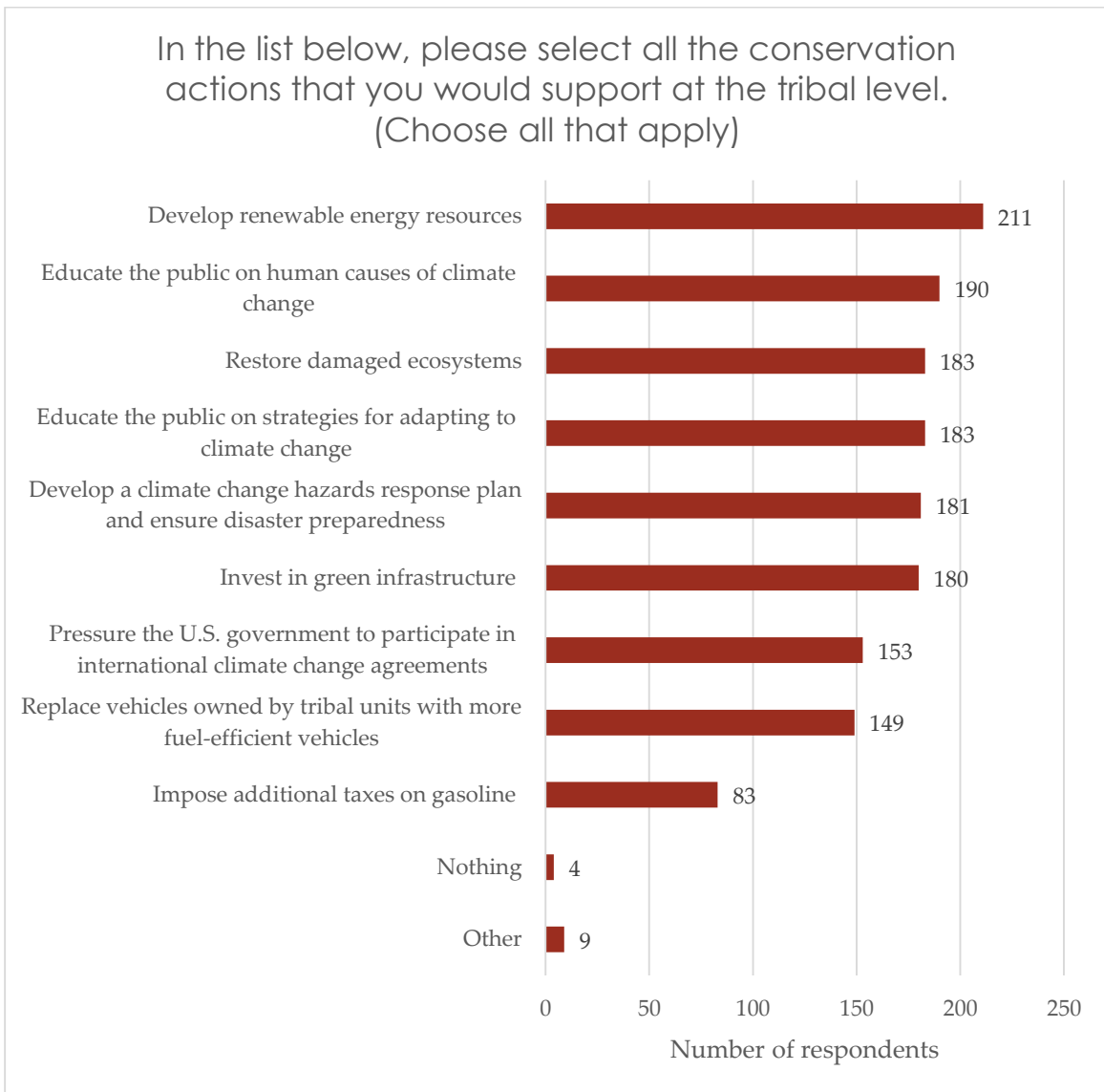


FIGURE 22

The tribal action with the least support from respondents is increasing gasoline taxes in order to fund climate change adaptation activities (83 respondents). Only four respondents said they do not support any action by the tribal government.

Some climate-related actions that respondents suggested through the “other” option include cooperating in a carbon credit exchange, developing an analysis of current activities/actions, engaging with other regional tribes in a climate change network and hosting summits/meetings, staff training opportunities, and developing economic incentives for individual conservation actions.

Respondents suggested a variety of actions in other open-ended answers throughout the survey, some of which were a part of the questions specifically about priorities and actions (e.g. developing renewables, education). Other suggestions were ideas that were unmentioned in the survey questions, such as instituting climate smart agricultural practices and land leasing and

developing green business standards for tribal enterprises. Generally, respondents expressed support for the tribe taking action on climate change and becoming a leader in adaptation efforts:

“NPTEC had Fisheries and Natural Resources hold a two-day conference about climate change and provide some real world changes to the operations of the NPT that could reduce the carbon footprint of the tribe immediately, but once again things get lost in the translation and planning. The NPT is in a position to mandate real change in the workforce and offices to quickly reduce the [carbon footprint] of the tribe. Once people get used to doing things differently at work maybe they will be more likely to do it at home also.”

It is exciting to see so much support for tribal action among survey respondents. Some of the actions with strong support are feasible in the course of the current project or already occurring in other projects (education, hazards response plan, drafting some kind of letter to pressure the federal government) and others require a lot more time to develop (renewable resources, green infrastructure, replacing tribally-owned vehicles).

