

POWDER BASIN WATERSHED COUNCIL



2016

Strategic Outreach Survey Report

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STRATEGIC OUTREACH SURVEY REPORT

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INTRODUCTION & STRATEGIC PLANNING

About Powder Basin Watershed Council

The Powder Basin Watershed Council (PBWC) is a locally organized, voluntary, non-regulatory organization established to maintain and improve watershed health within the Powder Basin. The communities within Powder Basin rely on water, directly and indirectly, and are significantly influenced by periods of drought, flooding and issues related to water quality. Recognizing a need for an integrated approach to watershed management after the modification of the Clean Water Act in 1987 to include non-point-source pollution, the Baker County Water Advisory Board was established to advise the Baker County Board of Commissioners on compliance. The Water Advisory Board reorganized into the Powder Basin Watershed Council in 1995, and became a 501(c)3 non-profit organization in 2008.

At the heart of the organization is the desire to improve the quality and sustainability of our water resources while maintaining economic prosperity. We seek to promote cooperative solutions to watershed issues that meet the needs of as many interests as possible by bringing together private, local, state, and federal stakeholders from throughout the watersheds. We work closely with landowners, ranchers, local residents, representatives from local, state, and federal agencies, business and industry, and the scientific community to lead activities that enhance watershed conditions while meeting the consumptive needs of our communities. Some of our past activities include restoration projects, water quality monitoring, community event support, and irrigation efficiency projects. Additionally, we provide education and outreach to individuals of all ages; first, because we know that by inspiring stewardship of the environment in our youth, we are promoting responsible use by future residents, and second, because we believe sharing information with our stakeholders is crucial to the current health and vitality of our watershed.

Council Vision Statement

We recognize that our local prosperity is dependent upon current and future availability and quality of our waters. We are committed to ensure that we retain, restore, and enhance the health of our watershed.

Our Mission

The mission of the Powder Basin Watershed Council is to promote, restore, and enhance the health of our watersheds through the cooperation of all stakeholders.

Location

Located in Northeastern Oregon, the Powder Basin Watershed includes approximately 3,500 miles of streams. Three subbasins make up the Powder Basin: the Burnt River subbasin, the Brownlee subbasin, and the Powder River subbasin. This includes parts of four counties: Baker, Union, Malheur, and Wallowa. Nestled between the Blue, Elkhorn, and Wallowa Mountain ranges in Northeastern Oregon lies the beautiful and complex Powder Basin Watershed. Draining south and east from the Blue Mountains, the Powder and Burnt Rivers flow to the middle of the Snake River, eventually draining into the Columbia River, while Pine Creek flows south out of the Wallowa Mountains to the Snake River. This varied topography results in a mix of ecosystems, including sagebrush shrublands, grasslands and forests. Receiving an average of 10 to 60 inches of precipitation annually, depending on elevation, the area is vibrant with agriculture, wildlife, and forested lands, providing diverse economic, recreational and educational opportunities to the surrounding communities.

Figure 1. Oregon Watershed Councils

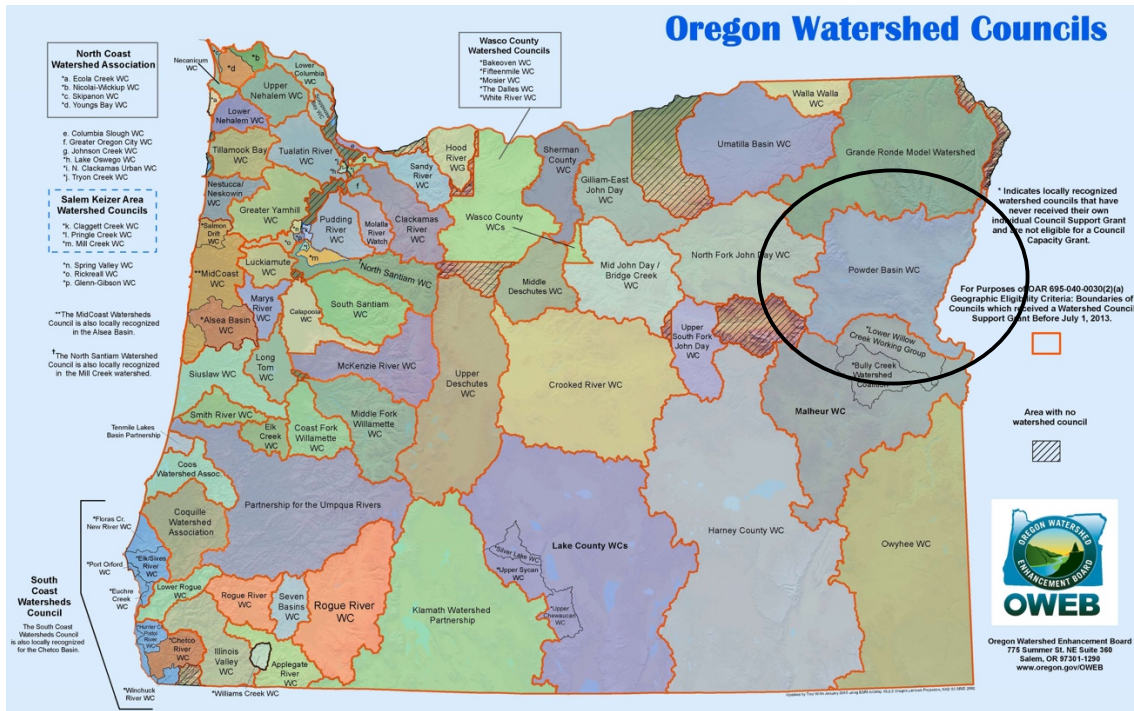


Figure 2. Powder Basin Watersheds



Strategic

Planning

Strategic Planning was identified as a priority in the Council's 2014 Work Plan. The Oregon Watershed Enhancement Board requires that watershed councils have a written action plan that identifies the problems, priorities, and restoration activities that councils seek to address. PBWC hopes to engage a diverse group of stakeholders in the strategic planning process in order to address the needs of all members of the community. It was determined that a self-administered questionnaire was the best method for understanding the concerns of the general public. The strategic planning survey was designed to help identify participants' awareness of the organization, barriers to participation, knowledge of current watershed conditions and issues of concern. Combining these results with already existing baseline data will help the Council better target outreach efforts and pursue projects which have broad community support.

This survey was designed to:

- **Evaluate stakeholders' *understanding and knowledge* of water resource issues in the Powder Basin Watershed.**
- **Identify stakeholders' *current behaviors and beliefs* which prevent them from participating in Council activities or watershed improvements.**
- **Assess the current level of *support and interest* for specific management actions.**
- **Determine the best methods for accessing residents of the basin as well as the interests and needs of stakeholders.**
- **Contribute to the development of a five-year Strategic Plan for the Powder Basin Watershed Council.**

RESEARCH METHODS & DEMOGRAPHICS

Methods

The self-administered questionnaire survey was delivered by mail to households throughout the Powder Basin, during March, April and May of 2016. According to the 2010 US Census Bureau there were approximately 5,225 households in the basin. PBWC sought to survey a random selection of at least ten percent of all households; however, to account for incorrect addresses and failures to respond, the number of surveys sent was increased to slightly above twenty-five percent. Survey recipients were randomly selected from a list of all households within the basin, which was purchased from a major credit reporting bureau. After the return of surveys from incorrect addresses, deceased occupants, and unoccupied households, a total of 1,350 surveys were delivered to separate households across the basin. Respondents were given twelve weeks to return surveys and were provided addressed and stamped envelopes.

Demographics

The Powder Basin watershed spans parts of four counties and includes the following cities/towns: Baker City, Bridgeport, Durkee, Haines, Halfway, Hereford, Huntington, North Powder, Richland, Sumpter and Unity. Of the 5,225 households reported in 2010, 4,254 households were located in Baker City, 175 households in Haines, 153 households in Halfway, 211 households in Huntington, 184 households in North Powder, 93 households in Richland, 119 households in Sumpter, 36 households in Unity, and an unreported number of households in Bridgeport, Durkee, and Hereford (the population of these communities is so small that its census data is incorporated into nearby towns) (USCB 2014). Finally, the percent of total surveys delivered very closely resembles the percent of total households by region, therefore this survey is considered to accurately represent the geographic distribution of households within the basin.

