# The Preparedness Paradox: Disaster Exposure and Collective Risk Reduction

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**Abstract**

Building public support for proactive disaster prevention remains challenging, particularly in wildfire management, where suppression continues to receive disproportionate funding despite strong evidence that prevention reduces long-term costs and improves suppression effectiveness. This study examines how wildfire exposure and prior prevention interventions shape public perceptions of preventive efficacy, testing whether successful prevention is discounted when the damages it averts remain unobservable. Using a nationally representative quasi-experimental survey, we find that exposure to either a salient wildfire event or a federally managed wildfire prevention treatment independently increases perceived prevention effectiveness relative to a non-exposed baseline. In contrast, when respondents experience prevention followed by a salient wildfire event, perceived effectiveness declines significantly below the non-exposed baseline. These findings provide direct evidence of attribution-driven policy feedback in wildfire governance and identify a mechanism through which effective prevention may paradoxically undermine public support for sustained investment in risk reduction.

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## 1 Introduction

Climate change is intensifying the frequency and severity of wildland fires (Abatzoglou et al., 2025; Wasserman and Mueller, 2023), prompting growing calls for wildfire management strategies that emphasize prevention alongside suppression (Kreider et al., 2024; North et al., 2015). Yet U.S. wildfire policy remains heavily oriented toward reactive response. While supply-side constraints such as limited funding and workforce capacity (Yung et al., 2022), regulatory barriers (Wibbenmeyer and Dunlap, 2021), and weak institutional incentives (Calkin et al., 2015; Calkin et al., 2011; Franz and Edgeley, 2025) are well documented, public perceptions and political feedbacks play a central role in sustaining this imbalance (Brenkert-Smith et al., 2020; Clark et al., 2022). Even recent efforts to expand prevention[1] depend on sustained public and political support.

Underinvestment in prevention is a pervasive feature of public policy. Across domains such as public health (Beaglehole et al., 2007), invasive species management (Leung et al., 2002), and cybersecurity (Garcia and Horowitz, 2007), policymakers consistently prioritize reactive interventions with visible and immediate benefits over preventative actions whose benefits are probabilistic, delayed, or difficult to observe (Mulligan et al., 2019). This pattern is especially pronounced in natural disaster governance, where large public expenditures are mobilized for post-disaster response and recovery (CBO, 2022a, 2022b).

Wildfire management exemplifies this dynamic. In FY2024, the U.S. Forest Service and Department of the Interior allocated \$649.1 million to hazardous fuels management, compared to \$3.661 billion for wildfire suppression (Riddle, 2024). This allocation persists despite strong evidence that prevention reduces long-term suppression costs and improves suppression effectiveness (Loomis et al., 2019; Thompson and Anderson, 2015), while reliance on suppression alone increases wildfire severity and damages (Kreider et al., 2024; Stephens, 2014).

Herein we examine whether this imbalance reflects a broader public policy challenge known as the preparedness paradox, whereby successful preventative actions reduce observable harm and are consequently perceived as unnecessary or ineffective (Committee on Armed Services, 1949; Kruger et al., 2019; Ruggiero and Vos, 2015). When prevention succeeds, the counterfactual disaster that would have occurred in its absence remains unobserved, limiting the public's ability to correctly attribute outcomes to policy interventions and systematically biasing belief updating toward reactive policies.

This attribution problem is particularly acute in wildfire management. Unlike suppression, prevention is not intended to eliminate fire, but rather to reduce its severity, spread,

[1] For example, the Fix Our Forests Act seeks to strengthen forest health and expedite risk-reduction efforts (U.S. Congress, 2025).

or associated damages (Hessburg et al., 2021). Preventative actions—including hazardous fuels reduction, infrastructure upgrades, and revised building codes—can substantially mitigate wildfire impacts (Baylis and Boomhower, 2021), yet their success suppresses the very outcomes that would otherwise signal effectiveness. When wildfire nonetheless occurs, individuals may believe that prevention failed, even when it meaningfully reduced damages. Because wildfire governance operates through policy feedback cycles in which observed outcomes shape public beliefs and subsequent policy demand (Calkin et al., 2015; Hamilton et al., 2022), such attribution failures can reinforce chronic underinvestment in prevention.