Engagement

Another very important goal for this survey was to build a foundation for a participatory process and community engagement. To do this, we asked respondents if they are interested in being involved in future activities related to climate change and if so, what kinds of activities they would participate in.

Seventy-three percent of survey respondents said they are interested in future activities related to learning about and responding to climate change (Figure 23), compared to 27% who are not interested. This rate of interest is really exciting to the Climate Resilience Team and can potentially form the base of a robust engagement process and community action.

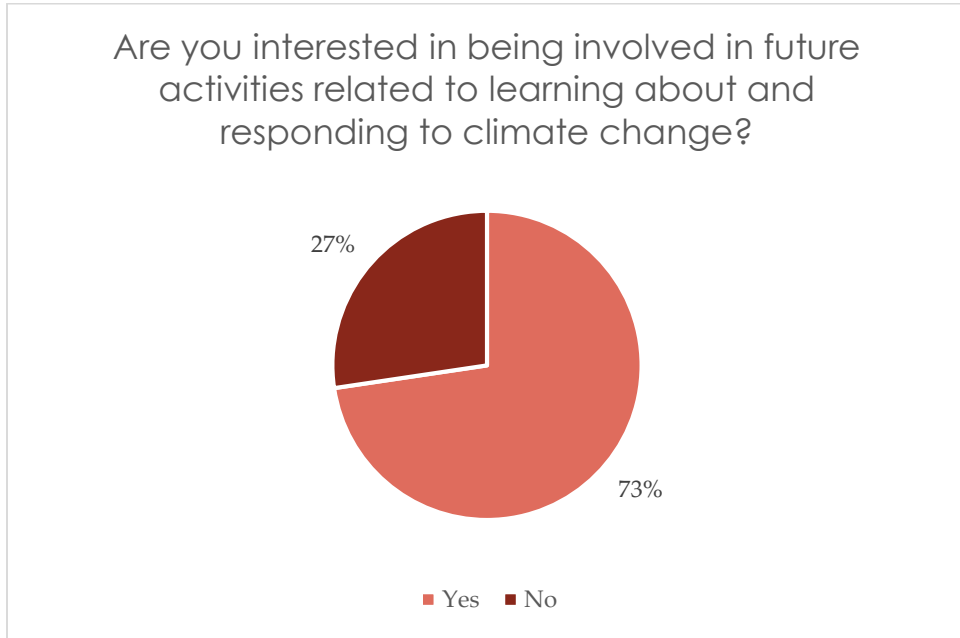


FIGURE 23

Educational events were the most popular type of activity, with 108 respondents saying they would be interested in attending, and workshops were a close second (101 respondents; Figure 24). Sixty-nine people expressed interest in being involved in a group of community members who do environmental observation projects, 67 expressed interest in being part of a community green team, 60 said they would be interested in being part of focus groups, and 25 expressed interest in one-on-one interviews.

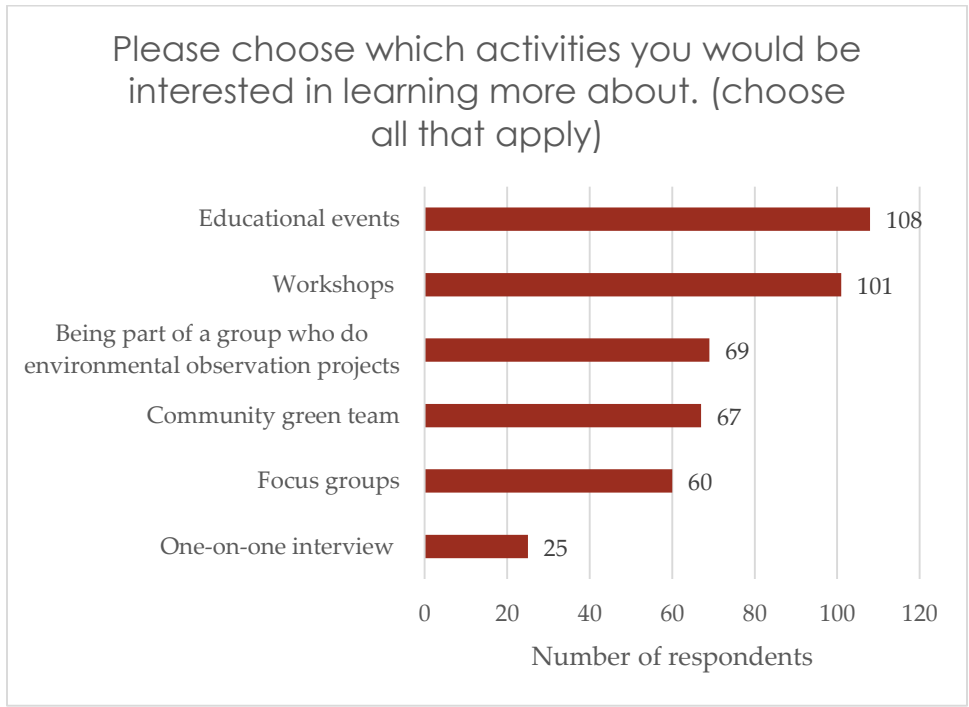


FIGURE 24

In various open-ended responses throughout the survey, respondents offered to be involved without prompting. One respondent offered, “If you need me let me know I can help with research for education.” And another, “I am glad that the team is taking climate change seriously and looking for the effects and seeking solutions. I am more than happy to help out in this endeavor.” Other respondents spoke to the need for community engagement, through education, workshops, open and transparent communication, and providing resources to community members to facilitate change.

