

FORESTS, UTILITIES, AND WATERSHEDS

Partners in Source Water Protection

Prepared by:

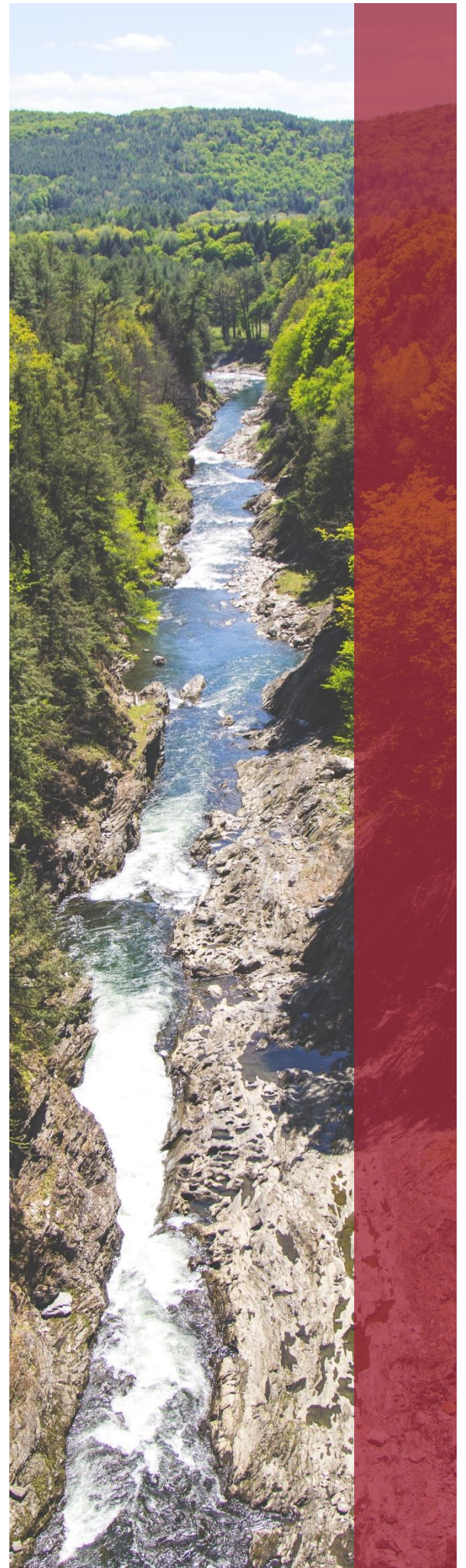
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Executive Summary

The planning and management of public water sources (PWS) are traditionally the domain of public utilities or utilities commissions. Yet, collaboration and partnerships among utilities, watershed, and forest managers can improve the efficiency and sustainability of PWS quality and availability. The quality and availability of PWSs, especially those originating from overland flow, are dependent on the quality and status of land resources. This is particularly salient in forested watersheds, which require appropriate forest management practices.

The objective of the “Forests, Utilities, and Watersheds: Partners in Source Water Protection” project was to survey water utility rate payers’ in Hot Springs, AR and Fayetteville, AR in relation to:

- Frequency of water use for drinking (and other activities); water and forest recreation.
- Knowledge of water utility operations and forest management.
- Exposure to information that pertains to water utility’s management and operations.
- Perspectives on and experiences with and ratings of water and the water utility.
- Levels of trust and perception of responsibility.
- Familiarity with and opinions on controlled burns.

Past research indicates that while utilities own tracts of forestland within a source watershed, forest management plans, their implementation, and consultation with trained foresters is minimal^{1,2}. Moreover, public water utilities may set examples among one another and other land management organizations in terms of source water protection importance, prioritization, and design³. The mutual benefit best managements practices grant water resources and forest health implies it may be helpful to understand the extent to which public water utilities implement forest management within a source watershed^{4,5}. However, given the relative uncommonness of such forest management by public water utilities, is it perhaps more strategic and necessary to understand rate payers’ perceptions their water utility in relation to forest management practices in a source watershed⁶.

Key Takeaways

- Tap water is the primary source of drinking water for a greater proportion of adults residing in Fayetteville (67.7%) than Hot Springs (51.1%). The survey does not show any obvious reason for the differences between the two groups of residents.
 - It should be noted that similar proportions of residents from the two areas use tap water every day for cooking and cleaning (87.7-88.4%) as well as use tap water a few times a week or more for watering grass/plants or washing cars (37.5-42.1%).
- A total of 46.4% of the respondents visited local lakes or rivers six or more times a year and 43.7 % of the respondents visited a local forest six or more times a year. Differences in the

¹ Dyckman CS, Paulsen K. Not in My watershed! Will increased federal supervision really bring better coordination between land use and water planning? *J. Plan. Educ. Res.* 32, 91–106 (2012).

² Herbert, E. Forest management by West Coast water utilities: Protecting the source? *J. Am. Water. Works. Assoc.* 99, 91–106 (2007).

³ Richards et al. WH, et al. Landscape-scale forest management in the municipal watersheds of Vienna, Austria, and Seattle, USA: Commonalities despite disparate ecology and history. *Nat. Areas J.* 32, 199–207 (2012).

⁴ Garcia-Chevesich et al., Forest management and the impact on water resources: A review of 13 countries (2017). Available at: https://www.fs.fed.us/rm/pubs_journals/2017/rmrs_2017_garcia_chevesich_p001.pdf

⁵ Hornbeck JW, et al. Long-term impacts of forest treatment on water yield: A summary of the Northeastern USA. *J. Hydrol.* 150, 323–344 (1993).

⁶ National Research Council. Watershed management for source water protection (2000). Available at: <https://www.nap.edu/read/9677/chapter/6#p200067d09970130001>

proportion of residents from each study area visiting lakes/streams and forests six or more times a year were minimal.

- A higher proportion Fayetteville residents indicated that they had a good amount or a great deal of knowledge concerning the location of their water supply (63.4% vs. 39.2%) and what is meant by the term “watershed” (47.9% vs. 33.9%).
 - Approximately 32-38% of the Hot Springs while only 14-15% of the Fayetteville respondents indicated they had little or no knowledge concerning these two subjects.
 - This in part may reflect to what degree residents felt that their utilities provided information concerning their drinking water sources.
 - A total of 68.4% of residents in Fayetteville somewhat or strongly agreed while 19.4% somewhat or strongly disagreed that their utility provided Fayetteville residents with the basic information on their drinking water source.
 - A total of 58.6% of Hot Springs residents somewhat or strongly agreed that the Hot Spring utility provided this information while 31.2% somewhat or strongly disagreed the utility provided this information.
- Most respondents (77.4%) rated their water utility B or better on the water utility services.
 - The proportion of the respondents that rated the services as a B or better was greater for Fayetteville residents (87.8%) than Hot Springs residents (65.7%).
 - More than 3-out-of-4 residents in both study areas somewhat or strongly agreed that their water utility provided quality drinking water (80.3-90.1%).
- Most household water users (74.6%) were willing to pay for part of the costs of improving water quality. Differences between individual study areas were minimal.
 - Most water users (59.7%) also are willing to pay part of the costs of managing forests in the water source area.
 - Although water users are willing to financially support management costs, approximately 80% of the respondents somewhat or strongly agreed that water users should have input on these management decisions.
- Water users generally recognized that controlled burns (prescribed fire) is somewhat or very necessary (82.8%) for land management and most water users (69.1%) considered controlled burns somewhat or very safe.
 - A greater portion of Hot Springs residents generally recognize the necessity and safety of controlled burning than did Fayetteville residents. This may reflect the closer proximity of a federal forest lands to Hot Springs compared to Fayetteville.
 - Although the majority of respondents from both study areas strongly or somewhat agreed that they trusted their utility to make decisions concerning the use of controlled burns (63.2-67.0%) more than 90% of respondents somewhat or strongly agreed that utility should partner with other federal and state land management organizations to conduct controlled burns.