These feedback dynamics operate through public attitudes toward wildfire mitigation. Public support depends on factors such as trust in managing agencies, tolerance for prescribed-fire smoke, knowledge of forest management practices, proximity to risk, and prior wildfire experience (Yung et al., 2022). Among these factors, perceived effectiveness plays a central role: individuals who believe that mitigation actions reduce wildfire risk are more likely to support them (Ascher et al., 2013; Olsen et al., 2017; Toman et al., 2014). Yet little is known about how different combinations of wildfire exposure and prevention experience shape perceptions of effectiveness.[2]

This study examines how exposure to wildfire—both in areas with prior prevention treatments and in areas without them—affects beliefs about the effectiveness of wildfire prevention. We compare perceived effectiveness across four groups: individuals who experienced neither wildfire nor prevention treatment, those who experienced wildfire without prevention, those who experienced prevention without subsequent wildfire, and those who experienced prevention followed by wildfire. We hypothesize that perceived effectiveness is lowest among individuals who experienced prevention followed by wildfire, where attribution is most difficult because salient damages obscure the unobserved counterfactual benefits of prevention. We further examine whether these effects persist by measuring perceptions of both past and expected future prevention effectiveness, as well as preferences over prevention allocations within the federal wildfire management budget.

A secondary contribution engages with recent work documenting the misallocation of wildfire prevention toward areas that have recently burned (Anderson et al., 2023a, 2023b). Prior studies suggest that such patterns may reflect political pressure from higher socioeconomic status communities, but lack direct evidence on public beliefs or demand. By explicitly measuring how wildfire exposure shapes perceptions of prevention effectiveness and budgetary preferences, this study provides empirical evidence on the demand-side mechanism theorized to drive post-fire excess allocations. Given that federal prevention funding routinely falls short of estimated needs (Edwards and Sutherland, 2022; Sutherland et al., 2025),

[2]Existing work largely examines willingness to pay or program participation following wildfire exposure (e.g., Holmes et al., 2012), rather than perceived effectiveness.

understanding how belief formation and attribution shape political demand is essential for improving the efficiency and equity of wildfire policy.

The remainder of the paper is organized as follows. Section 2 describes the data, identification strategy, experimental design, and empirical approach. Section 3 presents descriptive statistics. Section 4 presents evidence on how wildfire exposure and federally managed prevention treatments affect perceptions of prevention effectiveness. Section 5 concludes.

## 2 Methods

We designed a quasi-experimental survey to investigate how exposure to salient wildfire events impacts public perceptions of prevention effectiveness. Stated preference methods are well-suited for this study because they enable measurement of perceptions regarding counterfactual scenarios: specifically, how respondents assess the effectiveness of prevention treatments relative to outcomes that would have occurred in their absence (Brown, 2003). This approach is appropriate when the values or perceptions of interest cannot be directly observed through revealed preference methods, particularly when evaluating ex-ante assessments of policy interventions (Louviere et al., 2000; Mitchell and Carson, 1989).

The sampling protocols and survey instrument were reviewed and determined exempt by the University of Wyoming Institutional Review Board (#2024-181). Participants (N=8,321) were recruited by Qualtrics with quotas to achieve a representative sample. Using zip codes, we identified respondents based on their proximity to 2024 wildfire season exposures and completed and planned federal prevention projects. Participation was restricted to adults (18+) in the United States. We examine heterogeneity across respondents with elevated wildfire risk by merging individual-level survey data with secondary datasets from the U.S. Forest Service on wildfire hazard potential (WHP) (USFS, 2024) and the wildland-urban interface (WUI) (USFS, 2023). We control for differences in exposure to previously completed hazardous fuels removal (both thinning and prescribed fire) and historic timber harvest activity using data from the USDA FSGeodata Clearinghouse (USFS, 2025b). The following sections detail sample identification, survey design, and our empirical approach.