This provides an important stepping stone for moving more fully into the assessment and plan, giving us a path for making sure the community is engaged and part of the process, as much as possible. The tribal government can take action on climate change but without the involvement and support of the tribal community it will not create a truly effective or profound shift.

III. Conclusions and Next Steps

Overall, though the survey sample is not representative, we received rich responses and collected important and relevant data. We are on the way to meeting the goals we set out at the beginning of the survey, while acknowledging that this process will extend beyond the survey and into more participatory engagement with the tribal community. Several respondents stated support for this survey and other climate-related efforts in their open ended comments.

Survey respondents appear to have a basic understanding of climate change, see it as a threat to their personal lives and tribal resources, and have identified many of its impacts at a local scale. They see climate change as complex and broad reaching.

Respondents also express concern about climate change and its impacts both locally and at a broader scale. While there is a variety of opinion regarding which impacts cause the most concern, some are common to almost all respondents. Water, extreme weather, fish, and natural resources all have respondents very worried.

People who completed the survey have observed change locally and have a lot of insight about why it has happened (climate change or not) and why it matters. In the future, it will be useful to follow up on local observations in more depth. We did not ask respondents how long they have lived in the area and made these observations, what sorts of outdoor activities they engage in, or how they utilize and interact with environmental resources. The information gathered so far is a very useful starting point, but there is certainly more that needs to be done if we hope to integrate local knowledge with our efforts to develop a climate adaptation plan that includes tribal traditions and practices as part of its foundation.

The impacts of climate change on respondents' lives are varied – from health to property to recreation to cultural and spiritual well-being. Most respondents do see climate change as an immediate threat to Nez Perce foods and traditions.

Respondents want to see the tribal government take action related to climate change (many respondents made specific suggestions for what type of action) and are interested in being personally involved. This survey illuminated clear capacity and potential for building resilience and adaptive capacity in the tribal community. There is clear support for specific actions at the tribal governmental level, especially developing renewable energy resources and developing educational projects related to climate change.

In conjunction with working with tribal employees from various departments, these survey responses provide us the opportunity to shape the focus of the assessment and plan in a way that meets the needs and aligns with the values and priorities of the larger tribal community. The overarching concerns and top actions can provide a starting point for where to put our efforts in the future. This gives us guidance in where to look for future funding to support adaptation implementation efforts, as well as to identify what sorts of examples to look for at other tribes and organizations.

The very high level of interest in community engagement means the Climate Resilience Team has a great opportunity to start working more closely with community members. Education is a clear avenue for immediate engagement because it does not require significant financial resources. We are working on plans to utilize our existing website and put information out through the Ta'c Tito'oqan (tribal newspaper), local radio station, and tribal communications.

This survey was an effective tool for beginning the process of developing a climate change vulnerability assessment and adaptation plan for the Nez Perce Tribe. It provides important information and perspectives from survey respondents, opens up new avenues for working with community members, clearly identifies priorities, and gives us guidance for moving forward with this important work.

“I would like to thank you all for all the great work you're doing thus far. I really believe when you're working in the area of protecting Mother Earth, you're a Warrior.”

Appendix A. Survey Instrument

Nez Perce Tribe: Community Well-being and Climate Change Adaptation Survey

The Nez Perce Tribe Climate Change Resilience Team is working on a plan to help the Tribe adapt to the effects of climate change, now and in the future. We are requesting the input of community members and tribal employees to make sure the plan meets the needs and interests of all tribal community members. Your help through completing this survey is very important to this process and we appreciate your time and effort.

This survey will ask questions about your thoughts about climate change, your concerns about how climate change will impact your life and your community, and possible ways to address those concerns. Surveys will only be accepted when completed by people aged 18 years or older.

If you choose to participate, all the information you provide will be kept confidential. At the end of the survey, you can enter a drawing for one of three \$100 Walmart gift cards. The winners of this drawing will be announced in early November 2017.

If you have any questions, please contact the Climate Resilience Team by emailing stefaniek@nezperce.org or calling (208) 621-3887.

Thank you!

By signing here and completing the survey, I state that I am 18 years or older and consent to having my responses included in the adaptation planning process.

Section 1: We would like to learn what you think about climate change.

1) In the last six months, have you watched, read, or listened to anything about climate change?

- Yes
- No

If you answered yes to the previous question, which of these sources did you use? *(Please choose all that apply)*

- Television
- Internet
- Radio
- Newspaper or magazine
- A friend
- Other: _____

2) Please read the statements below, and tell us whether you think each is true or false.

	True	False
The level of carbon dioxide in the atmosphere today is higher than it has been for at least 800,000 years.		
Since NASA first recorded the global temperature in 1880, the six hottest years on record have occurred since the year 2005.		
Scientists do NOT generally agree about the impact of human activities on recent climate change.		

3) Please use the scale to indicate how strongly you agree or disagree with the following statements *(put an X in one box for each statement)*:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I think we are in a period of global climate change.					
I think that the climate changes naturally over time.					
I think that human activity is a major factor in recent climate change.					
My daily activities are <u>currently being impacted</u> by climate change.					

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My daily activities <u>will be</u> impacted by climate change.					
Nez Perce native foods and traditions <u>are currently being</u> impacted by climate change.					
Nez Perce native foods and traditions <u>will be</u> impacted by climate change.					

3a) Please add any additional thoughts regarding the statements above.