Table 1. US Census Bureau 2010 Household Size & Surveys Sent by City/Town

City/Town	Number of Households	% of Total Households	Number of Surveys Delivered	% of Surveys Delivered
Baker City	4,254	81.4%	960	71.11%
Bridgeport	Unreported	<1%	4	0.3%
Durkee	Unreported	<1%	12	0.89%
Haines	175	3.3%	78	5.78%
Halfway	153	3%	85	6.3%
Hereford	Unreported	<1%	8	0.59%
Huntington	211	4%	57	4.2%
North Powder	184	3.5%	47	3.48%
Richland	93	1.8%	52	3.85%
Sumpter	119	2.3%	39	2.89%
Unity	36	0.6%	8	0.59%
Total	5,225		1350	

RESULTS

Respondent Demographics/Communication

Collecting demographic information can help the Council understand the target audience and determine an appropriate message to engage basin residents in Council activities.

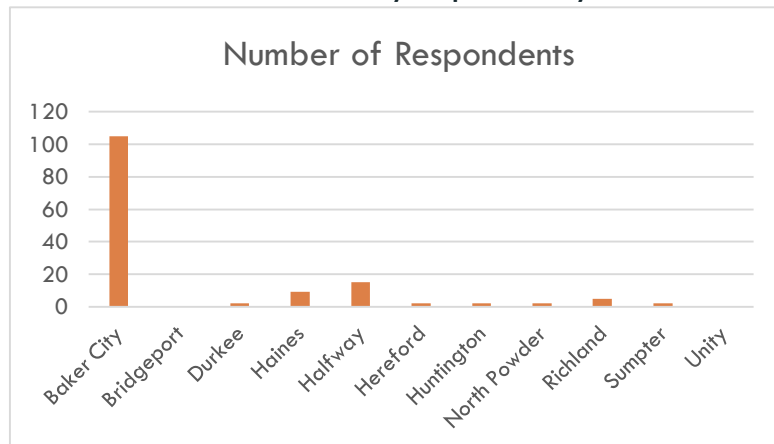
Respondent Rate

The final respondent rate was 10.67% of mailed surveys, resulting in responses from 2.75% of all households within the basin. This rate was below Council expectations, but still provides useful information for planning purposes. There were a total of 144 respondents from Baker City, Bridgeport, Durkee, Haines, Halfway, Hereford, Huntington, North Powder, Richland, Sumpter and Unity. The majority of the respondents were from Baker City at 105 and the least number of respondents were from Bridgeport and Unity at zero. The regional response rate is the percent of the total number of households for the particular town in which responded. Considering the regional response rate alone could indicate the responsiveness of the individual town and the willingness of respondents within the town to accept and participate in watershed-related actions. The most responsive of the regions was Hereford, followed by Halfway, Durkee, Haines, Baker City, Richland, Sumpter, North Powder, Huntington, Bridgeport and Unity. The results are as follows:

Table 2. Total Number of Respondents and Rate by City/Town

City/Town	Total Number of Respondents	Percent of Total Sample (%)	Region Rate of Response (%)
Baker City	105	7.78%	10.94%
Bridgeport	0	0%	0.0%
Durkee	2	0.15%	16.67%
Haines	9	0.67%	11.54%
Halfway	15	1.11%	17.65%
Hereford	2	0.15%	25.00%
Huntington	2	0.15%	3.51%
North Powder	2	0.15%	4.26%
Richland	5	0.37%	9.62%
Sumpter	2	0.15%	5.13%
Unity	0	0%	0%
Total	144	Rate of Response 10.67%	Average 9.48%

Chart 1. Number of Survey Respondents by Town



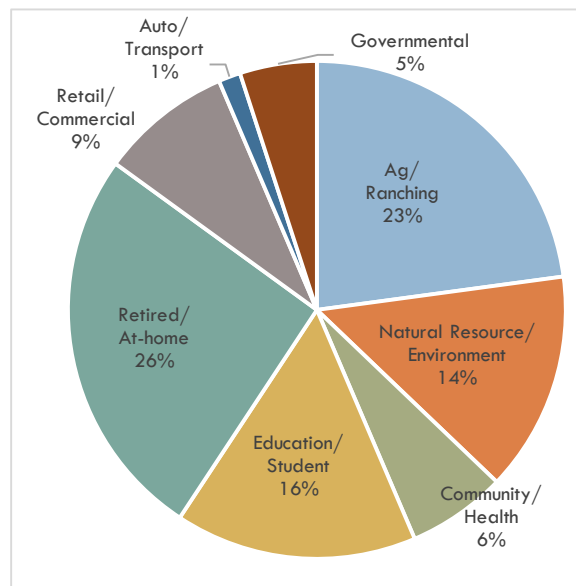
Occupation

To better understand watershed basin residents' backgrounds, needs, and interests in the community, the Council can reflect upon occupations of respondents. Understanding residents' backgrounds will help the Council prioritize areas of outreach in order to better recruit Council members and volunteers within cultural and community contexts.

What industry relates most closely to your occupation? (Select one)

According to survey results, the two highest ranking occupations of respondents were "Retired/At-home Parent" at twenty-six percent and "Agriculture/Ranching" at twenty-three percent. This is consistent with 2015 occupational employment statistics provided by US Bureau of Labor Statistics for the Eastern Oregon metropolitan area (BLS 2016). The least selected occupations included: "Auto/Transport" at a little above one percent, Governmental at five percent, and Community/Health at six percent. Not only does this verify the accuracy of the survey sample as a true representative sample of the basin population, but it also confirms the need for Council activities to reflect the needs of the agriculture and ranching communities as well as students, educators, retirees, and at-home parents.

Chart 2. Respondent Occupation by Industry- Relative Percentage



Other (write-in responses): "Home-based business service", "Mining", "Construction"

Location

This section includes information about respondent residence locations in relation to nearby water bodies. This information can allow the Council to prioritize project areas, and understand where in the basin more information/representation is needed.

Where is your residence located? (Select one)

The majority of respondents indicated living closest to the Powder River at slightly over sixty percent. The remaining respondents were more or less evenly distributed among the following: Pine Creek, Eagle Creek, Rock Creek, Burnt River, and other water bodies. None of the respondents indicated living near Wolf Creek. Because such a large proportion of respondents identified living near the Powder River, the Council could build on current willingness to participate by prioritizing campaigns in this region. However, though the majority of residents live near the Powder River, the Council should continue outreach efforts throughout the watersheds in order to maintain geographic diversity in its' programs.

Table 3. Proximity of Respondents to to Stream or Water Body

Proximity to Stream or Water Body	Powder River	Pine Creek	Wolf Creek	Eagle Creek	Rock Creek	Burnt River	Other	Total
Directly Adjacent	13.2%	3.3%	0.0%	0.0%	1.6%	0.9%	11.0%	29.9%
Less than a quarter mile	16.3%	4.0%	0.0%	0.0%	3.2%	2.3%	4.0%	29.9%
More than a quarter mile	31.4%	3.9%	0.0%	2.4%	0.9%	0.0%	1.6%	40.2%
Total	60.9%	11.2%	0.0%	2.4%	5.7%	3.2%	16.6%	100.0%

Community Events

To better assess the effectiveness of past Council attendance at community events, in addition to identifying future community events to attend, the Council sought to understand which events residents were most likely to attend. The information gathered from this portion of the survey will allow the Council to prioritize event attendance during the busy summer event season as well as allow the Council to better appeal to the interests of stakeholders in development of fundraising, speaking engagements, and event activities.

What type of community events are you likely to participate in at least once a year?
(Select all that apply)

The highest ranking event type included “Festivals/Fairs” selected ninety-two times by respondents, with “Sporting Events” and “Music Events” following closely behind, chosen seventy-five times each. Respondents indicated they would least likely attend “Educational and Public Meeting Events”-selected fifty times, “None of these”- twelve times, or “Other Events”-eleven times.

Table 4. Respondents Will Attend Selected Event Types Once a Year

Event Type	Percent Response
Festivals/Fairs	24.5%
Volunteer Events	15.5%
Sporting Events	20.0%
Music Events	20.0%
Educational/Public Meetings	13.4%
None of these	3.2%
Other	2.9%
Declined	0.5%

Other (write-in responses): “12-step Program”, “Jubilee Motorcycle Rally”, “Gold Mining”, “Forest Owner Meetings”, “Ducks Unlimited Banquet”, “Car Shows”, “Church”, “Outdoor Unlimited”, “Oath Keepers”, and “Demo Derby”.

Communication

The Council can use the information gathered in this portion of the survey to determine the best methods for communicating with residents. Understanding how the audience receives information can help the Council develop, format, and distribute information (EPA 2003). This information can also help the Council evaluate the effectiveness of past methods and plan future outreach initiatives.