### *2.1 Sample identification*

We designed eight treatments uniquely identified by three characteristics: (1) wildfire exposure during the 2024 season, (2) exposure to past prevention activity, and (3) exposure to future prevention activity (Table A1). Because wildfire prevention encompasses many activities with different outcomes and costs (Davis et al., 2024; Holland et al., 2022), we focused on individuals who had experienced, or were slated to experience, federally-managed forest thinning treatments.[3] Respondents were assigned to a *past prevention* treatment if a USFS thinning operation had been completed in their area during 2023/2024 and to a *future prevention* treatment if a thinning operation was scheduled to begin during 2025/2026. Using zip codes, we identified potential respondents based on their proximity to a Type 1 complex wildfire event during the 2024 wildfire season, a thinning operation completed in 2023/2024, and a thinning operation planned to begin in 2025/2026. Proximity thresholds were chosen to balance populations within each of the eight mutually exclusive samples.

All eligible zip codes had experienced at least one USFS thinning project prior to 2023, ensuring that respondents lived in areas where fuel reduction efforts had occurred and maintaining contextual relevance for questions about wildfire risk, management, and treatment effectiveness. No zip code was assigned to more than one sample. Fire exposure was defined as a zip code centroid within 241,402 meters (150 miles) of a Type 1 fire. Distance thresholds for thinning operations varied by sample to achieve balance:

- Samples 1-4: 2025-2026 planned thinning, 310 km (192 miles)
- Samples 5-8: 2025-2026 planned thinning, 200 km (124 miles)
- Samples 1-2: 2023-2024 completed thinning, 154 km (95 miles)
- Samples 3-4: 2023-2024 completed thinning, 338.2 km (210 miles)
- Samples 5-6: 2023-2024 completed thinning, 89 km (55 miles)
- Samples 7-8: 2023-2024 completed thinning, 315 km (195 miles)

### *2.2 Survey Design*

The survey consisted of five sections and took an average of seven minutes to complete. Following an introduction that obtained informed consent and collected demographics for quota purposes, the survey began with a *warm-up section* providing information about wildfires and eliciting respondent attitudes toward public lands, knowledge of wildfire and wildfire management, and concern about wildfire threats. A *background section* provided baseline information about wildfire management and hazardous fuels thinning.

The *prevention section* informed respondents whether a severe wildfire had occurred within 150 miles of their zip code during the 2024 season and whether the U.S. Forest Service had completed hazardous fuels thinning in their area in 2023-2024. Respondents then answered two questions about thinning effectiveness: how effective thinning was at reducing the chance of severe wildfire, and how effective it was at reducing the size and severity of severe wildfire.[4]

[3] Mechanical thinning is a process using tools (from hand implements to heavy equipment such as bulldozers and wood-chippers) to reduce ground fuels and forest stand density, altering wildfire behavior to make it less destructive.

[4] Question wording varied by exposure. Respondents who experienced thinning/fire were asked how effective recently completed thinning was at reducing the (likelihood/size and severity) of fire in their area. Those who did not experience thinning/fire were asked how effective they thought thinning would have been at reducing the (likelihood/size and severity) of potential wildfire in their area.

Next, respondents were informed whether the U.S. Forest Service was planning to conduct future thinning in their area during 2025-2026 and asked how effective they believed future thinning would be at reducing future fire outcomes. This section yielded individual beliefs about the effectiveness of past and future thinning conditional on exposure to wildfire and thinning.

The *budget section* addressed management responses to rising wildfire activity. We asked two questions about federal budget allocation between prevention and suppression over the past decade.[5] Respondents received brief information about the tradeoff between investing in prevention versus suppression. The first question asked: "What is your best guess of the actual budget allocation between prevention and suppression activities over the previous 10 years?" The second asked: "What would have been your preferred budget allocation between prevention and suppression activities over the previous 10 years?" This section yielded individual beliefs and preferences about budget allocation that can be compared against actual allocations.[6],[7]

The survey concluded with a *demographic section* collecting socioeconomic information about income, political affiliation, education, and housing. The full survey is provided in Appendix B.

### *2.3 Empirical approach*

Our primary objective is to identify how exposure to severe wildfire following preventative thinning affects public perceptions of prevention effectiveness. We measure perceived effectiveness on two dimensions: how well respondents believe federally-operated thinning projects reduced (1) the probability of wildfire within their area, and (2) the size and severity of wildfire within their area. Perceived effectiveness is measured on a four-point ordinal scale (1 = "not effective at all", 4 = "very effective"). We perform conditional and unconditional tests to identify treatment effects.