Section 2: We would like to learn more about your priorities, interests, and concerns, so the Climate Change Adaptation Plan will reflect the most important needs of tribal members.

4) How important is it for the Nez Perce Tribe to focus on adapting to the impacts of climate change?

- Not Important
- Somewhat Important
- Very Important

5) Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item.

	Not at all concerned	Somewhat concerned	Neutral	Concerned	Very Concerned
Water Resources in General					
Speed of water flow in rivers and streams.					
Amount of water in rivers and streams.					

	Not at all concerned	Somewhat concerned	Neutral	Concerned	Very Concerned
Snowpack levels					
Water quality					
Water quantity					
Food Resources in General					
Gathering medicinal plants					
Gathering roots and berries					
Gardening					
Hunting					
Fishing					
Industry in General					
Tribal Enterprises					
Agriculture					
Livestock grazing					
Forestry and timber products					
Human Needs and Well- being in General					
Infrastructure (such as roads and bridges)					
Housing					
Economy					

	Not at all concerned	Somewhat concerned	Neutral	Concerned	Very Concerned
Food accessibility					
Public health (<i>physical and mental or emotional health</i>)					
Recreation in General					
Hiking					
Mountain biking					
Camping					
Bird watching					
Rafting					
Swimming					
Snow related sports (such as skiing and snowboarding)					
Horseback riding					
Four-wheeling					
General Systems					
Seasonal changes					
Damage to ecosystems/habitats					
Wildlife population sizes					
Extreme weather events: flooding and storms					
Extreme weather events: drought and heat					

5a) When you look at the list above, which three things are you most concerned about when it comes to the impacts of climate change?

5b) Are you concerned about the impacts of climate change on any other areas or activities that are not listed in the table above?

Section 3: We would like to learn more about how you think climate change has affected and will affect you and your family.

6) How important is the issue of climate change to you personally?

- Not at all important
- Somewhat important
- Important
- Very important
- Neutral

7) When do you think climate change will start harming Nez Perce Tribal members on and off-reservation?

- Never
- It already is
- 5-10 years from now
- 10-25 years from now
- 25-50 years from now
- 50-100 years from now

8) When do you think climate change will start harming treaty-reserved resources on and off-reservation?

- Never
- It already is
- 5-10 years from now
- 10-25 years from now
- 25-50 years from now
- 50-100 years from now

9) In the list below, please select all of the conservation actions that you already do or would be willing to do. (*Please choose all that apply*)

	I already do this.	I don't do this but would like to in the future.	I'd like more information about this.	I am not interested in this.
Install energy efficient light bulbs in your home.				
Compost food waste.				
Recycle more.				
Plant a home garden or volunteer at the community garden.				
Walk, bike, or carpool.				
Use public transportation.				
Purchase a fuel-efficient or electric vehicle.				
Participate in a community based solar project.				
Insulate and weatherproof your home.				
Conserve water by replacing appliances with models that use less water.				
Conserve water by replacing lawn with landscaping that uses less water.				
Develop and maintain an emergency preparedness plan.				
Create a disaster supply kit				

	I already do this.	I don't do this but would like to in the future.	I'd like more information about this.	I am not interested in this.
Educate yourself or your community about climate change and its impacts.				
Other:				

10) In the list below, please select all that you would support at the tribal government level. *(Please choose all that apply)*

- Develop renewable energy resources such as wind, solar, and geothermal.
- Develop a climate change hazards response plan and ensure preparedness for climate- related disasters (*e.g. flooding, fire, heat, drought, storms*).
- Educate the public on human causes of climate change.
- Educate the public on strategies for adapting to climate change.
- Impose additional taxes on gasoline for climate change reduction and response activities.
- Replace vehicles owned by tribal units with more fuel-efficient vehicles, such as hybrid and electric models.
- Pressure the U.S. government to participate in international agreements that commit the U.S. to reducing its emissions quickly.
- Invest in green infrastructure, such as rain gardens and green roofs for new construction or remodels.
- Restore damaged ecosystems.
- Nothing.
- Other: _____

11a) Please tell us what you would choose as the top three **general priorities** to focus on while preparing a plan for climate adaptation?

11b) Please tell us what you would choose as the top **three natural resource or environmental priorities** to focus on while preparing a plan for climate adaptation?

Section 4: This section will help us incorporate local knowledge into the Climate Adaptation Plan.

12) Over your time on the reservation and surrounding areas, have you noticed changes in any of the following environmental areas? *(Please choose all that apply)*

- Air temperature in the summer
- Air temperature in the fall
- Air temperature in the winter
- Air temperature in the spring
- Fish communities (such as a decrease or increase of certain fish types or numbers)
- Forest composition (such as a shift in the location or health of various species)
- Productive hunting seasons
- Game/animal herd populations and/or their predators
- Snowpack levels
- Timing of melt and runoff of snowpack
- Soil moisture levels
- Wildfire frequency or severity
- Temperature of surface water in rivers, lakes, and streams
- Timing of highest water level in streams and rivers
- Changes in highest and lowest water levels in streams and rivers (higher than usual or lower than usual)
- Severity and frequency of flooding
- Severity and frequency of drought/dry periods
- Distribution, abundance, or quality of gathering and medicinal plants
- Distribution, abundance, or quality of other culturally significant plant and animal species
- Distribution and/or numbers of invasive species
- Ability to spend time outdoors
- Other: _____

13) If you have noticed any of the changes listed in question 12, what do you think the causes are?