**How would you prefer to receive communication and information about your watershed?
(Select all that apply)**

According to the survey results, respondents would prefer to receive watershed-related information overwhelmingly by mail, choosing this option nearly twice as often as other options. This method has been used indirectly by the Council in the distribution of the quarterly newsletter, *The Thalweg*, as an insert within the Baker City Herald and the Hells Canyon Journal newspapers. Additionally, the Strategic Outreach Survey questionnaire and reminders were sent by mail. Using this method whenever possible has proven to be effective in getting communication to households. The second most preferred method of communication by respondents was “Email”, being chosen just under eighteen percent of the time. Currently email is being used to send out Council meeting reminders and an electronic version of *The Thalweg* to subscribers. Following email, respondents indicated that they would be nearly equally likely to prefer communication via radio and website. Currently the Council does not utilize radio advertising for events, fundraisers, meetings, or membership drives; however, the Council website, Facebook, and Instagram are updated weekly for online users. Because approximately seventy-six percent of respondents prefer to get information by some form of electronic communication, maintaining and expanding social media presence will be crucial to recruit members and volunteers. The least preferred method of communication selected by respondents was “Phone”, chosen eleven percent of the time. Currently this method is not being used for membership recruiting or information distribution purposes.

Table 5. Preferred Method of Communication

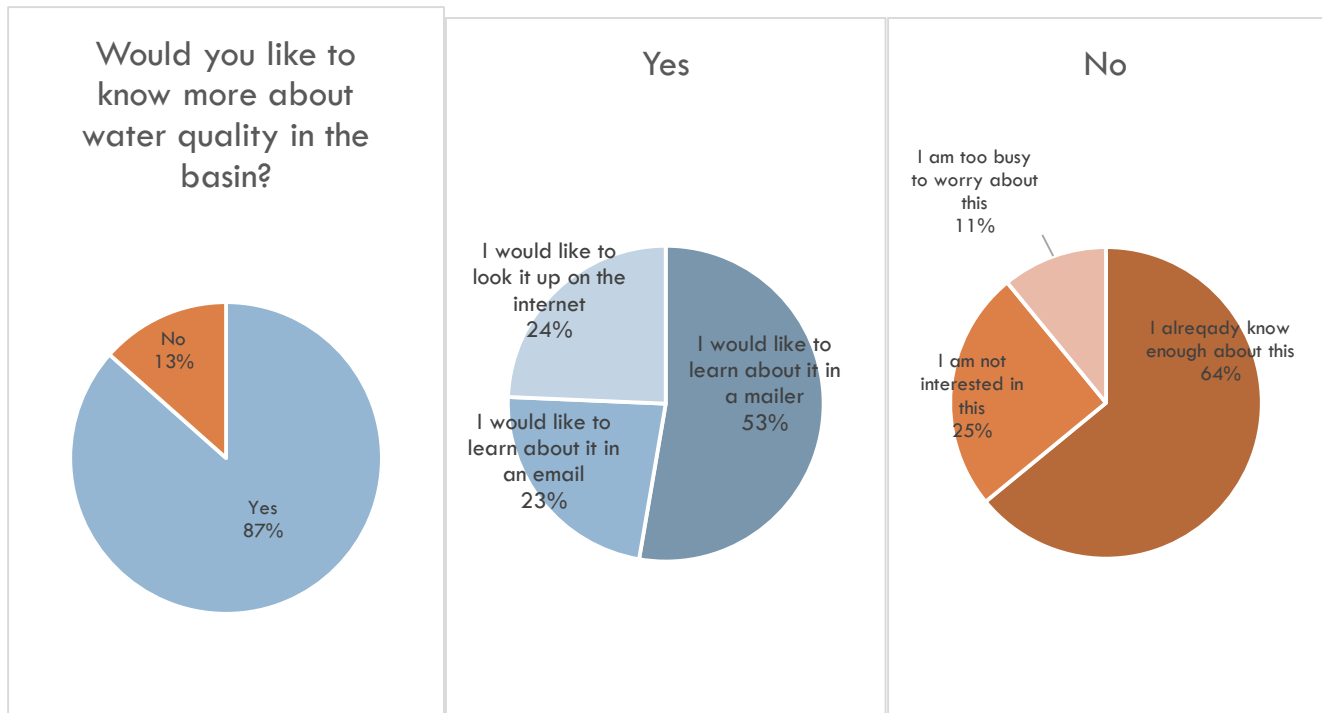
Preferred Method	Percent Response	Preferred Method	Percent Response
Mail	30.7%	Radio	9.0%
Email	17.9%	Website	7.9%
Newspaper	12.4%	Phone	5.5%
Social Media	12.1%	Decline	4.5%

Would you like to know more about water quality in the basin? (Select one)

Results from the survey data indicated that more than half of respondents would like to know more information about water quality in the basin. In fact, approximately fifty-four percent of respondents would prefer to get water quality information in a mailer (mailed publication). Currently *The Thalweg* includes a *Water Quality Edition* in which up-to-date ODEQ standards for water quality are addressed. The edition also features the Water Quality Index scores for the region. Based on the survey results, this style of receiving information is the most preferred method out of the following options: “Yes, I would like to learn about it in a mailer”, “Yes, I would like to learn about it in an email”, “Yes I would like to look it up on the internet”, “No, I already know enough about this”, “No, I am not interested”, and “No, I am too busy to worry about this”. Only thirteen percent of respondents indicated that they would not like to know more about water quality in the basin.

Table 6. Interest in Water Quality in the Basin

Yes	Percent Response	No	Percent Response
I would like to learn about it in a mailer	54.16%	I already know enough about this	6.94%
I would like to learn about it in an email	23.61%	I am not interested in this	7.63%
I would like to look it up on the internet	0.25%	I am too busy to worry about this	1.38%
-----	-----	Decline	-----

Chart 3a. Interest in Water Quality in the Basin; Chart 3b. Respondent Preference for Receiving Water Quality Information; Chart 3c. Reasons for Lack of Interest in Water Quality Information

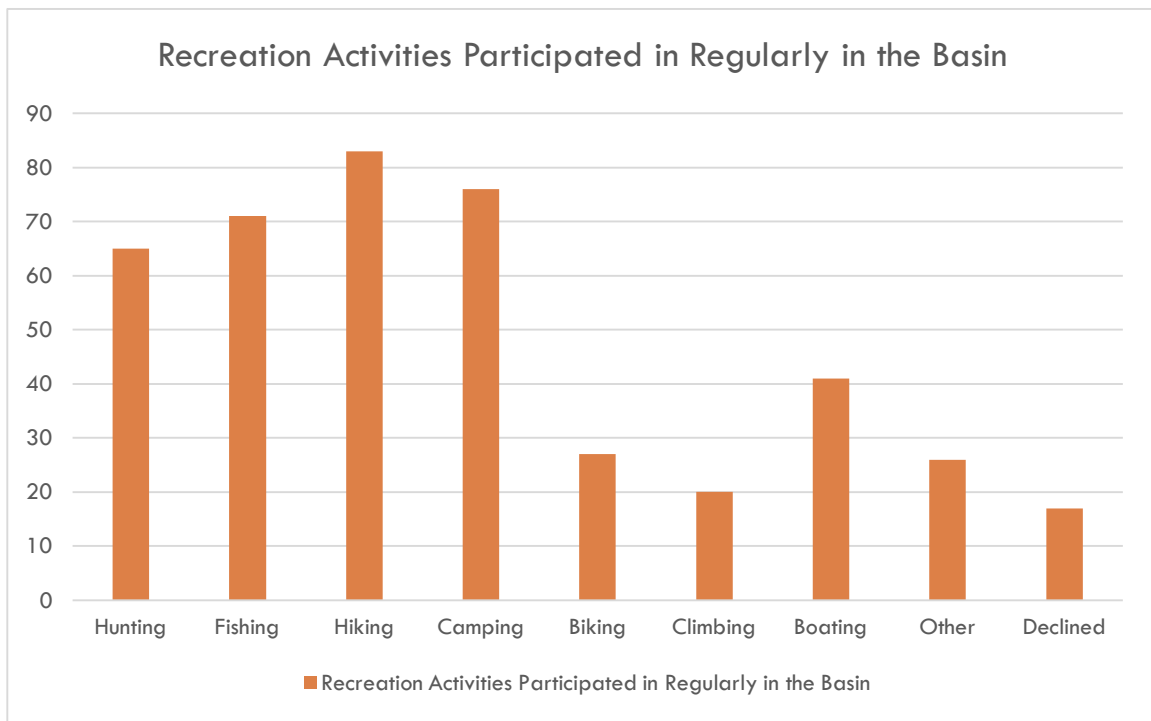
Recreation

This section includes information on the recreation activities of respondents. This information will help determine better places and methods for outreach campaigns, as well as give insight into the interests and needs of the community.