Our primary hypothesis is that individuals who experience severe wildfire following preventative thinning will perceive thinning as less effective than those who did not experience pre-fire preventative thinning. Although the dependent variable is ordinal, we begin with ordinary least squares (OLS) regression:

$$y_i = \alpha + \beta D_i + \varepsilon_i,$$

[5] Anticipating that most respondents would be unaware of dollar amounts, we asked about budget splits as percentages bounded between 100% suppression and 100% prevention.

[6] Respondents were not informed of actual budget changes to avoid influencing stated beliefs and preferences.

[7] We also collected data on willingness to participate in voluntary risk-reduction programs. These results are available upon request but are not reported here due to space constraints and peripheral relevance to our main research question.

where $y_i$ represents perceived effectiveness for individual $i$, and $D_i$ is a binary indicator for exposure status (1 = exposed, 0 = not exposed). The coefficient $\beta$ captures the average difference in perceived effectiveness between exposed and unexposed groups. While OLS treats the ordinal response as continuous, this approach is commonly used as an initial step due to its simplicity and interpretability (Angrist and Pischke, 2009; Long, 1997). Moreover, the OLS estimate of $\beta$ is mathematically equivalent to the difference in group means tested by a two-sample $t$-test (Cameron and Trivedi, 2005).

We then employ ordered logit models, which better capture the categorical nature of the response. Ordered logistic regression is standard within stated preference research for analyzing ordinal outcomes such as rankings or ratings (Agresti, 2010; Hensher, 1990). These models assume that discrete categories reflect an underlying continuous latent variable, $y^*$, capturing the unobserved propensity to rate thinning as more or less effective.

The ordered logit model relies on the proportional odds assumption that the effect of each predictor on the log-odds of being at or below a particular outcome category is constant across all thresholds. Formally, the coefficient vector $\beta$ does not vary with category index $j$. This assumption is violated if, for example, wildfire exposure increases the probability of responding "moderately effective" versus lower categories but does not similarly increase the probability of responding "very effective."

We test the proportional odds assumption using two methods. First, we conduct a likelihood ratio (LR) test comparing the restricted ordered logit model against an unrestricted model allowing coefficients to differ across thresholds (Güneri et al., 2022). Second, we employ the Brant test (Brant, 1990), which fits separate binary logistic regressions for each cumulative dichotomization and uses Wald tests to assess coefficient equality across models.

When the proportional odds assumption is rejected, we estimate a generalized ordered logit specification, which relaxes coefficient equality and allows covariate effects to vary by outcome threshold. This accommodates varying relationships between predictors and different levels of the ordinal response. The generalized ordered logit nests the standard ordered logit as a special case: if proportional odds holds, the generalized model collapses back to the ordered logit specification by constraining threshold-specific coefficients $\beta_j$ to be equal (Williams, 2006).

Treatment effects are assessed by examining estimated coefficients on wildfire and thinning exposure alongside other key covariates, and by evaluating predicted response probabilities across covariate profiles. In the ordered logit model, coefficients represent the change in log-odds of being in a higher response category for a one-unit increase in the predictor, assuming proportional odds holds. Positive coefficients indicate greater likelihood of selecting higher categories. Predicted probabilities are computed using estimated thresholds and linear predictors, either at observed values or counterfactual values of interest (e.g., wildfire exposure = 0 vs. 1). In the generalized ordered logit, coefficients vary across thresholds, and predicted probabilities use threshold-specific linear predictors (Williams, 2016).

While conditional analysis allows us to control for potentially confounding variables, it is not fully causal because treatments are not randomly assigned by design. This presents a key limitation. Another threat to identification concerns how people measure perceived effectiveness. For instance, one respondent's "slightly effective" might equal another's "very effective" due to different standards. Because we cannot normalize the effectiveness scale across all respondents, we rely on the assumption that small differences in subjective measures will average out across the entire sample, preserving result reliability.

