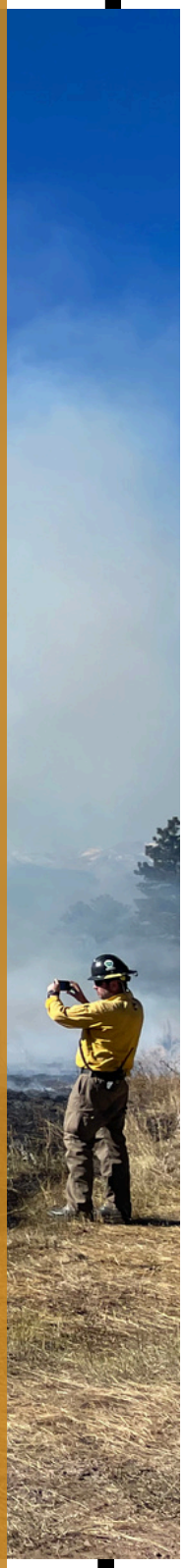
RISK-RISK TRADEOFFS AND PRESCRIBED BURNING DECISIONS IN COLORADO

TECHNICAL BRIEF: SURVEY METHODS

AUGUST 2025



This project is supported by a grant from the National Science Foundation's Decision, Risk, and Management Sciences and Humans, Disasters, and the Built Environment programs.

Project Background

Wildfires and their environmental and social impacts are growing in the US and around the world. Prescribed (Rx) burning can be an effective management technique to reduce the risk of catastrophic wildfires, but the annual extent of Rx burning has stayed the same or decreased across much of the country in recent years. This is partially due to risks of Rx burning, including smoke exposure and the possibility of a planned fire escaping control. Making Rx burning decisions requires informed tradeoffs between Rx risks and benefits, and between Rx burning risks and the risks of uncontrolled wildfires. To inform these decisions, the **Risk-Risk Tradeoffs and Prescribed Burning Decisions in Colorado** project is collecting information about the impacts of Rx burning on areas near burn sites and assessing public attitudes about Rx burning across the state of Colorado.

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Colorado Statewide Survey Methods

Residents across the state of Colorado, including those in the wildland-urban interface (WUI) and in non-WUI areas, have a stake in Rx burning decisions. Wildfire smoke can travel hundreds to thousands of miles, and decisions we make collectively about how to manage wildlands can affect people near these areas and farther away in multiple ways. Understanding how Rx burning attitudes vary with risk exposure and other respondent characteristics across space can help to characterize risk-risk tradeoffs more robustly, advancing Rx fire science and informing communication and implementation strategies.

Our study team contracted with survey research firm Qualtrics to distribute our survey to their proprietary panels of online survey respondents. Qualtrics respondents come from different backgrounds and locations, and are invited to participate in surveys based on identified characteristics, such as interests, experiences, and more. In this study, identified characteristics included Colorado residency (including in specific regions), age, homeownership status, and sex.

The survey was conducted between December 31, 2024 and March 3, 2025. In total, we collected responses from 1,266 individuals.

Sampling Quotas

We sought to capture Rx burning attitudes among residents across Colorado. We used geographic and demographic sampling quotas to capture a broad range of respondent characteristics and opinions.

For our geographic quotas, we divided Colorado counties into five regions following the Colorado Counties, Inc. regional definition, and generated sampling quotas to roughly correspond to the population distribution across these regions, as seen in Figure 1.

We also included sampling quotas for age groups (≥10% of sample over 65) and homeownership (renters ≥20%). We had an initial quota of 50% male respondents, but to allow more flexibility in meeting other quotas, this was relaxed at the end of the sampling period. Final sample proportions across these demographic groups are shown in Figures 2, 3, and 4.

Sample Characteristics

Figure 1: Map of Colorado regions with sampling quotas and survey responses. 2023 population data (Colorado State Demography Office).