Table of Contents

- Executive Summary3
- Key Takeaways3
- Table of Contents.....5
- Acknowledgements6
- Methods and Sampling7
- Findings and Results.....8
- Weighting8
- Direct Experience and Psychological Distance9
- Knowledge12
- Information14
- Perspectives and Experiences.....15
- Trust and Responsibility17
- Controlled Burns.....20
- Sociodemographics22
- Appendix.....25

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Methods and Sampling

The project was carried out by the Arkansas Forest Resources Center with funding provided by the U.S. Endowment for Forestry and Communities. To achieve project objectives, standard research protocols were used to collect data via a telephone survey—cellular and landline—from rate payers in Hot Springs, AR and Fayetteville, AR. Data collection was conducted from May–July 2019. All survey data collection was conducted by University of Little Rock Survey Research Center, in partnership with researchers at the Arkansas Forest Resources Center.

The population of interest was adults (>18 years of age) of Hot Springs, AR residing within the Hot Spring Water Utility service area and adults (>18 years of age) of Fayetteville, AR residing within the Beaver Lake Water Utility service area who pay for household water service (i.e., excludes residents whose water services are included in rent or otherwise paid by a second party). Two sampling frames were used: cell phone (listed) and landline (listed and random-digit dialing). A simple random sampling procedure was used at a ratio of 1:1 from each sampling frame until the predetermined quota per city ($n = 400$) was reached or response rates dropped below the efficacy threshold (1-respondent/hour). The combined response rate was ~25% but differed substantially among frames (Table 1). A total of 778 telephone interviews were conducted in the two cities (Table 2). The average length of interview was 8-minutes. Error margins are presented in Table 3.

| Table 1. Response rate (combined and per telephone type). | Percent |
|--|---------|
| Combined | 24.6 |
| Landline | 42.4 |
| Cell | 16.7 |

| Table 2. Sample size (total and per city). | Count | Percent |
|---|-------|---------|
| Total | 778 | 100.00 |
| Hot Springs | 393 | 50.5 |
| Fayetteville | 385 | 49.5 |

| Table 3. Margin of error (total and per city). | Percent |
|---|---------|
| Total | 6.0 |
| Hot Springs | 6.0 |
| Fayetteville | 6.0 |

Findings and Results

WEIGHTING

Data weighting is a standard procedure for survey data analysis; weighting allows data to be interpreted as representing the population of interest rather than just the sample data was collected from. Weighting procedures correct for imbalances between the survey sample and the population of interest. For example, people aged 18-24 were under-sampled and people aged 75+ over-sampled; weighting allows us to correct this under- and over-sampling by calculating a “weight” based on the difference between the percentage of each category in the sample and the known percentage of each category in the actual population (based on census data⁷). By applying the weight to our analyses, the results reflect the populations of interest, the cities of Hot Springs and Fayetteville, rather than just the sampled respondents from each city.

Data are presented in two formats:

- Pooled data (red) are presented as *unweighted*. The reason for this is that the pooled data is aggregated sample data and not generalizable to a distinct population.
- Data from Hot Springs (yellow) and Fayetteville (blue) are presented as *weighted*. The reason for this is that these city-level data can be interpreted as generalizable to the population of each city, respectively. The respective weights reflect the differences in response rates associated with different age categories (as seen by sample percentage).

Below are the weights applied to analyses data from each city:

| Table 4a. Hot Springs survey weights. | | | | |
|---------------------------------------|-----------------------|--------------|-------------------|--------|
| Age Category | Population Percentage | Sample Count | Sample Percentage | Weight |
| 18-24 | 7.9 | 11 | 2.8 | 2.82 |
| 25-34 | 12.0 | 13 | 3.3 | 3.63 |
| 35-44 | 10.4 | 25 | 6.4 | 1.63 |
| 45-54 | 11.7 | 52 | 13.2 | 0.88 |
| 55-64 | 14.9 | 79 | 20.1 | 0.74 |
| 65-74 | 12.8 | 115 | 29.3 | 0.44 |
| 75+ | 10.4 | 98 | 24.9 | 0.42 |

| Table 4b. Fayetteville survey weights. | | | | |
|--|-----------------------|--------------|-------------------|--------|
| Age Category | Population Percentage | Sample Count | Sample Percentage | Weight |
| 18-24 | 15.0 | 15 | 3.9 | 3.85 |
| 25-34 | 15.6 | 40 | 10.4 | 1.50 |
| 35-44 | 12.6 | 90 | 23.4 | 0.54 |
| 45-54 | 11.2 | 81 | 21.0 | 0.53 |
| 55-64 | 10.1 | 62 | 16.1 | 0.63 |
| 65-74 | 6.7 | 75 | 19.5 | 0.34 |
| 75+ | 4.6 | 22 | 5.7 | 0.81 |

⁷ Source: American Community Survey, 2018 ACS 1-year estimates subject table (Table ID: S0101)

DIRECT EXPERIENCE AND PSYCHOLOGICAL DISTANCE

Frequency of direct experience or interaction with water influences how abstract or concrete rate payers perceive the natural resource management issues related to water. In psychology, the abstract-concrete range can be thought of as the time between experiencing or interacting with an object, event, or other phenomenon; this is called *psychological distance*. Measures of psychological distance, in the form of frequency of use, provide information that indicate the potential for rate payers to take action on or support water-related issues.

The results presented below indicate that rate payers in both cities **frequently interact** with water through various behaviors, from the individual, household, and landscape level.

| Table 5. How often do you make it a point to drink water? | Count | Percent |
|--|-------|---------|
| Several times a day | 707 | 90.9 |
| Once a day | 35 | 4.5 |
| A few times a week | 18 | 2.3 |
| A couple of times a month | — | — |
| Rarely | 15 | 1.9 |

*Reporting threshold of ≥1%

| Hot Springs | Count | Percent |
|---------------------------|-------|---------|
| Several times a day | 273 | 86.8 |
| Once a day | 19 | 6.0 |
| A few times a week | 12 | 3.8 |
| A couple of times a month | 5 | 1.7 |
| Rarely | 6 | 1.8 |

| Fayetteville | Count | Percent |
|---------------------------|-------|---------|
| Several times a day | 265 | 90.7 |
| Once a day | 18 | 6.3 |
| A few times a week | 4 | 1.3 |
| A couple of times a month | — | — |
| Rarely | 5 | 1.7 |

*Reporting threshold of ≥1%

| Table 6. When you drink water do you mostly drink tap water or water from other sources? | Count | Percent |
|---|-------|---------|
| Tap water | 477 | 61.4 |
| Other sources | 246 | 31.7 |
| Both equally | 54 | 6.9 |