The second part of our analysis concerns our secondary outcome: respondents' preferred and believed budget allocation between prevention and suppression. This variable is a continuous proportion bounded between 0 and 1, with observed values at both endpoints. We model this outcome using a fractional response model with a logit link function, as proposed by Papke and Wooldridge (1996). Specifications of the ordered logit, generalized ordered logit, and fractional response models are provided in Appendix A.2.

## 3 Descriptive Statistics

Descriptive statistics for the survey data (pooled sample and individual samples) are presented in Appendix A (Table A2 and Table A3). Table A4 compares demographic and locational characteristics of individuals who were exposed to wildfire during the 2024 season with those who were not. On average, wildfire-exposed respondents lived in areas with higher wildfire hazard potential (mean log WHP = 4.43 vs. 3.47), were more likely to be male (52% vs. 43%), and have a bachelor's degree (34% vs. 29%). Exposed individuals also had slightly higher average incomes and lived in areas with greater intensity of timber harvest. Individuals that were not exposed to a severe wildfire in 2024 had a greater history of completed prescribed fires within their region. Age distributions and political orientation were similar across groups, as were rates of exposure to pre-2023 thinning activity.

Table A5 presents analogous comparisons for individuals living in areas that experienced pre-fire thinning treatments during 2023/2024. As with wildfire exposure, respondents in thinning-exposed areas had slightly higher average incomes and were more likely to be male and college-educated. They also lived in areas with more timber harvest activity (mean = 36.35 vs. 26.16) and higher wildfire hazard potential (mean log WHP = 4.43 vs. 3.47), though prescribed fire exposure was lower in this group. Differences across groups were generally modest, but the consistent pattern of higher WHP in exposed areas reinforces that both wildfire activity and fuels management efforts were concentrated in higher-risk landscapes.

Descriptive statistics of wildfire and pre-fire thinning proximity measures are presented in Table A6. Overall, 1,942 respondents experienced a preventative thinning treatment completed in 2023/2024, followed by at least one severe wildfire in 2024. About 20% of respondents experienced a wildfire that intersected a 2023/2024 thinning. The mean and median distances, in miles, from a wildfire to a completed thinning were approximately 25 miles. Thinning-wildfire proximity was measured as the distance from wildfire centroid to thinning centroid, so these measures may overstate the distance between thinning and wildfire in cases of large thinning projects or large wildfires.[8] Wildfire exposure and average distance from thinning to wildfire are visualized in Figure (A1).

Outcome variables are described in Table A7. Results of the OLS and generalized logit regression models used to analyze treatment effects in perceived effectiveness of thinning are discussed in sections 4.1 and 4.2. Heterogeneity analyses of perceived effectiveness are discussed in sections 4.3 and 4.4. Results of the fractional response model used to analyze perceptions of prevention in the federal wildfire budget are discussed in section 4.5. Conclusions are presented in section 5.

## 4 Model Results

### *4.1 OLS results*

We begin by estimating a linear probability model (OLS) where perceived effectiveness is equal to 1 if a respondent said that they believed thinning was either moderately or very effective at reducing wildfire outcomes. In addition to the wildfire and thinning exposure indicators, we include age, income, education, political affiliation, wildfire concern, and self-reported wildfire management knowledge. These controls are informed by previous literature demonstrating their associations with mitigation perceptions and support (Diaz and Steelman, 2015; McCaffrey and Olsen, 2012). Abridged results focusing on the exposure interaction are presented in Table 1 and Table 2, and full model results are presented in Table A8.

Across all models, both past thinning exposure and wildfire exposure are individually associated with higher perceived effectiveness of thinning. These findings align with established research showing that wildfire exposure increases risk saliency and support for mitigation policies (Hui et al., 2022; Rogers et al., 2025), while experience with mitigation measures enhances acceptance and future adoption intentions (Byerly et al., 2020; Webster et al., 2025). The result also complements findings from previous research suggesting that the misallocation of prevention to recently-burned areas may be motivated by public demand in

[8]To control for wildfire severity across our sample, we include only Type 1 large wildfires, which are defined as reaching 100 acres or more in size and are characterized as the most complex wildfires with the highest management needs (NICC, 2024). Forest thinning projects vary in size from less than 10 acres to over 100 acres (Hartsough et al., 2020).

response to salient fire events (Anderson et al., 2023a, 2023b; Wibbenmeyer et al., 2019). However, when the two exposures are combined, the interaction term is strongly negative ($\beta = [-0.281, -0.176]$; $p = 0.000$), indicating a substantial attenuation of the independent effects.