Please select the recreation activities you participate in regularly in the Powder Basin watershed region (Select all that apply)

Table 7. Recreation Activities Participated in Regularly by the Public

Recreation Activity	Percent of Respondent
Hunting	15.6%
Fishing	16.7%
Hiking	19.5%
Camping	17.8%
Biking	6.3%
Climbing	4.7%
Boating	9.6%
Other	6.1%
Declined	3.7%

Chart 4. Recreation Activities Participated in Regularly in the Basin by the Public

Other (write-in responses): "Sports", "Outdoor Sports", "Walking", "ATV use", "Site Viewing", "Horse/mule pack trips/wilderness", "Floating in the Powder River with the family in Summer", "Swimming and Riding", "Mining and Exploring", "Horseback Riding", "Cross Country Skiing", "Skiing", "Forest Management", "I'm getting olde", "Walking the Adler Memorial Pathway, the river walk is beautiful", "Cross Country Skiing", "work", "ATV riding", "Long drives", "ATV", "Walking", "XC Skiing, snowshoeing, photography", "Swimming-soaking hot springs- I am very old", "Cross country skiing", "dirt biking", and "horse riding".

Awareness of Organization

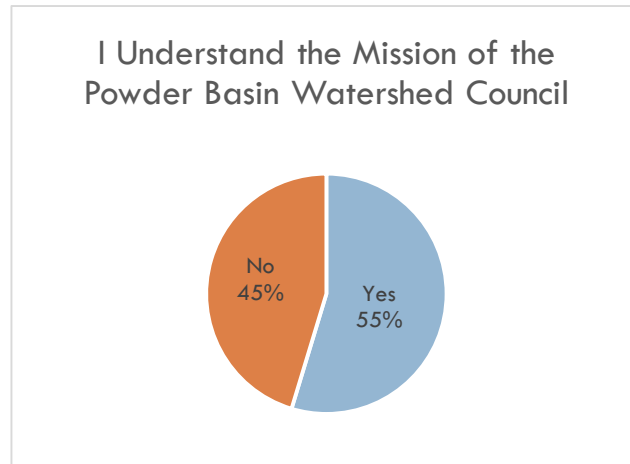
Mission

This section includes information about the public's awareness of the Powder Basin Watershed Council. Based on results the Council can use this information to focus its message and mission to increase awareness by the public of PBWC's role as a community-based non-profit organization.

I understand the mission of the Powder Basin Watershed Council.

The Council Mission Statement was provided on the instruction documents for the survey questionnaire. This question indicated whether or not survey respondents understood the Mission of the Council. Out of 144 respondents, seventy indicated they understood the mission of the Powder Basin Watershed while fifty-eight indicated they did not. Sixteen respondents declined to answer this question. Given the data, slightly over half of respondents understood the mission of the Council. More information may be needed to determine whether the Council should include an increased outreach approach regarding the function and purpose of a Watershed Council.

Chart 5. Understanding of Mission Statement by the Public



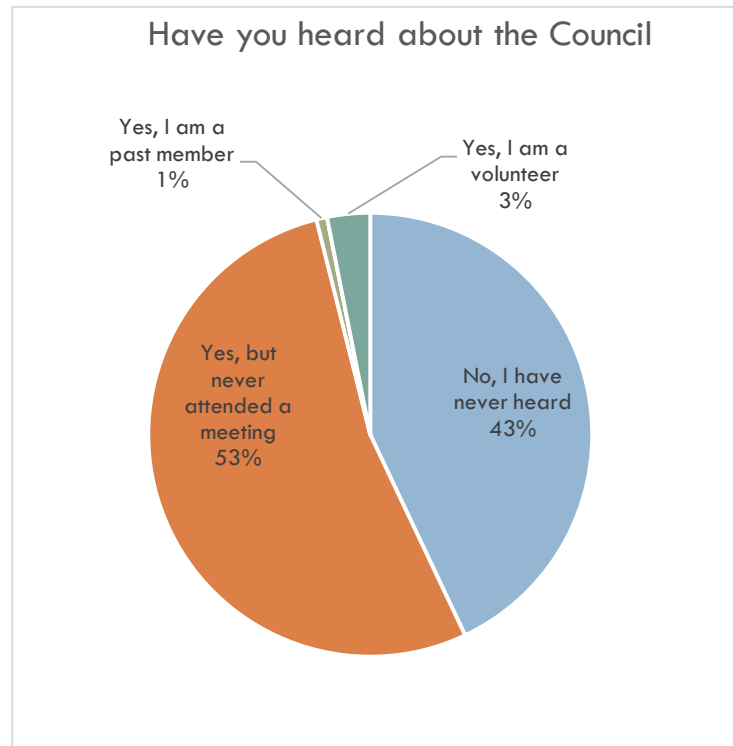
Organization Awareness

According to respondents, fifty-one percent, or seventy-three out of 144 people have heard of the Powder Basin Watershed Council, while forty-three percent or fifty-five of 144 have not. This indicates that roughly half of the respondents were exposed to the Council because of the Strategic Outreach Survey. If the survey is representative of the basin, the Council may need to pursue expanding visibility more aggressively. Several respondents indicated being a volunteer at one time or another, and approximately eleven percent declined to respond. Additionally, of the respondents that indicated they have heard of the Council, sixty-eight have never attended a meeting. Inviting the public to Council meetings and speaking events may be the most direct method of distributing Council and watershed information.

Have you heard about the Powder Basin Watershed Council?

Table 8. Organization Awareness

Have You Heard About the Powder Basin Watershed Council	Respondents
No, I have never heard	55
Yes, but never attended a meeting	68
Yes, I am a past member	1
Yes, I am a current member	0
Yes, as a volunteer	4
Declined	16
Total	144

Chart 6. Organization Awareness

Barriers to Participation/Beliefs/Behaviors

The Council anticipated three primary barriers to learning: lack of awareness of the organization and its mission, lack of information about current conditions across the watershed, and lack of a centralized way of communicating with residents. The following section provides information about barriers to participation in Council activities, current beliefs about conservation, and willingness to participate in conservation activities.

Barriers to Participation in Monthly Meetings

What would prevent you from participating in monthly community meetings with the Watershed Council? (Select all that apply)

Respondents indicated roughly thirty-three percent of the time, “I don’t have time to come to meetings.” Following this response, approximately thirty percent of respondents indicated that “Nothing would prevent me from attending a monthly Watershed Council meeting” and twenty-two percent indicated that “I do not know what watershed council meetings entail”. Past feedback given to the Council provided information that many residents did not feel the Council was effective in getting projects on the ground, however data suggests that less than 6% of respondents feel this to be true. Many of the barriers can be addressed with a higher concentration on outreach to the community in public settings where dialogue can take place to educate the public on what a watershed council is, how the Council works, and why being a member is important.

Table 9. Barriers to Attending Monthly Council Meetings

What Would Prevent you from Participating in Monthly Community Meetings with the Watershed Council?	Percent Response
Nothing would prevent me from attending a monthly watershed council meeting	16.7%
I don't have time to come to meetings	23.6%
I am not interested in watershed related information	7.5%
I do not know where or when meetings take place	14.1%
I do not know what watershed council meetings entail	16.1%
The meetings are too far from my work or home	5.5%
I don't feel the Council is effective in getting projects on the ground	4.0%
Once a month is too frequent for me to meet.	9.0%
Decline	3.5%

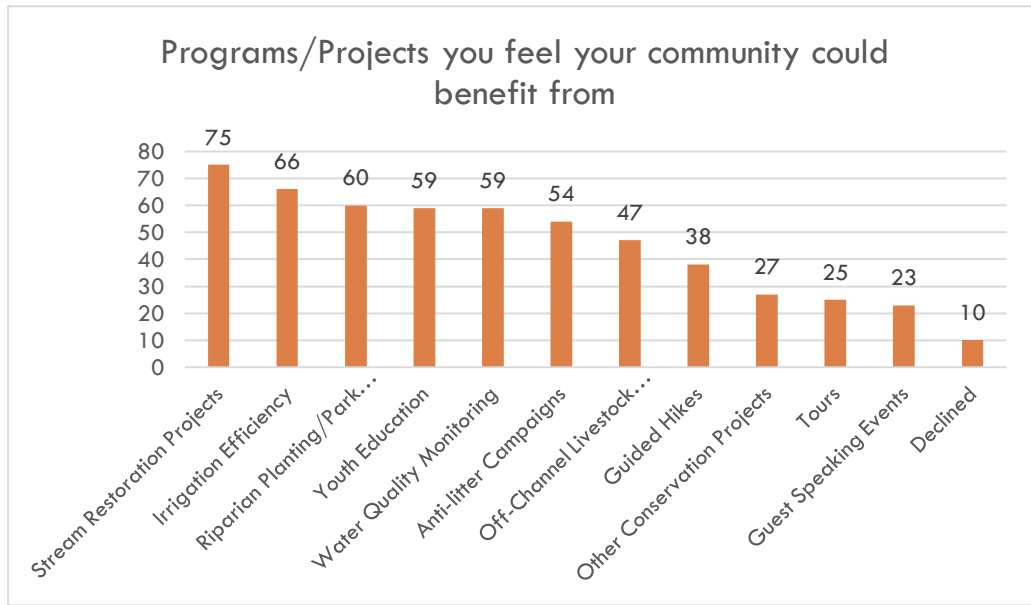
Beliefs about Community Programs

What programs/projects do you feel your community would benefit from? (Select all that apply)