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| Tap water | 161 | 51.0 |
| Other sources | 127 | 40.4 |
| Both equally | 27 | 8.6 |

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| Tap water | 197 | 67.7 |
| Other sources | 73 | 24.9 |
| Both equally | 22 | 7.4 |

Table 7. How often do you use tap water from your household faucets for activities like cooking and cleaning?

| | Count | Percent |
|---------------------------|-------|---------|
| Every day | 701 | 90.2 |
| A few times a week | 55 | 7.1 |
| Once a week | 9 | 1.2 |
| A couple of times a month | — | — |
| Rarely | — | — |
| Never | — | — |

*Reporting threshold of ≥1%

| Hot Springs | Count | Percent |
|---------------------------|-------|---------|
| Every day | 278 | 88.4 |
| A few times a week | 28 | 8.9 |
| Once a week | 6 | 1.8 |
| A couple of times a month | — | — |
| Rarely | — | — |
| Never | — | — |

*Reporting threshold of ≥1%

| Fayetteville | Count | Percent |
|---------------------------|-------|---------|
| Every day | 256 | 87.7 |
| A few times a week | 28 | 9.8 |
| Once a week | — | — |
| A couple of times a month | — | — |
| Rarely | 5 | 1.8 |
| Never | — | — |

*Reporting threshold of ≥1%

Table 8. How often do you use water from your outdoor faucets for activities like watering grass or plants, or washing your car?

| | Count | Percent |
|---------------------------|-------|---------|
| Every day | 99 | 12.9 |
| A few times a week | 248 | 32.2 |
| Once a week | 90 | 11.7 |
| A couple of times a month | 107 | 13.9 |
| Rarely | 152 | 19.8 |
| Never | 73 | 9.5 |

| Hot Springs | Count | Percent |
|---------------------------|-------|---------|
| Every day | 31 | 9.8 |
| A few times a week | 87 | 27.7 |
| Once a week | 38 | 12.3 |
| A couple of times a month | 53 | 17.0 |
| Rarely | 69 | 22.0 |
| Never | 35 | 11.3 |

| Fayetteville | Count | Percent |
|---------------------------|-------|---------|
| Every day | 37 | 13.0 |
| A few times a week | 84 | 29.1 |
| Once a week | 40 | 14.1 |
| A couple of times a month | 37 | 12.8 |
| Rarely | 52 | 18.2 |
| Never | 37 | 12.8 |

Table 9. In the past year, how many times would you say you have visited a local lake or river?

| | Count | Percent |
|------------------|-------|---------|
| None/Never | 155 | 19.9 |
| Only once | 49 | 6.3 |
| 2-5 times | 210 | 27.0 |
| 6-9 times | 53 | 6.8 |
| 10 times or more | 308 | 39.6 |

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| None/Never | 52 | 16.6 |
| Only once | 20 | 6.5 |
| 2-5 times | 70 | 22.2 |
| 6-9 times | 18 | 5.6 |
| 10 times or more | 153 | 48.7 |

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| None/Never | 38 | 13.2 |
| Only once | 15 | 5.0 |
| 2-5 times | 85 | 29.3 |
| 6-9 times | 25 | 8.4 |
| 10 times or more | 129 | 44.1 |

Table 10. In the past year, how many times would you say you have visited a local forest?

| | Count | Percent |
|------------------|-------|---------|
| None/Never | 178 | 22.9 |
| Only once | 58 | 7.5 |
| 2-5 times | 198 | 25.4 |
| 6-9 times | 40 | 5.1 |
| 10 times or more | 300 | 38.6 |

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| None/Never | 70 | 22.2 |
| Only once | 27 | 8.4 |
| 2-5 times | 70 | 22.3 |
| 6-9 times | 17 | 5.3 |
| 10 times or more | 130 | 41.4 |

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| None/Never | 46 | 15.7 |
| Only once | 18 | 6.3 |
| 2-5 times | 97 | 33.3 |
| 6-9 times | 12 | 4.0 |
| 10 times or more | 118 | 40.4 |

KNOWLEDGE

Knowledge is a fundamental component of informed decision-making and ability to respond to natural resource management challenges. For water utility providers, an informed constituency of rate payers who know where their water comes from, that forests are a component of water quality, and that forests and water interact at a watershed level can be seen as a positive asset.

In terms of knowing the waterbody that is the source of their household water, results suggest a mix of knowledge—either little/none or great deal—and a **disparity between Hot Springs and Fayetteville**. Different patterns emerge in terms of rate payers' knowledge of forests importance to maintaining water quality. For Hot Springs and Fayetteville, 49-54% of responses fall within the great/good deal response categories. However, in terms of knowledge of what a watershed is, a over 40% of Hot Springs respondents have little to no knowledge, whereas a similar percentage of Fayetteville respondents indicate they have a good or great deal of knowledge.

Table 11. Your level of knowledge of where the water you use at home comes from, that is, the location of the exact rivers or lakes that supply your water?

| | Count | Percent |
|----------------------------|-------|---------|
| Little or no knowledge | 162 | 20.8 |
| Some knowledge | 61 | 7.8 |
| A moderate amount | 117 | 15.0 |
| A good amount of knowledge | 143 | 18.4 |
| A great deal of knowledge | 289 | 37.1 |
| Don't know* | — | — |

*Reporting threshold of ≥1%

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Little or no knowledge | 101 | 32.0 |
| Some knowledge | 43 | 13.7 |
| A moderate amount | 43 | 13.7 |
| A good amount of knowledge | 44 | 14.0 |
| A great deal of knowledge | 79 | 25.2 |
| Don't know* | 5 | 1.4 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Little or no knowledge | 42 | 14.4 |
| Some knowledge | 25 | 8.5 |
| A moderate amount | 40 | 13.8 |
| A good amount of knowledge | 65 | 22.3 |
| A great deal of knowledge | 120 | 41.1 |
| Don't know* | — | — |

*Reporting threshold of ≥1%

Table 12. Your level of knowledge of why trees and forests are important to drinking water quality?

| | Count | Percent |
|----------------------------|-------|---------|
| Little or no knowledge | 114 | 14.7 |
| Some knowledge | 87 | 11.2 |
| A moderate amount | 171 | 22.0 |
| A good amount of knowledge | 152 | 19.5 |
| A great deal of knowledge | 246 | 31.6 |
| Don't know* | 8 | 1.0 |

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Little or no knowledge | 62 | 19.6 |
| Some knowledge | 43 | 13.7 |
| A moderate amount | 51 | 16.3 |
| A good amount of knowledge | 48 | 15.4 |
| A great deal of knowledge | 101 | 32.2 |
| Don't know* | 9 | 2.9 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Little or no knowledge | 37 | 12.6 |
| Some knowledge | 46 | 15.6 |
| A moderate amount | 66 | 22.6 |
| A good amount of knowledge | 72 | 24.6 |
| A great deal of knowledge | 71 | 24.4 |
| Don't know* | — | — |

*Reporting threshold of ≥1%

Table 13. Your level of knowledge of what a watershed is?

| | Count | Percent |
|----------------------------|-------|---------|
| Little or no knowledge | 197 | 25.3 |
| Some knowledge | 96 | 12.3 |
| A moderate amount | 148 | 19.0 |
| A good amount of knowledge | 123 | 15.8 |
| A great deal of knowledge | 205 | 26.3 |
| Don't know* | 9 | 1.2 |