The effect of the combined exposure supports our main hypothesis that individuals who experience thinning prior to a salient wildfire are less likely to view thinning as effective at reducing wildfire outcomes. This pattern suggests that thinning followed by wildfire may undermine public trust in the effectiveness of fuels treatments, consistent with evidence that perceived treatment success plays a critical role in public acceptance; when wildfires occur after management, the public may interpret them as treatment failure, even if the fire was ecologically appropriate (McCaffrey et al., 2013). Moreover, this skepticism appears to extend beyond retrospective evaluations: individuals with both exposures are also significantly less likely to believe that future thinning will reduce wildfire occurrence and severity ($\beta = [-0.182, -0.176]$; $p = 0.000$). In this way, the perceived failure of past prevention efforts appears to erode confidence in future prevention policy more broadly.

Demographic predictors show mixed associations.[9] Consistent with previous findings, wildfire concern and self-reported knowledge about wildfire management are both strongly and consistently associated with higher perceived effectiveness (Ryan and Wamsley, 2006; Toman et al., 2014). Respondents who are more concerned or better informed express greater confidence in the benefits of thinning across all models.

### *4.2 GLOM results*

We turn to the generalized logit model (GLOM) to estimate predicted responses for all combinations of exposure. The coefficients estimated by the GLOM represent the log-odds change of being at or below a certain response level threshold versus being above it, associated with a one-unit increase in the predictor variable. Different than the ordered logit, the GLOM allows coefficients to change across response levels, when the proportional-odds assumption is violated.[10] To address potential selection bias in pre-fire thinning exposure, we conducted

[9]Older individuals, particularly those aged 65 and older, generally report higher perceived effectiveness, especially regarding thinning's impact on wildfire size and severity. Conservatives tend to view thinning as more effective than other political affiliations, across all outcome types. Men are more likely than other genders to perceive thinning as effective at reducing past wildfire likelihood and severity, although this difference does not hold for future wildfire expectations. Income is positively associated with perceived effectiveness, though significance varies by income quartile and outcome type. These results are consistent with previous findings that older adults, males, and people with higher incomes are more supportive of preventative wildfire management, especially following wildfire and smoke exposure (Rogers et al., 2025).

[10]We estimate a generalized ordered logit model using the user-written *gologit2* command in Stata. With the "autofit" option, *gologit2* automatically tests the proportional odds assumption for each predictor and allows variables that meet the assumption to remain constrained across outcome levels, as in the standard ordered logit model. Only variables that violate the assumption are allowed to vary across response thresholds, thus relaxing the parallel-lines constraint selectively (Williams, 2006).

propensity score matching (PSM) to balance control (no pre-fire thinning) and treatment (exposed to pre-fire thinning) groups on a number of covariates shown to contribute to thinning treatment assignment. Results of the PSM analysis are presented in section A.4.

For past thinning effectiveness at reducing the probability of wildfire (Table A11), wildfire exposure increases the log-odds of higher effectiveness ratings by 0.419 (p<0.001), while pre-fire thinning exposure increases them by 0.667 (p<0.001). As we observed in the LPM results, the interaction term is strongly negative (-1.369, p<0.001), indicating that the combined effect of both exposures is substantially less than additive. These results are again consistent with our hypothesis that wildfire prevention is characterized by a preparedness paradox, wherein individuals who experience prevention prior to an experienced wildfire are less positive about the effectiveness of prevention. This pattern persists across all outcome measures. For past thinning effectiveness at reducing fire size and severity (Table A12), the interaction coefficient is -1.223 (p<0.001). Future thinning evaluations show similar but somewhat diluted effects: -0.943 (p<0.001) for probability reduction and -0.928 (p<0.001) for size/severity reduction (Tables A13 and A14).