Respondents indicated a high priority for stream restoration, irrigation efficiency, riparian plantings/park cleanups, water quality monitoring, and youth education projects. Currently, the Council is actively seeking restoration projects in the basin and is in the design phase of one project in Halfway. The Water Quality Monitoring Program will continue and add additional sites as needed in the future if funding continues to be available. Additionally, the

Council has been approached by numerous educators, including the Baker 5J School District to collaborate on outdoor learning opportunities for students. In the 2015-16 year, the Council has contributed outdoor education programming for Baker Outdoor School, Baker High School Biology, Baker Technical Institute Internships and training days, and the k-5 Summer Academy Program for Baker Public Schools. In this way, the Council has filled an important niche in local community school science curriculum. The Council should prioritize irrigation efficiency and youth education projects in its strategic planning process in order to meet the needs reflected by survey respondents and community partners.

Chart 7. Community Beliefs About Programs/Projects



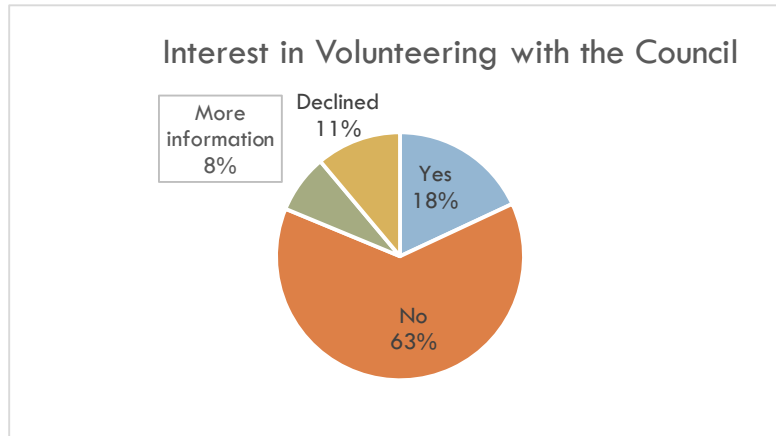
Other (write-in responses): "Anti-trash burning campaign", "mining/mineral dredging", "water quality monitoring is number one"

Volunteer Interest

Would you be interested in volunteering with the Powder Basin Watershed Council?
(Select all that apply)

At sixty-three percent, the majority of respondents indicated they would not be interested in volunteering for the Council. Approximately twenty-six percent of respondents are interested in volunteering with the Council or would need more information and eleven percent declined to answer.

Chart 8. Volunteer Interest (%)



Other (write-in responses): “NO, Hate politics and politicians”, “Yes, depends on agenda”, “No, I am too old”, “No, I am old with health problems-can’t participate”, “No, at this time, health issues”, “No, already volunteer in lots of areas”, “No, I am too old”, “Not at this time”.

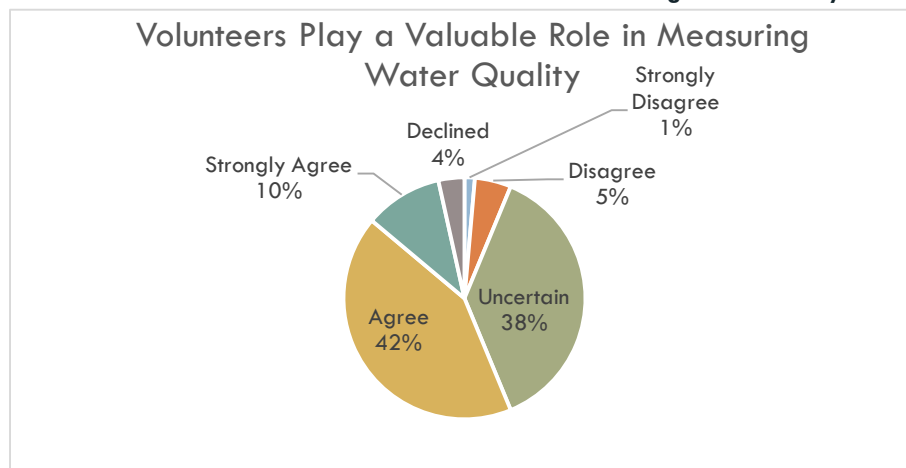
Beliefs about Volunteers

This portion of the survey was meant to identify whether or not basin residents felt volunteering was integral to successful conservation efforts. Because the Council relies on volunteers to complete projects and manage Council affairs, it is important to address these beliefs in the strategic planning process.

Volunteers play a valuable role in measuring water quality.

Slightly less than half of respondents indicated they believed volunteers play a valuable role in measuring water quality. Currently the water quality program is managed by the Monitoring Coordinator and utilizes volunteers to complete roughly a quarter of the monitoring sites. Without volunteers the program could experience issues with time and funding constraints. The value added by volunteers in the Water Quality Monitoring Program for the 2014-15 fiscal year amounted to \$10,505.89. Not only does their contribution alleviate time and travel compensation for the monitoring coordinator but also acts as leverage for various grant programs.

Chart 9. Beliefs About Volunteers and Measuring Water Quality



Volunteers play a valuable role in leading restoration projects.

Over half of respondents agreed that volunteers play a valuable role in leading restoration projects. Whether volunteers take an active role in planning or managing projects, many private landowners volunteer to have restoration projects on their property or in their communities. For this reason, understanding basin beliefs about volunteer roles in restoration projects is valuable to the strategic planning process. The Council relies on volunteers for its biannual river cleanup events, and hopes to increase the event attendance each year. According to a survey completed at the Spring River Cleanup in 2016, forty-seven percent of event attendees felt their efforts made an excellent impact on the environment and community. During the Spring 2016 event approximately 120 pounds of garbage was pulled from 2.1 miles of the Powder River by fifty-three volunteers. In the Fall 2015 event, 630 pounds of garbage was pulled from the same stretch of the Powder River by forty-seven volunteers. Both of these examples serve as a testament to the value of volunteers leading restoration projects and cleanup events.

Table 10. Beliefs About Volunteers and Restoration Projects

Volunteers play a valuable role in leading restoration projects	Percent Respondents
Strongly Disagree	0.0%
Disagree	2.8%
Uncertain	28.5%
Agree	53.5%
Strongly Agree	11.8%
Declined	3.4%
Total	100.0%

Beliefs about Personal Land Management

I understand that my land management has a direct impact on the watershed basin.

Forty-eight percent of respondents agreed that land management has a direct impact on the watersheds within the basin. Because land use and management plays a role in the quality of nearby rivers and streams, understanding the beliefs of landowners towards land management is important to the strategic planning process. This information can help identify the need for outreach and education to the community about management practices that enhance the quality of the watershed rather than harm it. Community education should be a priority due to the large number of respondents that indicated they were uncertain or disagreed about the potential impacts of personal land management.

Table 11. Beliefs about Personal Land Management

I understand that my land management has a direct impact on the watershed basin	Percent Respondents
Strongly Disagree	1.4%
Disagree	6.3%
Uncertain	22.2%
Agree	48.6%
Strongly Agree	18.1%
Declined	3.4%
Total	100.0%

Knowledge of Current Watershed Conditions

By initiating discussion about current watershed conditions, the Council can highlight potential areas of concern for community members. Combining survey data with feedback on conservation needs from agency partners and recovery and planning documents relevant to the basin will help the Council identify the highest priority streams and potential restoration partners. Lack of knowledge about limiting factors in the basin is an anticipated barrier to participation in Council activities. Providing community members with current conditions will encourage a more informed response to the Council's solicitation efforts. The information gathered in this section of the survey will help the Council determine the baseline knowledge of watershed conditions by residents and will establish where the Council will need to begin to define important issues.