*Reporting threshold of ≥1%

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Little or no knowledge | 120 | 38.2 |
| Some knowledge | 29 | 9.2 |
| A moderate amount | 53 | 16.8 |
| A good amount of knowledge | 43 | 13.7 |
| A great deal of knowledge | 64 | 20.2 |
| Don't know* | 6 | 1.8 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Little or no knowledge | 43 | 14.8 |
| Some knowledge | 52 | 17.8 |
| A moderate amount | 58 | 19.7 |
| A good amount of knowledge | 56 | 19.0 |
| A great deal of knowledge | 83 | 28.5 |
| Don't know* | — | — |

*Reporting threshold of ≥1%

INFORMATION

Like knowledge, access to information is a fundamental component of informed decision-making and ability to respond to natural resource management challenges. The results presented below indicate that a majority of rate payers agree (strongly or somewhat) that their water **utility provides them with basic information** on where their drinking water comes from. In contrast, rate payers in both cities are equally distributed in their disagreement or agreement that their water utility provides them with the basic information on what influences the price of their drinking water.

Table 14. Your water utility provides you with the basic information on where your drinking water comes from.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 285 | 36.6 |
| Somewhat agree | 236 | 30.3 |
| Neither agree nor disagree | 50 | 6.4 |
| Somewhat disagree | 105 | 13.5 |
| Strongly disagree | 80 | 10.3 |
| Don't know | 19 | 2.4 |

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 92 | 29.1 |
| Somewhat agree | 93 | 29.5 |
| Neither agree nor disagree | 25 | 7.8 |
| Somewhat disagree | 49 | 15.6 |
| Strongly disagree | 49 | 15.6 |
| Don't know | 7 | 2.3 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 106 | 36.3 |
| Somewhat agree | 94 | 32.1 |
| Neither agree nor disagree | 25 | 8.7 |
| Somewhat disagree | 34 | 11.8 |
| Strongly disagree | 22 | 7.6 |
| Don't know | 8 | 2.8 |

Table 15. Your water utility provides you with the basic information on what influences the price of your drinking water.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 138 | 17.7 |
| Somewhat agree | 228 | 29.3 |
| Neither agree nor disagree | 83 | 10.7 |
| Somewhat disagree | 143 | 18.4 |
| Strongly disagree | 151 | 19.4 |
| Don't know | 33 | 4.2 |

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 68 | 21.7 |
| Somewhat agree | 77 | 24.4 |
| Neither agree nor disagree | 29 | 9.1 |
| Somewhat disagree | 43 | 13.7 |
| Strongly disagree | 85 | 27.1 |
| Don't know | 11 | 3.6 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 38 | 12.9 |
| Somewhat agree | 82 | 28.1 |
| Neither agree nor disagree | 46 | 15.9 |
| Somewhat disagree | 67 | 22.9 |
| Strongly disagree | 43 | 14.7 |
| Don't know | 15 | 5.2 |

PERSPECTIVES AND EXPERIENCES

The perspectives and experiences of rate payers with the goods and services provided by a public water utility are an essential component of monitoring and evaluation. The gap between positive and negative perspectives and experiences is a helpful evaluative metric for any service provider. In the context of this project, concerns about water quality and forest management, as well as an overall rating of the water utility, were measured.

The results presented below indicate that approximately 40% of rate payers in both cities are not concerned with the quality of their tap water. However, of the remaining 60%, respondents indicated they were **very, moderately, or slightly concerned**, approximately 20% per response category. In contrast, ~85% agree (strongly or somewhat) that their water utility provides quality tap water. These seemingly disparate results may indicate that rate payers have concern for water quality, in general, but view their personal, household water quality as being of an acceptable quality to themselves. A **grade of A or B** from 65-77% of rate payers buoys this interpretation.

Table 16. Thinking about the services you receive from your water utility, what letter grade would you give them overall?

| | Count | Percent |
|---|-------|---------|
| A | 291 | 37.4 |
| B | 311 | 40.0 |
| C | 138 | 17.7 |
| D | 25 | 3.2 |
| F | 10 | 1.3 |

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| A | 86 | 27.2 |
| B | 121 | 38.5 |
| C | 89 | 28.4 |
| D | 12 | 3.7 |
| F | 5 | 1.7 |

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| A | 139 | 47.5 |
| B | 118 | 40.3 |
| C | 31 | 10.6 |
| D | 3 | 1.2 |
| F | — | — |

*Reporting threshold of ≥1%

Table 17. How concerned are you with the quality of your tap water?

| | Count | Percent |
|----------------------|-------|---------|
| Very concerned | 192 | 24.8 |
| Moderately concerned | 157 | 20.3 |
| Slightly concerned | 119 | 15.4 |
| Not at all concerned | 307 | 39.6 |

| Hot Springs | Count | Percent |
|----------------------|-------|---------|
| Very concerned | 75 | 23.8 |
| Moderately concerned | 73 | 23.2 |
| Slightly concerned | 54 | 17.1 |
| Not at all concerned | 113 | 36.0 |

| Fayetteville | Count | Percent |
|----------------------|-------|---------|
| Very concerned | 62 | 21.4 |
| Moderately concerned | 55 | 19.0 |
| Slightly concerned | 48 | 16.7 |
| Not at all concerned | 125 | 42.9 |

Table 18. Your water utility provides you with quality drinking water.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 401 | 51.5 |
| Somewhat agree | 263 | 33.8 |
| Neither agree nor disagree | 23 | 3.0 |
| Somewhat disagree | 49 | 6.3 |
| Strongly disagree | 41 | 5.3 |
| Don't know* | — | — |

*Reporting threshold of ≥1%

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 133 | 42.3 |
| Somewhat agree | 120 | 38.0 |
| Neither agree nor disagree | 10 | 3.3 |
| Somewhat disagree | 22 | 6.9 |
| Strongly disagree | 30 | 9.4 |
| Don't know* | — | — |

*Reporting threshold of ≥1%

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 162 | 55.7 |
| Somewhat agree | 100 | 34.4 |
| Neither agree nor disagree | 6 | 1.9 |
| Somewhat disagree | 16 | 5.6 |
| Strongly disagree | 7 | 2.3 |
| Don't know* | — | — |

*Reporting threshold of ≥1%

Table 19. How concerned are you with the management of the forests in your water source area?

| | Count | Percent |
|----------------------|-------|---------|
| Very concerned | 187 | 24.0 |
| Moderately concerned | 258 | 33.2 |
| Slightly concerned | 169 | 21.7 |
| Not at all concerned | 157 | 20.2 |

| Hot Springs | Count | Percent |
|----------------------|-------|---------|
| Very concerned | 82 | 26.2 |
| Moderately concerned | 100 | 31.7 |
| Slightly concerned | 81 | 25.8 |
| Not at all concerned | 48 | 15.3 |

| Fayetteville | Count | Percent |
|----------------------|-------|---------|
| Very concerned | 67 | 22.9 |
| Moderately concerned | 87 | 29.9 |
| Slightly concerned | 66 | 22.5 |
| Not at all concerned | 72 | 24.6 |

TRUST AND RESPONSIBILITY

Fundamental to any natural resource management endeavor involving a public good like water relies on perceptions trust and opinions of the delegation of responsibilities. The results presented below indicate that a majority of rate payers in both cities **trust** their water utility to make the right management decisions of their water. A majority of rate payers also believe their water utility operates in a manner that **does not harm the environment** but take **responsibility for the effects of their actions** on the environment. Respondents in both cities somewhat agree or strongly agree that household water users should be **willing to pay** for part of the costs to improve water quality and manage forests in their water source area.