14) If you have noticed any of the changes listed in question 12, how do such changes impact you, your family, and the Nez Perce Tribe?

15) Is there anything else you would like to tell the Nez Perce Climate Change Resilience Team?

Final Section: In order for us to prioritize community projects and compare the interests of different people, please tell us a little bit about yourself (this information will not be tied to your identity in any way).

After this section, you will be able to enter a drawing for the chance to win a \$100 Walmart gift card.

Are you an enrolled member of the Nez Perce Tribe?

- Yes
- No, but I am a member of another tribe
- No, but I am a descendant of the Nez Perce Tribe or another tribe
- No

What is your job/career or how do you make money?

Are you an employee of the Nez Perce Tribe?

- Yes
- No

In what zip code is your house located? _____

What is your age? _____

What is your gender? _____

What is your education level?

- Less than high school
- High school diploma
- Some college
- College degree
- Graduate degree

How many people live in your household?

- Just me
- Two people
- Three people
- Three to 5 people
- More than 5 people

What is your approximate yearly household income?

- Up to \$9,999
- \$10,000 - \$19,999
- \$20,000 - \$29,999
- \$30,000 - \$39,999

- \$40,000 - \$49,999
- \$50,000 - \$99,999
- \$100,000 or more
 - Prefer not to say

Entry to win a \$100 Walmart gift card

Please enter your name, phone number, and/or email address to be entered into a drawing for a \$100 Walmart gift card, and/or if you are interested in being involved in future activities related to learning about and responding to climate change.

Name: _____

Phone number: _____

Email address: _____

Are you interested in being involved in future activities related to learning about and responding to climate change?

- Yes
- No

If you answered yes to the question above, please choose which activities you would be interested in learning more about:

- Being part of a group of community members who do environmental observation projects
- Workshops
- Focus groups
- One-on-one interviews
- Educational events
- Community green team

Do we have your permission to contact you with more information about the above activities?

- Yes
- No

Thank you for your time! If you'd like learn more about climate change and the Climate Change Resilience Team's work, please visit our website: <http://nptwaterresources.org/climate-change-adaptation/>

Appendix B. Frequency Tables

In the last six months, have you watched, read, or listened to anything about climate change?		
	Freq.	%
Yes	216	94%
No	15	6%
Total	231	100%

Which of these sources did you use to watch, read, or listen about climate change? (Choose all that apply)	
	Freq.
Television	163
Internet	141
Radio	109
Newspaper or magazine	76
A friend	66
Work	11
School	3
Scientific publications	3
Environmental organizations	2
Personal observation	2
Book	1
Church	1
Family	1

The level of carbon dioxide in the atmosphere today is higher than it has been for at least 800,000 years.		
	Freq.	%
True	210	91%
False	20	9%
Total	230	100%

Scientists do NOT generally agree about the impact of human activities on recent climate change.		
	Freq.	%
True	89	39%
False	140	61%
Total	229	100%

Please use the scale to indicate how strongly you agree or disagree with the following statements: I think we are in a period of global climate change.		
	Freq.	%
Strongly disagree	11	5%
Disagree	2	1%
Neutral	7	3%
Agree	73	32%
Strongly Agree	136	59%
Total	229	100%

Please use the scale to indicate how strongly you agree or disagree with the following statements: I think that the climate changes naturally over time.		
	Freq.	%
Strongly disagree	12	5%
Disagree	50	22%
Neutral	47	20%
Agree	87	38%
Strongly Agree	35	15%
Total	231	100%

Please use the scale to indicate how strongly you agree or disagree with the following statements: I think that human activity is not a major factor in recent climate change.		
	Freq.	%
Strongly disagree	120	52%
Disagree	70	30%
Neutral	8	3%
Agree	11	5%
Strongly Agree	21	9%
Total	230	99%⁷

⁷ Some totals do not come to exactly 100% due to rounding. More precise frequencies are available for anyone who would like access to them.

Please use the scale to indicate how strongly you agree or disagree with the following statements: My daily activities are currently being impacted by climate change.		
	Freq.	%
Strongly disagree	10	4%
Disagree	22	9%
Neutral	54	23%
Agree	106	46%
Strongly Agree	40	17%
Total	232	99%

Please use the scale to indicate how strongly you agree or disagree with the following statements: My daily activities will be impacted by climate change.		
	Freq.	%
Strongly disagree	8	3%
Disagree	12	5%
Neutral	26	11%
Agree	117	50%
Strongly Agree	69	30%
Total	232	99%

Please use the scale to indicate how strongly you agree or disagree with the following statements: Nez Perce native foods and traditions are currently being impacted by climate change.		
	Freq.	%
Strongly disagree	8	3%
Disagree	3	1%
Neutral	17	7%
Agree	95	41%
Strongly Agree	108	47%
Total	231	99%

Please use the scale to indicate how strongly you agree or disagree with the following statements: Nez Perce native foods and traditions will be impacted by climate change.		
	Freq.	%
Strongly disagree	7	3%
Disagree	3	1%
Neutral	8	3%
Agree	84	36%
Strongly Agree	130	56%
Total	232	99%