Please rank the following in order of highest concern to lowest (5 being the highest concern, 1 being the lowest): Water quality, habitat for fish and wildlife, erosion, water availability, and other (write in).

Chart 10. Highest Environmental Concern

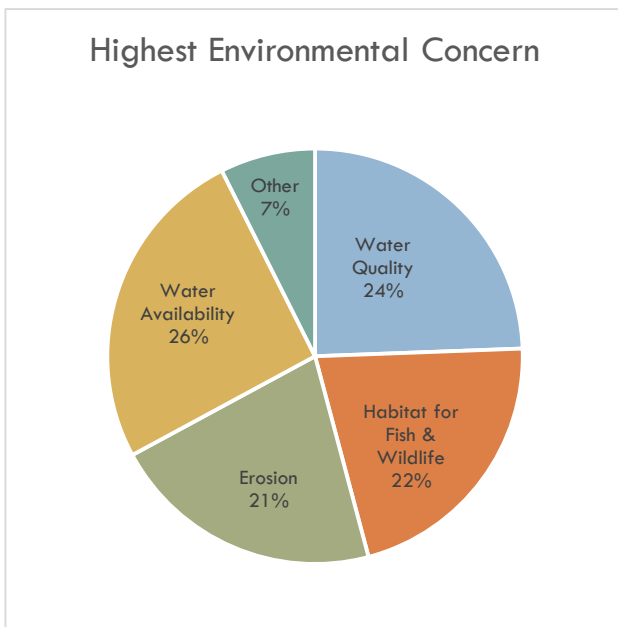
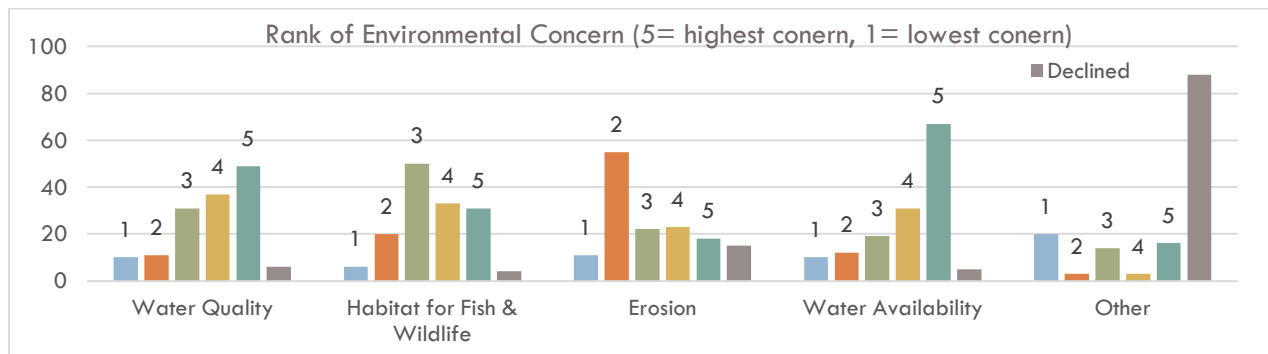


Table 12. Environmental Concern Average Rank Score

Environmental Concern (Highest Concern to Lowest Concern)	Average Rank Score
Water Availability	3.82
Water Quality	3.66
Habitat for Fish and Wildlife	3.25
Erosion	3.19
Other	1.11

Other (write-in responses): "Where the water is coming from", "Water contaminants", "Global warming", "Irrigation", "ATV access", "Flood Events", "Irrigation Development/Efficiency", "Non-agricultural conservation of land", "They are all too related to choose one", "The right to fish water right-of-ways", "Irrigation", "Usefulness of waterways for mining", "Fair use of water", "Restoration of riparian vegetation", "Leaving sufficient water in streams for fish and wildlife", "Water rights", "The high price for having safe-abundant water supply", "Logging-renewable resource (jobs)", "Potential danger to water supply by fire in city watershed", "Insects", "All these issues seem to carry equal weight, I have no specific concern", "I would like the watershed to be clean and useable".

Chart 11. Individual Environmental Concern and Rank



Erosion

Erosion is a concern on the: Burnt River, Eagle Creek, Powder/North Powder, and Pine Creek. Choose either “Strongly Agree”, “Agree”, “Undecided”, “Disagree”, or “Strongly Disagree” for each water body.

Data collected from this portion of the survey suggested that a large percentage of respondents felt they lacked knowledge of current erosion conditions for the major water bodies in their areas. Approximately fifty-five percent of respondents indicated that they were “Uncertain” about erosion on the identified water bodies. Of the remaining, thirty-six percent either agreed or strongly agreed that erosion is a concern. This could suggest that community members feel more erosion control measures should be taken across the basin. Continuing education about watershed limiting factors in public forums is important to encouraging an informed response about management decisions. According to the data, respondents were most uncertain about erosion on Burnt River and Pine Creek, followed by Eagle Creek and Powder/North Powder River. Respondents were more likely to agree or strongly agree that erosion is a concern on the Powder River/North Powder River and on Pine Creek. This could indicate a need for erosion control projects in these areas.

Chart 12a. Erosion is a Concern on Burnt River; Chart 12b. Erosion is a Concern on Eagle Creek; Chart 12c. Erosion is a Concern on Powder/North Powder

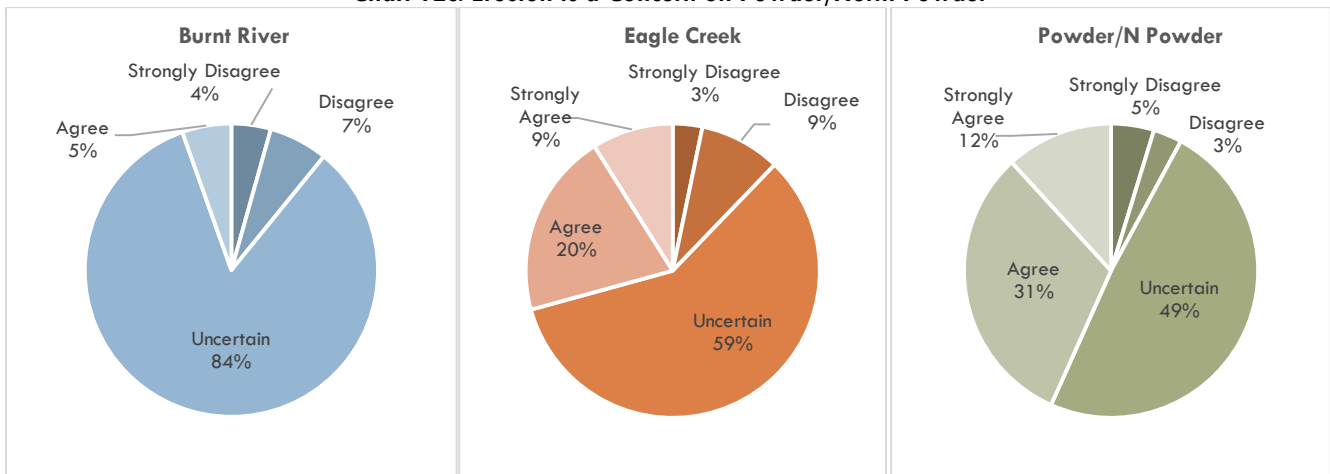
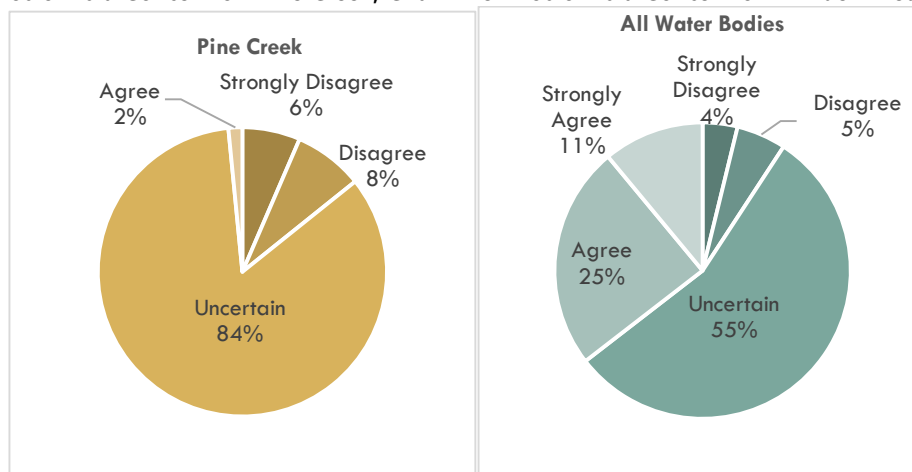


Chart 12d. Erosion is a Concern on Pine Creek; Chart 12e. Erosion is a Concern on All Identified Water Bodies



Water Availability

Amount and availability of water in the basin is adequate for: Agriculture, Recreation, Fish Habitat, and Human Consumption/Use. Choose either “Strongly Agree”, “Agree”, “Undecided”, “Disagree”, or “Strongly Disagree” for each category.