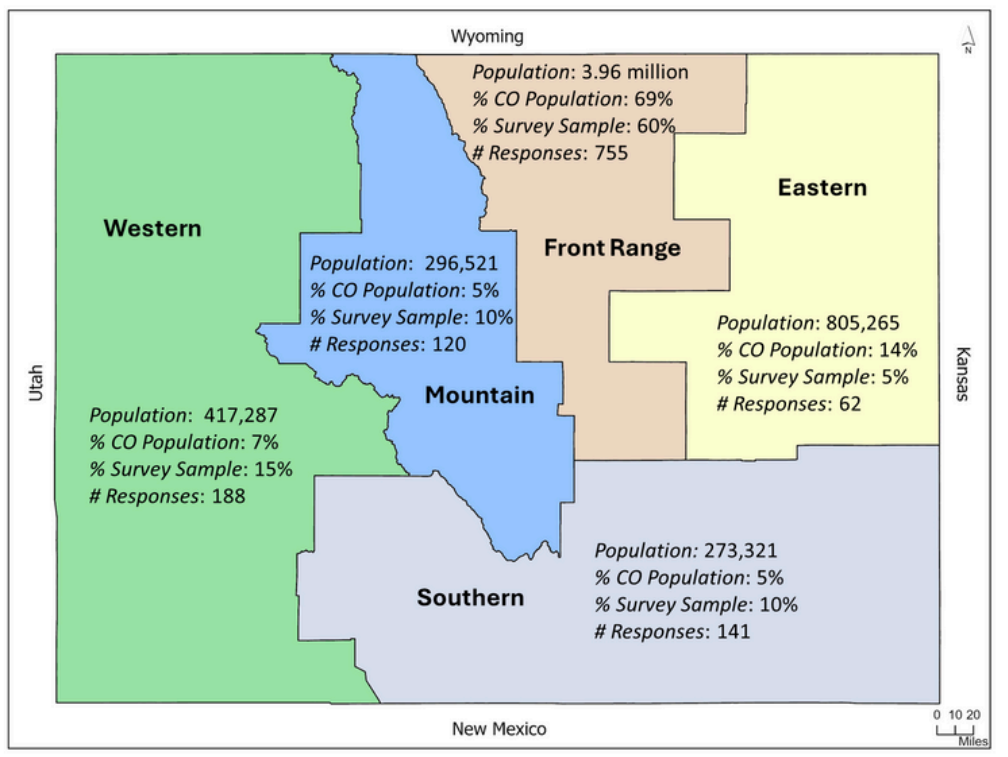


Figure 2: Sample population, housing status

Renters: 21%

Homeowners: 74%

Other: 3%

Figure 3: Sample population, sex

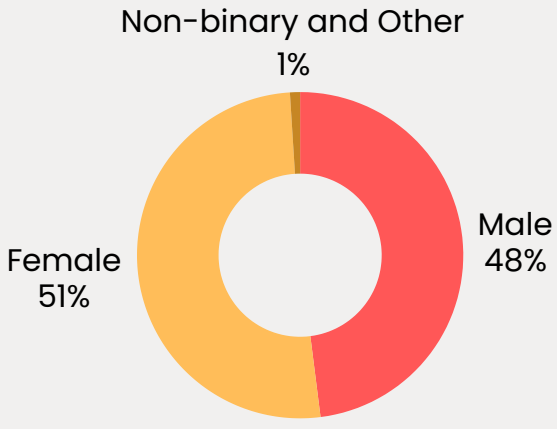
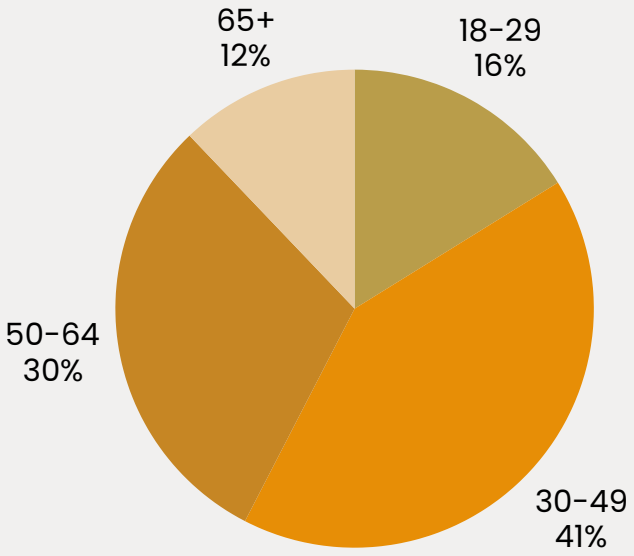


Figure 4: Sample population, age



Survey Content

The main purpose of our survey was to assess levels of support or opposition to expanded use of Rx burning in Colorado, and to examine perceived risks and benefits of Rx burning and potential reasons for variation in support for this practice. Our survey thus included the following sections:

- Prescribed Burn Acceptability and Policy Opinions
- Perceptions of Rx Burning Risks & Benefits
- Past Wildfire and Rx Burn Experiences & Risk Reduction Actions and Behaviors
- Personal Characteristics – Demographics
- Personal Characteristics – Health
- Climate Perceptions
- Individual Attitudes, Beliefs, and Worldviews

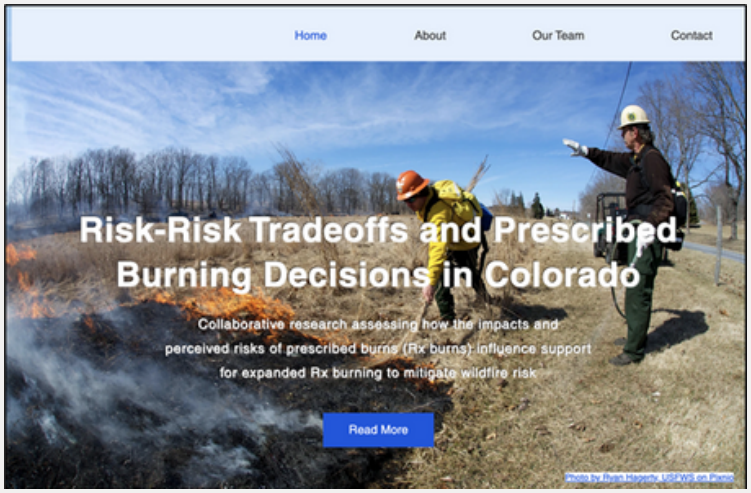
Our full survey instrument is available on our project website.

Ethical Approval

The survey protocol was reviewed and approved by the Colorado Multiple Institutional Review Board (COMIRB, #22-1171). The beginning of the survey contained an informed consent statement that explained the purpose of the research project and potential benefits and risks (minimal) of participating in the study.

More Information

For more information about our study findings, updates will be made available via our study website.



https://www.rxburn-risktradeoffs.com