How important is it for the Nez Perce Tribe to focus on adapting to the impacts of climate change?		
	Freq.	%
Not important	4	2%
Somewhat important	23	10%
Very important	199	88%
Total	226	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Water resources in general		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	4	2%
Neutral	7	3%
Concerned	65	28%
Very concerned	151	66%
Total	230	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Speed of water flow in rivers and streams		
	Freq.	%
Not at all concerned	4	2%
Somewhat concerned	3	1%
Neutral	18	8%
Concerned	89	39%
Very concerned	114	50%
Total	228	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Amount of water in rivers and streams		
	Freq.	%
Not at all concerned	2	1%
Somewhat concerned	5	2%
Neutral	10	4%
Concerned	71	31%
Very concerned	143	62%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Snowpack levels		
	Freq.	%
Not at all concerned	2	1%
Somewhat concerned	5	2%
Neutral	10	4%
Concerned	78	34%
Very concerned	136	59%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Water quality		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	1	0%
Neutral	6	3%
Concerned	62	27%
Very concerned	160	69%
Total	232	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Water quantity		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	1	0%
Neutral	6	3%
Concerned	69	30%
Very concerned	152	66%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Food resources in general		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	5	2%
Neutral	17	7%
Concerned	92	40%
Very concerned	111	49%
Total	228	99%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Gathering medicinal plants		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	4	2%
Neutral	22	10%
Concerned	95	41%
Very concerned	107	46%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Gathering roots and berries		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	2	1%
Neutral	20	9%
Concerned	87	38%
Very concerned	119	52%
Total	231	101%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Gardening		
	Freq.	%
Not at all concerned	5	2%
Somewhat concerned	4	2%
Neutral	47	20%
Concerned	106	46%
Very concerned	70	30%
Total	232	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Hunting		
	Freq.	%
Not at all concerned	5	2%
Somewhat concerned	2	1%
Neutral	24	10%
Concerned	101	44%
Very concerned	99	43%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Fishing		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	2	1%
Neutral	16	7%
Concerned	66	29%
Very concerned	144	62%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Industry in general		
	Freq.	%
Not at all concerned	9	4%
Somewhat concerned	16	7%
Neutral	66	29%
Concerned	91	40%
Very concerned	45	20%
Total	227	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Tribal Enterprises		
	Freq.	%
Not at all concerned	8	3%
Somewhat concerned	14	6%
Neutral	59	25%
Concerned	97	42%
Very concerned	54	23%
Total	232	99%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Agriculture		
	Freq.	%
Not at all concerned	9	4%
Somewhat concerned	13	6%
Neutral	29	13%
Concerned	94	41%
Very concerned	87	38%
Total	232	102%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Livestock grazing		
	Freq.	%
Not at all concerned	18	8%
Somewhat concerned	14	6%
Neutral	54	23%
Concerned	91	39%
Very concerned	54	23%
Total	231	99%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Forestry and timber products		
	Freq.	%
Not at all concerned	7	3%
Somewhat concerned	17	7%
Neutral	32	14%
Concerned	96	41%
Very concerned	80	34%
Total	232	99%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Human needs and well-being in general		
	Freq.	%
Not at all concerned	2	1%
Somewhat concerned	4	2%
Neutral	19	8%
Concerned	86	37%
Very concerned	119	52%
Total	230	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Infrastructure (such as roads and bridges)		
	Freq.	%
Not at all concerned	15	6%
Somewhat concerned	14	6%
Neutral	63	27%
Concerned	91	39%
Very concerned	48	21%
Total	231	99%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Housing		
	Freq.	%
Not at all concerned	11	5%
Somewhat concerned	11	5%
Neutral	62	27%
Concerned	91	39%
Very concerned	56	24%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Economy		
	Freq.	%
Not at all concerned	8	3%
Somewhat concerned	9	4%
Neutral	43	19%
Concerned	94	41%
Very concerned	77	33%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Food accessibility		
	Freq.	%
Not at all concerned	2	1%
Somewhat concerned	5	2%
Neutral	20	9%
Concerned	91	39%
Very concerned	114	49%
Total	232	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Public health (physical and mental or emotional health)		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	6	3%
Neutral	34	15%
Concerned	82	36%
Very concerned	106	46%
Total	231	101%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Recreation in general		
	Freq.	%
Not at all concerned	9	4%
Somewhat concerned	14	6%
Neutral	63	27%
Concerned	96	42%
Very concerned	48	21%
Total	230	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Hiking		
	Freq.	%
Not at all concerned	6	3%
Somewhat concerned	18	8%
Neutral	80	34%
Concerned	85	37%
Very concerned	43	19%
Total	232	101%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Camping		
	Freq.	%
Not at all concerned	6	3%
Somewhat concerned	19	8%
Neutral	61	27%
Concerned	97	42%
Very concerned	47	20%
Total	230	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Mountain biking		
	Freq.	%
Not at all concerned	18	8%
Somewhat concerned	23	10%
Neutral	97	42%
Concerned	63	27%
Very concerned	31	13%
Total	232	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Bird watching		
	Freq.	%
Not at all concerned	13	6%
Somewhat concerned	20	9%
Neutral	88	38%
Concerned	73	31%
Very concerned	38	16%
Total	232	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Rafting		
	Freq.	%
Not at all concerned	17	7%
Somewhat concerned	18	8%
Neutral	80	34%
Concerned	78	34%
Very concerned	39	17%
Total	232	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Swimming		
	Freq.	%
Not at all concerned	7	3%
Somewhat concerned	13	6%
Neutral	50	22%
Concerned	96	42%
Very concerned	60	27%
Total	226	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Snow related sports (such as skiing and snowboarding)		
	Freq.	%
Not at all concerned	20	9%
Somewhat concerned	18	8%
Neutral	83	36%
Concerned	69	30%
Very concerned	42	18%
Total	232	101%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Horseback riding		
	Freq.	%
Not at all concerned	11	5%
Somewhat concerned	22	10%
Neutral	86	37%
Concerned	74	32%
Very concerned	37	16%
Total	230	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Four-wheeling		
	Freq.	%
Not at all concerned	42	18%
Somewhat concerned	40	17%
Neutral	82	36%
Concerned	43	19%
Very concerned	24	10%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Seasonal changes		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	3	1%
Neutral	20	9%
Concerned	96	41%
Very concerned	110	47%
Total	232	99%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Damage to ecosystem and habitats		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	2	1%
Neutral	9	4%
Concerned	66	29%
Very concerned	151	65%
Total	231	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Wildlife population sizes		
	Freq.	%
Not at all concerned	2	1%
Somewhat concerned	3	1%
Neutral	15	7%
Concerned	67	29%
Very concerned	143	62%
Total	230	100%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Extreme weather events: flooding and storms		
	Freq.	%
Not at all concerned	3	1%
Somewhat concerned	5	2%
Neutral	10	4%
Concerned	64	28%
Very concerned	144	64%
Total	226	99%