Table 20. You trust your water utility to make the right management decisions about your water.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 295 | 37.9 |
| Somewhat agree | 312 | 40.1 |
| Neither agree nor disagree | 49 | 6.3 |
| Somewhat disagree | 66 | 8.5 |
| Strongly disagree | 51 | 6.6 |
| Don't know | — | — |

*Reporting threshold of ≥1%

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 99 | 31.6 |
| Somewhat agree | 118 | 37.4 |
| Neither agree nor disagree | 28 | 9.0 |
| Somewhat disagree | 34 | 10.7 |
| Strongly disagree | 35 | 11.1 |
| Don't know | — | — |

*Reporting threshold of ≥1%

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 115 | 39.5 |
| Somewhat agree | 131 | 44.9 |
| Neither agree nor disagree | 20 | 6.7 |
| Somewhat disagree | 15 | 5.2 |
| Strongly disagree | 5 | 1.9 |
| Don't know | 5 | 1.8 |

Table 21. You trust your Water Utility is not operating in ways that are harmful to the environment.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 294 | 37.8 |
| Somewhat agree | 285 | 36.6 |
| Neither agree nor disagree | 70 | 9.0 |
| Somewhat disagree | 57 | 7.3 |
| Strongly disagree | 38 | 4.9 |
| Don't know | 29 | 3.7 |

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 92 | 29.3 |
| Somewhat agree | 123 | 38.9 |
| Neither agree nor disagree | 31 | 9.7 |
| Somewhat disagree | 36 | 11.4 |
| Strongly disagree | 20 | 6.2 |
| Don't know | 13 | 4.2 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 120 | 41.2 |
| Somewhat agree | 104 | 35.8 |
| Neither agree nor disagree | 34 | 11.6 |
| Somewhat disagree | 15 | 5.2 |
| Strongly disagree | 7 | 2.6 |
| Don't know | 9 | 3.1 |

Table 22. Household water users should take responsibility for the effects of their actions on the environment.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 520 | 66.8 |
| Somewhat agree | 180 | 23.1 |
| Neither agree nor disagree | 33 | 4.2 |
| Somewhat disagree | 21 | 2.7 |
| Strongly disagree | 15 | 1.9 |
| Don't know* | — | — |

*Reporting threshold of ≥1%

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 201 | 63.8 |
| Somewhat agree | 66 | 21.1 |
| Neither agree nor disagree | 19 | 6.2 |
| Somewhat disagree | 16 | 5.1 |
| Strongly disagree | 8 | 2.5 |
| Don't know* | 4 | 1.3 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 200 | 68.5 |
| Somewhat agree | 71 | 24.3 |
| Neither agree nor disagree | 10 | 3.4 |
| Somewhat disagree | 3 | 1.0 |
| Strongly disagree | 6 | 2.2 |
| Don't know* | — | — |

*Reporting threshold of ≥1%

Table 23. Household water users should be willing to pay for part of the costs of improving water quality.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 237 | 30.5 |
| Somewhat agree | 343 | 44.1 |
| Neither agree nor disagree | 45 | 5.8 |
| Somewhat disagree | 58 | 7.5 |
| Strongly disagree | 84 | 10.8 |
| Don't know* | 10 | 1.3 |

*Reporting threshold of ≥1%

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 87 | 27.7 |
| Somewhat agree | 132 | 41.8 |
| Neither agree nor disagree | 22 | 6.9 |
| Somewhat disagree | 30 | 9.4 |
| Strongly disagree | 42 | 13.2 |
| Don't know | — | — |

*Reporting threshold of ≥1%

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 88 | 30.1 |
| Somewhat agree | 140 | 48.1 |
| Neither agree nor disagree | 20 | 7.0 |
| Somewhat disagree | 18 | 6.1 |
| Strongly disagree | 21 | 7.3 |
| Don't know | — | — |

*Reporting threshold of ≥1%

Table 24. Household water users should be willing to pay for part of the costs of managing forests in their water source area.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 174 | 22.4 |
| Somewhat agree | 290 | 37.3 |
| Neither agree nor disagree | 81 | 10.4 |
| Somewhat disagree | 107 | 13.8 |
| Strongly disagree | 109 | 14.0 |
| Don't know | 15 | 1.9 |

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 82 | 26.1 |
| Somewhat agree | 103 | 32.7 |
| Neither agree nor disagree | 26 | 8.4 |
| Somewhat disagree | 41 | 12.9 |
| Strongly disagree | 57 | 18.1 |
| Don't know | 5 | 1.7 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 64 | 22.0 |
| Somewhat agree | 120 | 41.1 |
| Neither agree nor disagree | 35 | 12.1 |
| Somewhat disagree | 38 | 12.9 |
| Strongly disagree | 31 | 10.5 |
| Don't know | 4 | 1.3 |

Table 25. Household water users should have input in the water management decisions made by their water provider.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 237 | 30.5 |
| Somewhat agree | 343 | 44.1 |
| Neither agree nor disagree | 45 | 5.8 |
| Somewhat disagree | 58 | 7.5 |
| Strongly disagree | 84 | 10.8 |
| Don't know | 10 | 1.3 |

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 180 | 57.1 |
| Somewhat agree | 90 | 28.7 |
| Neither agree nor disagree | 9 | 2.8 |
| Somewhat disagree | 15 | 4.7 |
| Strongly disagree | 14 | 4.6 |
| Don't know | 7 | 2.1 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 130 | 44.7 |
| Somewhat agree | 116 | 39.7 |
| Neither agree nor disagree | 19 | 6.4 |
| Somewhat disagree | 15 | 5.2 |
| Strongly disagree | 9 | 3.0 |
| Don't know | — | — |

*Reporting threshold of ≥1%

CONTROLLED BURNS

The last section of the questionnaire asked rate payers to give their opinion on controlled burns (prescribed burns). Respondents were given a description of controlled burns as a type of fire conducted under close watch to maintain the health of lands and forests, reduce the risk of wildfires, and improve wildlife habitats. The results presented below indicate that a majority of rate payers in both cities view controlled burns as **somewhat necessary or very necessary**. Results also show that a majority of rate payers in both cities perceive controlled burns as **somewhat safe or very safe**. In terms of conducting controlled burns, a majority of rate payers in both cities indicated that they **trust** their water utility but expect them to **partner** with an appropriate state or federal agency.

| Table 26. How would you rate the need for controlled burns? | Count | Percent |
|--|-------|---------|
| Very unnecessary | 24 | 3.1 |
| Somewhat unnecessary | 18 | 2.3 |
| Neutral | 84 | 10.8 |
| Somewhat necessary | 155 | 19.9 |
| Very necessary | 489 | 62.9 |
| Don't know | 8 | 1.0 |

| Hot Springs | Count | Percent |
|----------------------|-------|---------|
| Very unnecessary | 10 | 3.3 |
| Somewhat unnecessary | 8 | 2.6 |
| Neutral | 26 | 8.2 |
| Somewhat necessary | 38 | 12.2 |
| Very necessary | 230 | 73.0 |
| Don't know | — | — |