Age exhibits heterogeneous effects across thresholds, with older cohorts (45-64 and 65+) showing stronger positive coefficients at higher effectiveness thresholds. Income demonstrates monotonic positive effects, with coefficients ranging from 0.164-0.357 across quartiles above $25k. Political conservatism strongly predicts higher effectiveness ratings ($\beta$ = 0.255-0.288, p<0.001), while education effects are mixed and often insignificant. Wildfire concern and self-reported management knowledge emerge as strong predictors of support, with coefficients exceeding 1.0 for highest categories, indicating substantial increases in perceived effectiveness probabilities.

The predicted effectiveness margins in Table 3 reveal systematic differences in perceived thinning effectiveness across exposure groups, with the relative rankings providing key insights into how different experiences shape people's perceptions about prevention effectiveness.[11] Most notably, individuals with both wildfire and pre-fire thinning exposures consistently exhibit the lowest predicted effectiveness ratings across all four outcome measures, while those with single exposures show elevated ratings relative to the no-exposure[12] baseline.

The pattern of relative differences, rather than absolute magnitudes, provides the primary evidence for our hypothesis. For past thinning evaluations, the ordering from highest to lowest effectiveness ratings follows: thinning-only (3.143 and 3.158), wildfire-only (3.038 and 3.074), baseline with neither exposure (2.852 and 2.918), and finally both exposures

[11]Pairwise differences within outcome groups are significantly different for both past thinning outcomes, and largely significantly different for both future thinning outcomes (Table A15).
[12]Did not experience a wildfire in 2024 or a 2023/2024 thinning treatment

(2.722 and 2.749).[13] This hierarchy is consistent with previous studies establishing positive relationships between wildfire exposure, policy familiarity, and policy support. However, the interaction reveals that combined exposure moderates these positive effects, as negative experiences with wildfire following prevention treatments reduce confidence in the efficacy of preventative methods, such that individuals are unable or unwilling to recognize the counterfactual benefits that prevention may have provided.

The relative pattern persists for future thinning evaluations, though with somewhat reduced differences between groups. Importantly, individuals who experienced both wildfire and pre-fire thinning consistently produced the lowest effectiveness ratings, lending support to our theory that reduced confidence in response to wildfire and prevention exposures may reduce support for future prevention efforts. These patterns align with research on disaster experience and risk perception, where direct exposure to hazards can either increase preparedness behavior through heightened risk awareness or decrease confidence in protective measures when they are perceived to have failed (Slovic, 1987). The consistency of these relative differences across all measures, with both-exposures groups invariably ranking lowest, provides robust evidence for preparedness paradox effects and has important implications for sustaining public support for fuels management programs in fire-prone communities.

### *4.3 Profiling differences in perceived effectiveness*

Previous research has identified several factors that contribute to the public's acceptance and perception of fuels management, including wildfire and fuels treatment experience (Toman et al., 2014), trust in managing agencies (Gordon et al., 2014), aesthetic or community impacts (Winter et al., 2002), and locational and demographic characteristics (Bowker et al., 2008; Mylek and Schirmer, 2016). Many of these studies focus on the characteristics of fuels management projects that may make their implementation acceptable to the public, with perceived effectiveness often playing a central role (Shindler et al., 2009). However, the individual and contextual factors that influence perceived effectiveness itself remain less well understood.

To examine demographic variation in how wildfire exposure affects perceptions of thinning effectiveness, we estimated ordered logistic regression models with three-way interactions between wildfire exposure, pre-fire thinning, and key demographic variables (age, income, gender, political orientation, wildfire concern, and wildfire information levels).[14] While a significant negative interaction between wildfire exposure and pre-fire thinning was consistently observed across all demographic groups for all wildfire outcomes, this interaction effect varied

[13] Values in parentheses refer to group's predicted effectiveness among the four-point scale: 1 = not effective at all, 2 = slightly effective, 3 = moderately effective, 4 = very effective.

[14] Models controlled for education, wildfire hazard potential, and other demographic characteristics. Results and significance tests are presented in Appendix (A.6).

significantly in magnitude across demographic subgroups. The strongest negative interactions were found among older adults and higher-income respondents, suggesting these groups were most likely to view thinning as less effective after experiencing subsequent wildfire.