Please look at the list below and use the scale to tell us how concerned you are about the impacts of climate change on each list item: Extreme weather events: drought and heat		
	Freq.	%
Not at all concerned	2	1%
Somewhat concerned	3	1%
Neutral	6	3%
Concerned	66	29%
Very concerned	153	67%
Total	230	101%

How important is the issue of climate change to you personally?		
	Freq.	%
Not at all important	3	1%
Somewhat important	24	10%
Important	46	20%
Very important	156	68%
Neutral	2	1%
Total	231	100%

When do you think climate change will start harming Nez Perce Tribal members on and off-reservation?		
	Freq.	%
Never	4	2%
It already is	196	86%
5-10 years from now	12	5%
10-25 years from now	13	6%
25-50 years from now	2	1%
50-100 years from now	1	0%
Total	228	100%

When do you think climate change will start harming treaty-reserved resources on and off-reservation?		
	Freq.	%
Never	4	2%
It already is	197	86%
5-10 years from now	16	7%
10-25 years from now	7	3%
25-50 years from now	3	1%
50-100 years from now	1	0%
Total	228	99%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Install energy efficient light bulbs in your home		
	Freq.	%
I already do this	203	88%
I don't do this but would like to in the future	12	5%
I'd like more information about this	10	4%
I'm not interested	6	3%
Total	231	100%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Compost food waste		
	Freq.	%
I already do this	61	27%
I don't do this but would like to in the future	101	44%
I'd like more information about this	38	17%
I'm not interested	29	13%
Total	229	101%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Recycle more		
	Freq.	%
I already do this	144	62%
I don't do this but would like to in the future	66	29%
I'd like more information about this	18	8%
I'm not interested	3	1%
Total	231	100%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Plant a home garden or volunteer at the community garden		
	Freq.	%
I already do this	95	41%
I don't do this but would like to in the future	89	39%
I'd like more information about this	19	8%
I'm not interested	28	12%
Total	231	100%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Walk, bike, or carpool		
	Freq.	%
I already do this	98	42%
I don't do this but would like to in the future	98	42%
I'd like more information about this	11	5%
I'm not interested	24	10%
Total	231	99%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Use public transportation		
	Freq.	%
I already do this	30	13%
I don't do this but would like to in the future	98	43%
I'd like more information about this	17	7%
I'm not interested	82	36%
Total	227	99%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Purchase a fuel-efficient or electric vehicle		
	Freq.	%
I already do this	42	18%
I don't do this but would like to in the future	105	46%
I'd like more information about this	31	14%
I'm not interested	50	22%
Total	228	100%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Participate in a community based solar project		
	Freq.	%
I already do this	10	4%
I don't do this but would like to in the future	139	61%
I'd like more information about this	60	26%
I'm not interested	20	9%
Total	229	100%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Insulate and weatherproof your home		
	Freq.	%
I already do this	106	46%
I don't do this but would like to in the future	94	41%
I'd like more information about this	28	12%
I'm not interested	2	1%
Total	230	100%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Conserve water by replacing appliances with models that use less water		
	Freq.	%
I already do this	101	44%
I don't do this but would like to in the future	91	40%
I'd like more information about this	34	15%
I'm not interested	3	1%
Total	229	100%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Conserve water by replacing lawn with landscaping that uses less water		
	Freq.	%
I already do this	65	28%
I don't do this but would like to in the future	111	48%
I'd like more information about this	40	17%
I'm not interested	13	6%
Total	229	99%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Develop and maintain an emergency preparedness plan		
	Freq.	%
I already do this	46	20%
I don't do this but would like to in the future	116	51%
I'd like more information about this	60	26%
I'm not interested	7	3%
Total	229	100%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Create a disaster supply kit		
	Freq.	%
I already do this	47	21%
I don't do this but would like to in the future	119	52%
I'd like more information about this	56	25%
I'm not interested	6	3%
Total	228	101%

In the list below, please select all of the conservation actions that you already do or would be willing to do: Educate yourself or your community members about climate change and its impacts		
	Freq.	%
I already do this	63	27%
I don't do this but would like to in the future	109	47%
I'd like more information about this	48	21%
I'm not interested	11	5%
Total	231	100%