Data collected from this portion of the survey suggested that respondents felt they were more knowledgeable about water availability in the basin. Respondents indicated that they agreed most that water was available and adequate for human consumption and use and disagreed most that water was available and adequate for fish habitat. Overall respondents were uncertain and the amount and availability of water for all factors (agriculture, recreation, fish habitat, and human consumption/use) nearly thirty-five percent of the time, but agreed twice as often than disagreed. Respondents were most uncertain when determining the availability of water for agriculture. The Council can provide increased knowledge of current water availability conditions for all factors in future outreach campaigns which will help stakeholders make better informed management decisions with water resources.

**Chart 13a. Adequate Water for Agriculture; Chart 13b. Adequate Water for Recreation;
Chart 13c. Adequate Water for Fish Habitat**

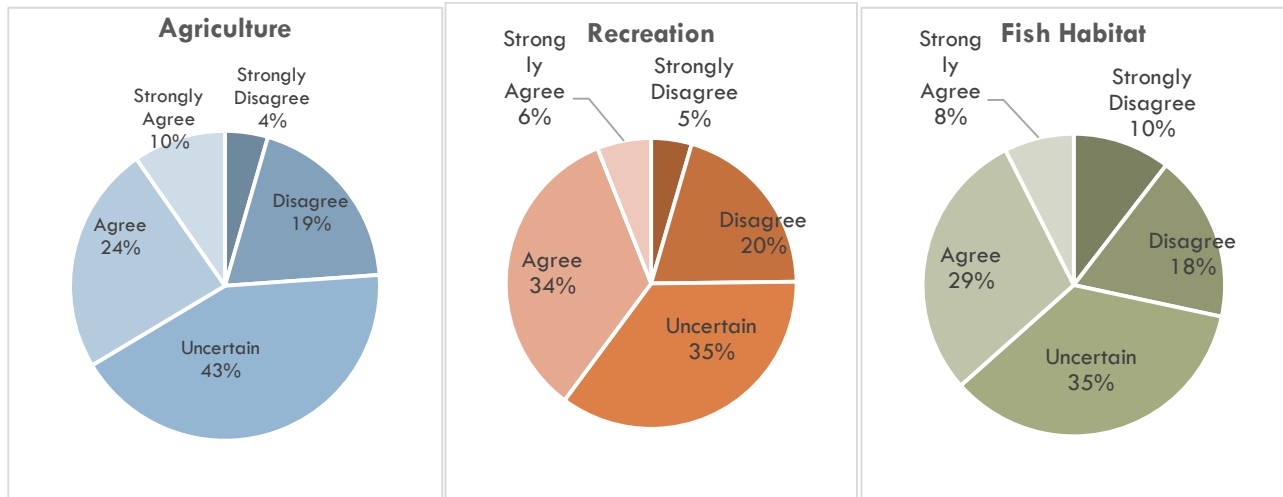
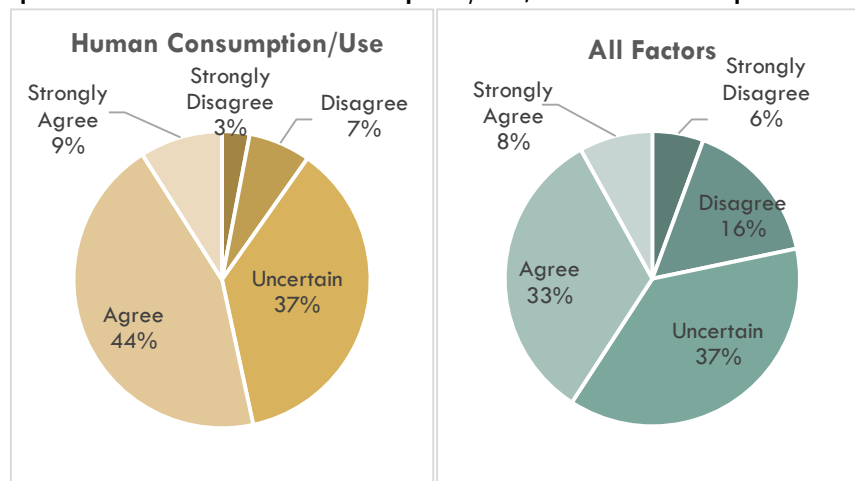


Chart 13d. Adequate Water for Human Consumption/Use; Chart 13e. Adequate Water for all Factors



Habitat for Fish and Wildlife

Habitat for fish and wildlife is a concern on the: Burnt River, Eagle Creek, Powder/North Powder, and Pine Creek. Choose either “Strongly Agree”, “Agree”, “Undecided”, “Disagree”, or “Strongly Disagree” for each water body.

Data collected from this portion of the survey suggested a large amount of uncertainty about habitat for fish and wildlife on the selected water bodies. This option was selected approximately forty-four percent of the time. Another thirty-eight percent of respondents indicated that they agreed or strongly agreed that habitat for fish and wildlife is a concern on the selected water bodies. Concern for fish and wildlife habitat is most apparent on the Powder/North Powder River, followed by Pine Creek. The amount of respondents that showed a strong concern for this factor indicates that residents feel habitat projects for fish and wildlife should be a priority in the basin.

Chart 14a. Habitat for Fish and Wildlife: Burnt River; Chart 14b. Habitat for Fish and Wildlife: Eagle Creek; Chart 14c. Habitat for Fish and Wildlife: Powder/North Powder

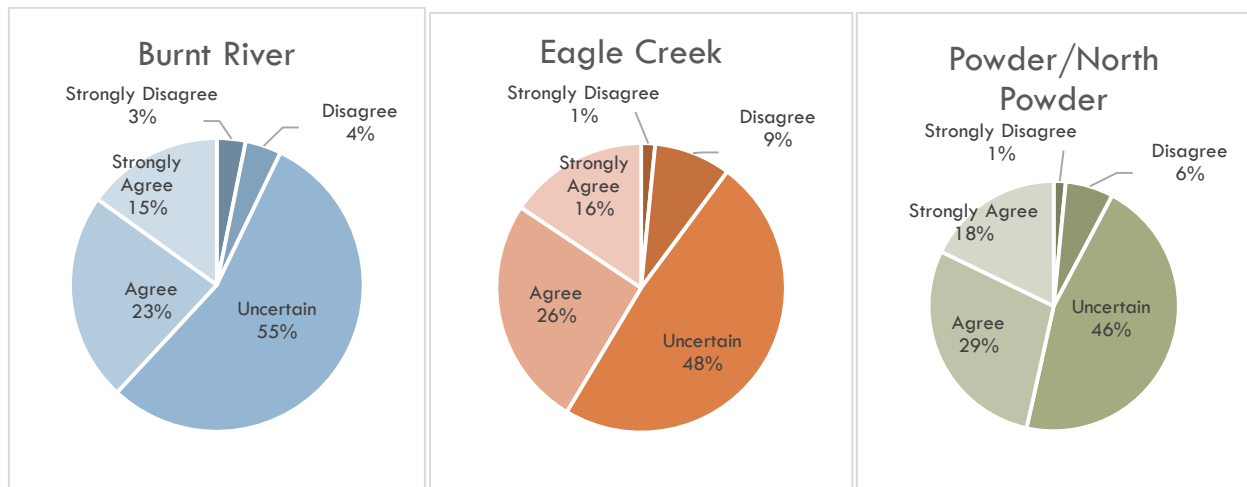
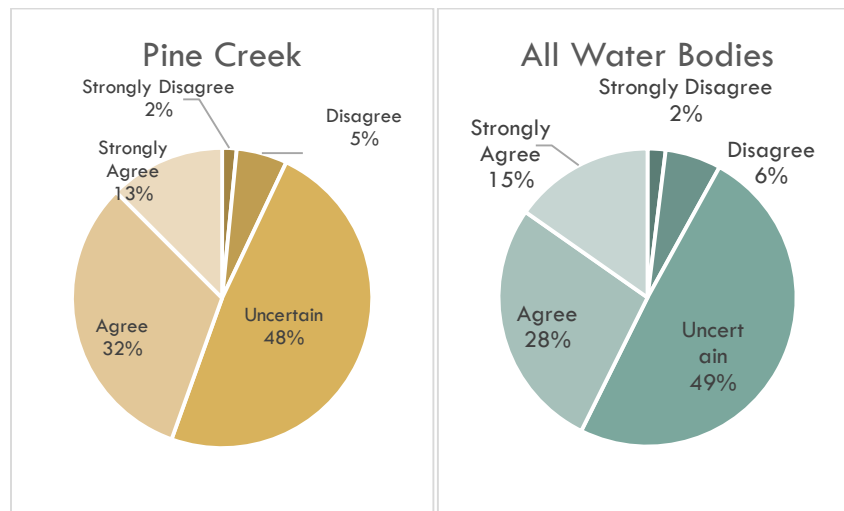