*Reporting threshold of ≥1%

| Fayetteville | Count | Percent |
|----------------------|-------|---------|
| Very unnecessary | 6 | 1.9 |
| Somewhat unnecessary | 9 | 3.0 |
| Neutral | 48 | 16.4 |
| Somewhat necessary | 73 | 25.0 |
| Very necessary | 149 | 51.1 |
| Don't know | 8 | 2.6 |

| Table 27. How safe do you think controlled burns are? | Count | Percent |
|--|-------|---------|
| Very unsafe | 24 | 3.1 |
| Somewhat unsafe | 35 | 4.5 |
| Neutral | 172 | 22.1 |
| Somewhat safe | 275 | 35.3 |
| Very safe | 263 | 33.8 |
| Don't know | 9 | 1.2 |

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| Very unsafe | 11 | 3.5 |
| Somewhat unsafe | 13 | 4.1 |
| Neutral | 66 | 20.8 |
| Somewhat safe | 96 | 30.4 |
| Very safe | 128 | 40.6 |
| Don't know | — | — |

*Reporting threshold of ≥1%

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| Very unsafe | 7 | 2.4 |
| Somewhat unsafe | 15 | 5.1 |
| Neutral | 81 | 27.7 |
| Somewhat safe | 105 | 36.0 |
| Very safe | 79 | 27.2 |
| Don't know | 5 | 1.6 |

Table 28. You trust your water utility to make the right decisions about the use of controlled burns.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 215 | 27.6 |
| Somewhat agree | 302 | 38.8 |
| Neither agree nor disagree | 145 | 18.6 |
| Somewhat disagree | 50 | 6.4 |
| Strongly disagree | 48 | 6.2 |
| Don't know | 17 | 2.2 |

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 85 | 26.9 |
| Somewhat agree | 114 | 36.3 |
| Neither agree nor disagree | 58 | 18.4 |
| Somewhat disagree | 25 | 8.0 |
| Strongly disagree | 26 | 8.4 |
| Don't know | 6 | 1.8 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 74 | 25.3 |
| Somewhat agree | 121 | 41.7 |
| Neither agree nor disagree | 60 | 20.6 |
| Somewhat disagree | 19 | 6.4 |
| Strongly disagree | 9 | 3.0 |
| Don't know | 9 | 3.0 |

Table 29. You expect your water utility to partner with appropriate agencies, like the Arkansas Forestry Commission or US Forest Service, when they conduct controlled burns.

| | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 560 | 72.0 |
| Somewhat agree | 152 | 19.5 |
| Neither agree nor disagree | 23 | 3.0 |
| Somewhat disagree | 16 | 2.1 |
| Strongly disagree | 11 | 1.4 |
| Don't know | 15 | 1.9 |

| Hot Springs | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 219 | 69.6 |
| Somewhat agree | 62 | 19.6 |
| Neither agree nor disagree | 8 | 2.5 |
| Somewhat disagree | 13 | 4.2 |
| Strongly disagree | 6 | 1.8 |
| Don't know | 7 | 2.4 |

| Fayetteville | Count | Percent |
|----------------------------|-------|---------|
| Strongly agree | 209 | 71.5 |
| Somewhat agree | 63 | 21.5 |
| Neither agree nor disagree | 11 | 3.6 |
| Somewhat disagree | — | — |
| Strongly disagree | — | — |
| Don't know | 7 | 2.4 |

*Reporting threshold of ≥1%

Table 30. Has there ever been an occasion where you were negatively affected by smoke from a controlled burn?

| | Count | Percent |
|-----|-------|---------|
| Yes | 136 | 17.5 |
| No | 642 | 82.5 |

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| Yes | 41 | 13.1 |
| No | 274 | 86.9 |

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| Yes | 48 | 16.6 |
| No | 243 | 83.4 |

SOCIODEMOGRAPHICS

| Table 31. Age, count and frequency per category (weighted) | Count | Percent |
|---|-------|---------|
| 18-24 | 117 | 19.8 |
| 25-34 | 121 | 20.6 |
| 35-44 | 98 | 16.6 |
| 45-54 | 87 | 14.8 |
| 55-64 | 79 | 13.3 |
| 65-74 | 52 | 8.8 |
| 74+ | 35 | 6.0 |

*Weighted mean age: 43.32

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| 18-24 | 31 | 9.8 |
| 25-34 | 47 | 15.0 |
| 35-44 | 41 | 12.9 |
| 45-54 | 46 | 14.5 |
| 55-64 | 58 | 18.6 |
| 65-74 | 51 | 16.1 |
| 74+ | 41 | 13.1 |

*Weighted mean age: 43.49

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| 18-24 | 58 | 19.8 |
| 25-34 | 60 | 20.6 |
| 35-44 | 49 | 16.7 |
| 45-54 | 43 | 14.7 |
| 55-64 | 39 | 13.4 |
| 65-74 | 25 | 8.7 |
| 74+ | 18 | 6.1 |

*Weighted mean age: 43.15

| Table 32. Age, count and frequency per category (unweighted) | Count | Percent |
|---|-------|---------|
| 18-24 | 26 | 3.3 |
| 25-34 | 53 | 6.8 |
| 35-44 | 115 | 14.8 |
| 45-54 | 133 | 17.1 |
| 55-64 | 141 | 18.1 |
| 65-74 | 190 | 24.4 |
| 74+ | 120 | 15.4 |

*Weighted mean age: 57.35

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| 18-24 | 11 | 2.8 |
| 25-34 | 13 | 3.3 |
| 35-44 | 25 | 6.4 |
| 45-54 | 52 | 13.2 |
| 55-64 | 79 | 20.1 |
| 65-74 | 115 | 29.3 |
| 74+ | 98 | 24.9 |

*Weighted mean age: 63.46

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| 18-24 | 15 | 3.9 |
| 25-34 | 40 | 10.4 |
| 35-44 | 90 | 23.4 |
| 45-54 | 81 | 21.0 |
| 55-64 | 62 | 16.1 |
| 65-74 | 75 | 19.5 |
| 74+ | 22 | 5.7 |

*Weighted mean age: 51.12

| Table 33. Political views, count and frequency per category. | Count | Percent |
|---|-------|---------|
| Very conservative | 93 | 12.0 |
| Conservative | 192 | 24.7 |
| Moderate | 240 | 30.8 |
| Liberal | 138 | 17.7 |
| Very liberal | 55 | 7.1 |
| Don't Know | — | — |
| Other | 16 | 2.1 |
| Refused | 36 | 4.6 |

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| Very conservative | 36 | 11.5 |
| Conservative | 94 | 29.7 |
| Moderate | 92 | 29.3 |
| Liberal | 37 | 11.7 |
| Very liberal | 20 | 6.3 |
| Don't Know | 7 | 2.1 |
| Other | 5 | 1.6 |
| Refused | 24 | 7.7 |