In the list below, please select all the conservation actions that you would support at the tribal level. (choose all that apply)	
	Freq.
Develop renewable energy resources such as wind, solar, and geothermal	211
Develop a climate change hazards response plan and ensure preparedness for climate-related disasters (e.g. flooding, fire, heat, drought, storms)	181
Educate the public on human causes of climate change	190
Educate the public on strategies for adapting to climate change	183
Impose additional taxes on gasoline for climate change reduction and response activities	83
Replace vehicles owned by tribal units with more fuel-efficient vehicles, such as hybrid and electric models	149
Pressure the U.S. government to participate in international agreements that commit the U.S. to reducing its emissions quickly	153
Invest in green infrastructure, such as rain gardens and green roofs for new construction or remodels	180
Restore damaged ecosystems	183
Nothing	4
Other	9

Other:

- We already have mitigation plans. Emergency plans... need to start thinking about a carbon credit exchange. Plant more trees, protect our existing natural infrastructure. Get out of the agricultural model of timber harvest. Make our agenda. Know your history.
- Do a study, blue print or research on what we are doing and how we can do better.
- Lead regional tribal network on this topic and host annual summits for updates on reaching targets and sharing knowledge.
- Have lead free ammo used on the reservation.
- More training on board/given to the planning with the Nez Perce Tribe.
- Educate the public on ways they can help reduce their carbon footprint.
- Develop economic incentives for 'green' actions.

Over your time on the reservation and surrounding areas, have you noticed changes in any of the following environmental areas? (choose all that apply)	
	Freq.
Air temperature in the summer	197
Fish communities (such a decrease or increase of certain fish types or numbers)	153
Air temperature in the winter	176
Snowpack levels	143
Wildfire frequency or severity	180
Air temperature in the fall	102
Timing of melt and runoff of snowpack	102
Air temperature in the spring	119
Temperature of surface water in rivers, lakes and streams	176
Severity and frequency of drought/dry periods	153
Changes in highest and lowest water levels in streams and rivers (higher than usual or lower than usual)	99
Timing of highest water level in streams and rivers	168
Distribution, abundance, and/or quality of culturally significant plant and animal species	140
Game animal herd populations and/or their predators	119
Distribution and/or numbers of invasive species	129
Soil moisture levels	100
Forest composition (such as a shift in the location or health of various species)	137
Productive hunting seasons	117
Ability to spend time outdoors	115
Severity and frequency of flooding	102
Other	5

Other:

- Timing of roots and berries.
- Season are shorter, especially for specific foods like berries, roots, etc.
- Air quality - because of the more frequent bad wildfires during the summer
- The timing of the seasons has seemed to shift by a couple of months. Our falls and spring seasons are almost nonexistent.

Are you an enrolled member of the Nez Perce Tribe?		
	Freq.	%
Yes	163	71%
No, but I am a member of another tribe	21	9%
No, but I am a descendent of the Nez Perce Tribe or another tribe	7	3%
No	40	17%
Total	231	100%

What is your job/how do you make money?		
	Freq.	%
Administration	25	12%
Education	13	6%
Financial services	10	5%
Health and medicine	29	14%
Human resources	3	2%
Law	13	6%
NPT Employee (no specific function)	11	5%
Retired	9	4%
Science and technology	44	21%
Self employed	5	2%
Service industry	9	4%
Social services	15	7%
Tribal government	4	2%
Other	16	8%
Total	206	98%

Other:

- Communications
- Park Ranger
- Municipal Government
- Utilities
- Economic Development
- Volunteer
- Business Owner
- Unemployed
- Planner
- Model
- Security
- Disability
- Transportation
- Cultural Resources

Are you an employee of the Nez Perce Tribe?		
	Freq.	%
Yes	183	79%
No	49	21%
Total	232	100%

What is your age?	
Minimum age	20
Median age	45
Maximum age	86

Age Distribution		
	Freq.	%
18-29	21	9%
30-39	52	23%
40-49	60	26%
50-59	45	20%
60+	49	22%
Total	227	100%

What is your gender?		
	Freq.	%
Female	146	65%
Male	80	35%
Total	226	100%

Residence Location		
	Freq.	%
Clearwater County, ID	8	3%
Idaho County, ID	4	2%
Latah County, ID	10	4%
Lewis County, ID	21	9%
Nez Perce County, ID	158	69%
Valley County, ID	3	1%
Multnomah County, OR	2	1%
Wallowa County, OR	7	3%
Asotin County, WA	6	3%
Whitman County, WA	2	1%
Other	9	4%
Total	230	100%

What is your education level?		
	Freq.	%
Less than high school	0	0%
High school diploma	11	5%
Some college	70	30%
College degree	102	44%
Graduate degree	47	20%
Total	230	99%

How many people live in your household?		
	Freq.	%
Just me	22	10%
Two people	60	26%
Three to 5 people	107	46%
More than 5 people	42	18%
Total	231	100%

What is your approximate yearly household income?		
	Freq.	%
Up to \$9,999	6	3%
\$10,000 - 19,999	14	6%
\$20,000 - 29,999	23	11%
\$30,000 - \$39,999	37	17%
\$40,000 - 49,999	35	16%
\$50,000 - 99,999	69	32%
\$100,000 or more	21	10%
Prefer not to say	12	6%
Total	217	101%

Are you interested in being involved in future activities related to learning about and responding to climate change?		
	Freq.	%
Yes	162	73%
No	61	27%
Total	223	100%

Please choose which activities you would be interested in learning more about (all that apply)	
	Freq.
Being part of a group of community members who do environmental observation projects	69
Workshops	101
Focus groups	60
One-on-one interview	25
Educational events	108
Community green team	67