Chart 14d. Habitat for Fish and Wildlife: Pine Creek; Chart 14e. Habitat for Fish and Wildlife: All Water Bodies



CONCLUSIONS & RECOMMENDATIONS

1. While there was a varied mix of occupations by respondents, future outreach campaigns may yield more engagement if the following demographics are targeted: Retired/At home/Parent (persons over the age of 65 and stay-at-home parents), Agricultural/Ranching, Natural Resources/Environment, and Education/Students. Slightly over one in four respondents indicated they identified as Retired/At Home/Parent. This could mean that basin residents would be more willing to participate in Council activities if events included family-friendly themes. The Council should continue to offer volunteer service to all ages of the community, perhaps with more of a focus on involving the retired community- being that it is a large percentage of the resident population. Offering a range of volunteer opportunities can help the public become engaged in the watershed in a way that they are capable and comfortable to do so. The Council Cleanups are an excellent way to engage families and the general public in a low-commitment activity that directly promotes restoration in the watershed. Cleanups also serve as an opportunity to provide education to the public about watershed issues. Currently cleanups are held twice yearly in Baker City, but should expand to other more remote parts of the basin. An example of the effectiveness of cleanups to engage community members and provide information is the 2015 Fall Cleanup Event hosted by PBWC. The Council led a half day cleanup event beginning at Geiser-Pollman Park in Baker City, and stretching two miles along the Powder River. Event attendance increased seven times from previous records to 44 volunteer and included new community groups (previously unattended) from Baker High School, Baker Girl Scouts, La Grande Girl Scouts, and Wells Fargo Bank. 42 bags of garbage were collected totaling approximately 630 pounds of waste. During a survey of the event, 92% of respondents claimed to have never participated in Council-led cleanup events prior, and 92% of respondents found the river cleanups “important or “very important” for their watershed in comparison to other environmental issues. Since 2015, the Cleanup attendance has continued to grow and become a more recognized yearly event in Baker City.

Given the large uncertainty about conditions on the Burnt River reported by respondents in addition to the large percentage of respondents that indicated living within close proximity to the Powder River, the Burnt River and the Powder River should be a priority for outreach activities. According to DEQ in 2015, both of these areas have had poor Water Quality Indices (WQI) for the past several years. The Burnt River at Huntington had a WQI of 71 or, “poor with no trend” while the site on the Powder River at Highway 86 had an extremely low rating of 44 and was “in decline”- In fact, at this site, DEQ has documented a ten-year trend (2006-15) in which water quality samples have reflected either “poor” or “very poor” for the following indicators: temperature, pH, dissolved oxygen, biochemical oxygen demand, and phosphorus (ODEQ 2015). Many of the indicators of poor water quality can be addressed with riparian plant restoration and improved grazing management (PBWC 2000).

Offering essentially free labor and plants to private landowners could be a step in the door to working on restoration projects- and could require minimal funding on our part because of organizations like SOLVE and American Rivers who help pay for small restoration/cleanup projects. The Council has participated in reforestation efforts for private landowners alongside Baker High School Biology students. As noted in previous assessments as a barrier to participation, “private landowners may mistrust, fear or reject efforts by the Council” due to the organization being a public entity, therefore, the relationship with the school district, students, the community, and private landowners should be nurtured and expanded in the future (PBWC 2001).

2. One in three people prefer to receive communication by mail, followed by emails, newspaper and social media. The Council should continue to publish quarterly newsletters to distribute relevant watershed information. Feedback from The Thalweg evaluations indicated that stakeholders found the information “helpful” and “necessary.” Mailed flyers in addition to online campaigns for events and volunteer opportunities will be the most successful method for recruiting volunteers. Even further, 87% of respondents want to know more about water quality in the basin, with slightly over half wanting to learn about it in a mailed publication. The other half of respondents are split fairly even between wanting to learn about water quality in an email or on the internet. This suggests that many respondents do not feel they have adequate information about the quality of water in the basin and are willing to learn more. This positively correlates to the amount of uncertainty respondents indicated in knowing about current watershed issues. The Council should prioritize community education about water quality as well as provide volunteer opportunities to address water quality for future projects. A mailed monthly publication detailing up-to-date water quality information as well as a calendar of volunteer events could be a useful tool to recruit volunteers. Another method to provide information about water quality to the public is to offer formal speaking engagements on different topics every couple months where attendees can get questions answered and meet others in their community.
3. When given information about the mission and purpose of goals of the Council, slightly over half of respondents do not understand the mission statement of the Powder Basin Watershed Council, and nearly half have never heard of the Powder Basin Watershed Council. The Council can address this by increasing public awareness through events, youth education opportunities, and by participating in regular community functions. The Council should continue to strengthen its relationship with basin school districts to promote watershed education in classrooms while familiarizing PBWC to basin families. The Council should continue reaching out to local non-profits and community organized groups for support and partnerships. Respondents were most likely to attend “Festivals and Fairs” at least once per year, with “Sporting Events” and “Music Events” following closely behind. Future outreach initiatives should prioritize these events in the future to increase Council visibility and watershed issues awareness. According to written evaluations, all eight organizations hosting events and speaking engagements for the 2015 year requested to have the Powder Basin Watershed Council return for the 2016 year-attendance at these events totaled over 7,700 people.
4. As attendance at council meetings has dwindled over recent years, the Council has sought to address barriers to participation. Nearly a quarter of respondents indicated they did not have enough time to attend monthly meetings. Communications with partners and other community groups have suggested this to be a common barrier for the region. Approximately 16% of respondents also indicated they did not know what Council meetings entailed. Current Council members expressed favorability of speaking events and tours and desired meetings to be less about Council business and more “fun”. The Council should hold fewer meetings to allow for proper planning and should feature guest speakers. Additional feedback about meetings suggests that the meetings should take place at a more festive venue, to encourage community interest and comfort.

5. Over one quarter of respondents indicated they would be willing to volunteer for the Council or they would need more information. This means there is potential for approximately 1,045 households to become readily involved with the Council. Respondents put a higher priority for stream restoration, irrigation efficiency, riparian planting, park cleanup, and water quality projects, therefore; the Council should continue to expand its volunteer base across all programs: education, monitoring, and restoration. Additionally, respondents agreed roughly half of the time that volunteers are fundamental to leading restoration projects and measuring water quality, while another 28%-38% were uncertain about the role of volunteers in projects. Increasing awareness about the organization and water resources will be key to involving a diversity of volunteers in various capacities.
6. Most respondents indicated uncertainty when asked about watershed conditions: water availability erosion, and habitat for fish and wildlife; however, 43% of respondents either agreed or strongly agreed that habitat for fish and wildlife was a concern on all listed water bodies (Burnt River, Powder/N Powder, Eagle Creek, and Pine Creek). This means that the public has a general idea that conditions in the basin could be improved upon. Key findings in the PBWC Pine Creek Assessment suggest that high water temperatures, insufficient streamflows for irrigation, irrigation water management, blocked fish passage, noxious weeds, siltation of streams, mine tailings, and water storage are all concerns for the region (PBWC 2000). Similar concerns are documented in the Brownlee subbasin as well as the Upper Powder River region (PBWC 2012; PBWC 2001). Focusing an outreach effort on improving specific conditions within the watersheds will be crucial in order to address persistent water quality issues. Also noted in the assessment, there have been several human and environmental factors that have contributed to the degradation to riparian health, however “cattle grazing has resulted in some streambank disturbances, soil compaction, and a reduction in the amount and variety of upland streamside vegetation” (PBWC 2000).

Residents have also expressed concern about elk, both through interviews with Council staff and noted in prior assessments. Focusing efforts on both domestic and wild ungulate grazing can help tackle many of the water quality issues on privately owned stretches of the creeks within the watershed. Introducing campaigns promoting any or all of the following: irrigation efficiencies and diversion upgrades, improved grazing management, and off-channel watering, and using riparian buffer zones could be effective tools to restoring the health of the watersheds while also meeting funding priorities (OWEB 2016).

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