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| Very conservative | 36 | 9.4 |
| Conservative | 78 | 20.3 |
| Moderate | 127 | 33.0 |
| Liberal | 85 | 22.1 |
| Very liberal | 36 | 9.4 |
| Don't Know | — | — |
| Other | 9 | 2.3 |
| Refused | 10 | 2.6 |

| Table 34. Marital status, count and frequency per category. | Count | Percent |
|--|-------|---------|
| Married | 446 | 57.3 |
| Divorced | 113 | 14.5 |
| Widowed | 93 | 12.0 |
| Separated | 11 | 1.4 |
| Never been married | 79 | 10.2 |
| A member of an unmarried couple | 23 | 3.0 |
| Refused | 13 | 1.7 |

| Hot Springs | Count | Percent |
|--------------------|-------|---------|
| Married | 152 | 52.0 |
| Divorced | 34 | 11.7 |
| Widowed | 10 | 3.3 |
| Separated | — | — |
| Never been married | 78 | 26.7 |
| Unmarried couple | 12 | 4.2 |
| Refused | — | — |

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| Married | 245 | 63.6 |
| Divorced | 49 | 12.7 |
| Widowed | 19 | 4.9 |
| Separated | 5 | 1.3 |
| Never been married | 50 | 13.0 |
| Unmarried couple | 11 | 2.9 |
| Refused | 6 | 1.6 |

| Table 35. Education, count and frequency per category. | Count | Percent |
|---|-------|---------|
| High school incomplete (Grade 9-11) | 25 | 3.2 |
| High School graduate/GED | 136 | 17.5 |
| Associate/Technical/Trade Degree | 88 | 11.4 |
| College/University Incomplete | 140 | 18.1 |
| College/university graduate or higher | 385 | 49.7 |

| Hot Springs | Count | Percent |
|---------------------------------------|-------|---------|
| High school incomplete (Grade 9-11) | 15 | 4.7 |
| High School graduate/GED | 83 | 26.5 |
| Associate/Technical/Trade Degree | 53 | 16.9 |
| College/University Incomplete | 62 | 19.7 |
| College/university graduate or higher | 101 | 32.0 |

| Fayetteville | Count | Percent |
|---------------------------------------|-------|---------|
| High school incomplete (Grade 9-11) | 8 | 2.1 |
| High School graduate/GED | 41 | 10.7 |
| Associate/Technical/Trade Degree | 28 | 7.3 |
| College/University Incomplete | 54 | 14.1 |
| College/university graduate or higher | 252 | 65.8 |

| Table 36. Annual income, count and frequency per category. | Count | Percent |
|---|-------|---------|
| Less than \$25,000 | 215 | 29.4 |
| Less than \$50,000 | 79 | 10.8 |
| Less than \$75,000 | 104 | 14.3 |
| Less than \$100,000 | 102 | 14.0 |
| More than \$100,000 | 212 | 29.1 |
| Don't know | 17 | 2.3 |

| Hot Springs | Count | Percent |
|---------------------|-------|---------|
| Less than \$25,000 | 113 | 38.8 |
| Less than \$50,000 | 36 | 12.5 |
| Less than \$75,000 | 35 | 12.0 |
| Less than \$100,000 | 44 | 15.0 |
| More than \$100,000 | 53 | 18.3 |
| Don't know | 9 | 3.2 |

| Fayetteville | Count | Percent |
|---------------------|-------|---------|
| Less than \$25,000 | 73 | 19.9 |
| Less than \$50,000 | 28 | 7.6 |
| Less than \$75,000 | 56 | 15.3 |
| Less than \$100,000 | 58 | 15.8 |
| More than \$100,000 | 146 | 39.8 |
| Don't know | 6 | 1.6 |

Appendix

2019 FORESTS & WATERSHEDS SOURCE WATER PROTECTION SURVEY

City of Hot Springs/Fayetteville Water Utilities

Hello, I'm _____ calling from the University of Arkansas. We are doing a survey about WATER QUALITY in the Fayetteville area. We are NOT trying to sell you anything. Your phone number has been chosen randomly to be included in this important university study.

If needed:

The survey is to learn more about what «CITY» area water users THINK about issues such as the services they receive and the quality of their water. We will not ask for your name or other personal information.

CONTACT INFO:

Kenneth E. Wallen
870.460.1052

Voicemail (1st/3rd/9th call): Hello, I'm ___ calling from the University of Arkansas for a research study. Your opinion is extremely important to us. We'll call back later.

C1

Am I speaking to you on a cell phone?

- 1 Yes
- 2 No

SKIPS from Q2

IF q2=1 SKIP TO: 4

IF q2=2 SKIP TO: 6

C2

I need to make sure that you are not operating a motor vehicle and that you are in a safe place and can speak freely. Is this correct?

S1

I have just a few quick questions to see if you are eligible for this study.

Are you 18 years of age or older?

- 1 Yes
- 2 No
- 9 Refused

SKIPS from Q6

IF q6=1 SKIP TO: 8

S2

And, do you receive your water from the «CITY» Water Utility?

- 1 Yes
- 2 No
- 7 Don't know / Refused

SKIPS from Q8

IF q8=1 SKIP TO: 12

IF q8=7 SKIP TO: 10

S3

Does your household pay for its' water or is the cost for water included in your rent or someone else pays the bill?

- 1 Pays for water
- 2 Included in my rent
- 7 Don't Know / Special arrangement / Unclear / Someone else
- 3 No bill - have WELL water

SKIPS from Q12

IF q12=1 SKIP TO: 14

IF q12=2 SKIP TO: 14

IF q12=7 SKIP TO: 14

INFORMED CONSENT - MUST READ

I won't ask for your name, address, or other personal information that can identify you. You don't have to answer any question you don't want to, and you can end the interview at any time and your confidential data will not be included in the study. The interview takes only about 9 minutes. This research is conducted with the oversight of the UA Little Rock Institutional Review Board. If you have any questions or concerns, I can give you information on who to contact.

It is important for the quality of this survey that I read the questions and all the possible answers so that we can make sure we get your best answer.

CONTACT INFO:

Kenneth E. Wallen
870.460.1052

If needed for IRB info:

Crystal Hunnicutt
501-569-8657

And I need to verify . . . Are you male or female?

- Male
- Female
- Refused

Q1

First, in general, how often do you make it a point to drink water? Would you say . . .

- Several times a day
- Once a day
- A few times a week
- A couple of times a month, OR
- Rarely
- Don't know
- Refused
- Other «»

Q2

When you drink water, do you mostly drink tap water, that is, water from a faucet, or do you mostly drink water from other sources?

- Tap water (Includes filtered tap water)
- Other sources
- Both equally (volunteered)
- Don't know
- Refused
- Other (Specify) «»

Q3

How often do you use tap water from your household faucets for activities like cooking and cleaning? Would you say . . .

- Every day
- A few times a week
- Once a week
- A couple of times a month
- Rarely, OR
- Never
- Don't know
- Refused
- Other (Specify) «»

Q4

How often do you use water from your OUTDOOR faucets for activities like watering the grass or plants, or washing your car? Think about the time of the year when you do these activities most often. Would you say . . .

- Every day
- A few times a week
- Once a week
- A couple of times a month
- Rarely, OR
- Never
- Don't know

Refused
Other (Specify) «»

Q5

Now, still thinking about the tap water from your household faucets . . .

How concerned are you with the QUALITY of your tap water? Would you say you are. . .

Very concerned
Moderately concerned
Slightly concerned, OR
Not at all concerned
Don't know
Refused

Next, on a scale of 1 to 5, with . . . [slowly]

1 -- being you have LITTLE TO NO knowledge, and, . . .

5 -- being you have a GREAT DEAL of knowledge . . .

Please rate your level of knowledge of the following.

Q6 - Random

[How about your LEVEL of knowledge of . . .]

Where the water you use at home comes from, that is, the location of the exact rivers or lakes that supply your water?

1 (Little to no knowledge)
2
3
4
5 (Great deal of knowledge)
Don't know
Refused

Q7 - Random

Why trees and forests are important to drinking water quality?

1 (Little to no knowledge)
2
3
4
5 (Great deal of knowledge)
Don't know
Refused

Q8 – Random

What a watershed is

1 (Little to no knowledge)
2
3
4

5 (Great deal of knowledge)
Don't know
Refused

The Water Utilities in the Fayetteville area get their water from Beaver Lake. This area is called the WATER SOURCE.

The Water Utilities in the Hot Springs area generally get their water from Lake Hamilton, Lake Ouachita and Lake Sanderson. These areas are called the WATER SOURCE.

Q9

Now . . . Thinking about «if q28=1 then THESE water source areas»«if q27=1 then THIS water source area», how concerned are you with the management of the forests in your water source area? Would you say you are . . .

Very concerned
Moderately concerned
Slightly concerned, OR
Not at all concerned
Don't know
Refused

Q10

Thinking about the services you receive from your Water Utility, what letter grade would you give them overall? Would you give them an "A", "B", "C", "D", or "F" ?

A
B
C
D
F
Don't know
Refused

Q11

For the next few statements, please tell me if you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, or strongly disagree.

Your Water Utility provides you QUALITY drinking water.

STRONGLY agree
SOMEWHAT agree
Neither agree nor disagree
SOMEWHAT disagree
STRONGLY disagree
Don't Know
Refused

Q12 Random
[How about . . .]

Your Water Utility provides you with the basic information on where your drinking water comes from.

- STRONGLY agree
- SOMEWHAT agree
- Neither agree nor disagree
- SOMEWHAT disagree
- STRONGLY disagree
- Don't Know
- Refused

Q13 Random

Your Water Utility provides you with the basic information on what influences the price of your drinking water.

- STRONGLY agree
- SOMEWHAT agree
- Neither agree nor disagree
- SOMEWHAT disagree
- STRONGLY disagree
- Don't Know
- Refused

Q14 Random

Household water users should have input in the water management decisions made by their water provider.

- STRONGLY agree
- SOMEWHAT agree
- Neither agree nor disagree
- SOMEWHAT disagree
- STRONGLY disagree
- Don't Know
- Refused

Q15 Random

You trust your Water Utility to make the right management decisions about your water.

- STRONGLY agree
- SOMEWHAT agree
- Neither agree nor disagree
- SOMEWHAT disagree
- STRONGLY disagree
- Don't Know
- Refused

Q16 Random

You trust your Water Utility is NOT operating in ways that are harmful to the environment.

STRONGLY agree
SOMEWHAT agree
Neither agree nor disagree
SOMEWHAT disagree
STRONGLY disagree
Don't Know
Refused

Q17 Random

Household water users should take responsibility for the effects of their actions on the environment.

STRONGLY agree
SOMEWHAT agree
Neither agree nor disagree
SOMEWHAT disagree
STRONGLY disagree
Don't Know
Refused

Q18 Random

Household water users should be willing to pay for part of the costs of improving water quality.

STRONGLY agree
SOMEWHAT agree
Neither agree nor disagree
SOMEWHAT disagree
STRONGLY disagree
Don't Know
Refused

Q19 Random

Household water users should be willing to pay for part of the costs of managing forests in their water source area.

STRONGLY agree
SOMEWHAT agree
Neither agree nor disagree
SOMEWHAT disagree
STRONGLY disagree
Don't Know
Refused

Q20

Now, on another topic:

In the past year, how many times would you say you have visited a local LAKE or RIVER?

10 times or more

6-9 times
2-5 times
Only once
None/Never
Don't Know
Refused
Other (Specify) «»

Q21

In the past year, how many times would you say you have visited a local FOREST?

10 times or more
6-9 times
2-5 times
Only once
None/Never
Don't Know
Refused
Other (Specify) «»

Thank you for your time so far. These last few questions are about controlled burning, sometimes called prescribed burning. This type of burning involves allowing a fire to burn under close watch, to: Maintain the health of lands and forests ... reduce the risk of wildfires ... and improve wildlife habitats.

Q22

On a scale of 1 to 5 with 1 being very UN-necessary and 5 being VERY necessary, how would you rate the need for controlled burning?

1 (Very UN-necessary)
2
3
4
5 (Very necessary)
Don't know
Refused

Q23

On a scale of 1 to 5 with 1 being very UN-safe and 5 being VERY safe, how SAFE do you think controlled burnings are?

1 (Very UN-safe)
2
3
4
5 (Very safe)
Don't know
Refused

Q24

And now, please tell me your level of agreement with the next two statements. . .

You trust your Water Utility to make the right decisions about the use of controlled burning.

Do you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, or strongly disagree?

- STRONGLY agree
- SOMEWHAT agree
- Neither agree nor disagree
- SOMEWHAT disagree
- STRONGLY disagree
- Don't Know
- Refused

Q25

You expect your Water Utility to partner with appropriate agencies, like the Arkansas Forestry Commission or US Forest Service, when they conduct controlled burnings.

- STRONGLY agree
- SOMEWHAT agree
- Neither agree nor disagree
- SOMEWHAT disagree
- STRONGLY disagree
- Don't Know
- Refused

Q26

Has there ever been an occasion where you were negatively affected by smoke from a controlled burn?

- Yes
- No
- Don't know
- Refused

Q27

Lastly, I have a few final questions about you.

In general, would you describe your political views as VERY conservative, conservative, moderate, liberal, or VERY liberal?

- Very conservative
- Conservative
- Moderate
- Liberal
- Very liberal
- Don't know

Refused
Other (Specify) «»

Q28

What is your age?

___ years
Don't know
Refused

Q29

How many years have you lived in the «CITY» area?

___ years
Less than one year
Don't know
Refused

Q30

Are you currently . . .

Married
Divorced
Widowed
Separated
Never been married, OR
A member of an unmarried couple
Refused

Q31

Which one or more of the following would you say is your race or ethnicity?

Would you say . . .

White
Black or African American
Asian
Native Hawaiian or other Pacific Islander, OR
American Indian or Alaskan Native
Don't Know
Refused
Hispanic or Latino
Other [Specify] «»

Q32

What is the last grade or class that you completed in school?

None, or grade 1-4
Grades 5-7
Grade 8
High school incomplete (Grade 9-11)
High school grad/Grade 12/GED

Associates/Tech/Trade Degree
College/university incomplete
College/university grad or higher
Don't know
Refused

Q33

Annual household income from all sources . . .

Less than \$10,000?
Less than \$15,000?
Less than \$20,000?
Less than \$25,000?
Less than \$35,000?
Less than \$50,000?
Less than \$75,000?
Less than \$100,000?
More than \$100,00?
Don't Know
Refused

That was my last question. Everyone's answers will be combined to help us better understand attitudes towards drinking water.

Thank you very much for your time and cooperation.