Predicted effectiveness ratings revealed substantial demographic variation in how successive wildfire exposure influenced treatment perceptions. Among high-risk groups, e.g., older, affluent respondents with low wildfire concern, experiencing wildfire after preventative thinning reduced perceived effectiveness by 0.24 to 0.67 points (across all outcomes) compared to experiencing thinning alone. Conversely, younger, lower-income respondents with moderate wildfire concern showed minimal sensitivity to successive wildfire exposure, with some subgroups actually rating treatments as more effective following combined exposure. Wildfire concern and information levels significantly moderated these effects, with moderately concerned and informed respondents showing reduced sensitivity to the negative effects of successive wildfire exposure. These demographic differences remained relatively stable across all wildfire outcomes (past and future, reduction in probability vs. size/severity), though future effects were slightly diminished. Figure (A4) visualizes the demographic differences in perceived effectiveness of 2023/2024 thinning at reducing the probability of wildfire. Additional analyses examining treatment characteristics such as fire overlap with thinned areas, prescribed fire exposure, and timber harvest intensity yielded largely null or inconsistent results.[15]

### *4.4 Perceived effectiveness in high SES communities*

Prior research has documented the misallocation of hazardous fuels thinning treatments to recently-burned areas, with a disproportionate concentration in high-SES communities (Anderson et al., 2023a, 2023b). To explore whether post-fire political demand is a mechanism underlying this pattern, we examine whether wildfire exposure differentially affects perceived thinning effectiveness across income groups. Evidence that high-income households exposed to wildfire perceive thinning as substantially more effective than other income groups would be consistent with post-fire lobbying contributing to the disproportionate allocation of prevention resources to high-SES areas. To test this, we examine the interaction between wildfire exposure and income quartile in the LPM. Interaction effects are presented in Tables 4 and 5.

[15]We examined three characteristics of fuel treatments that may affect perceived effectiveness. First, among respondents who experienced both pre-fire thinning and wildfire, perceived effectiveness was slightly lower when fire occurred directly on previously thinned areas, though differences were not significant (A24). Second, prescribed fire exposure showed increasingly negative effects on perceived thinning effectiveness as respondents' fire management experience increased (A25), potentially reflecting a history of inadequate community engagement (Loomis et al., 2001; McCaffrey, 2006). Third, contrary to expectations given misinformation linking fuels reduction to commercial logging (Jones et al., 2022), areas with greater timber harvest intensity perceived thinning as more effective (A26), suggesting residents in these regions may better distinguish between treatment types or possess greater fuels management knowledge (Toman et al., 2014).

We find no evidence that wildfire exposure differentially increases perceived effectiveness across income groups. While perceived effectiveness increases with income on average (Tables A8 and A27), the interactions between wildfire exposure and income quartile are statistically insignificant across all outcomes. Thus, higher-income respondents are systematically more likely to view thinning as effective wildfire mitigation, consistent with previous research documenting positive relationships between income and support for mitigation projects (Mylek & Schirmer, 2016; Sánchez et al., 2022), but they do not exhibit greater responsiveness to wildfire exposure in updating these perceptions.

To examine whether high-income respondents exhibit greater resilience to perceived prevention failures, potentially due to stronger baseline support for or familiarity with thinning, we compare predicted perceived effectiveness across exposure and income groups. Predicted responses are presented in Tables 6-9. We find minimal differences in perceived thinning effectiveness across income groups following wildfire exposure, regardless of whether respondents had prior exposure to thinning.[16] Effectiveness rankings follow the same pattern regardless of income: pre-fire thinning only (highest perceived effectiveness), wildfire exposure only, no exposure, and combined exposures (lowest perceived effectiveness).

The null interaction between wildfire and income indicates that high-SES groups update their beliefs about prevention effectiveness no differently than other income groups following wildfire. Moreover, the consistently negative interaction between wildfire exposure and pre-fire thinning across all income groups indicates that experiencing wildfire after thinning reduces confidence in prevention effectiveness regardless of socioeconomic status. While perceived effectiveness is an imperfect proxy for political demand, these findings suggest that post-fire lobbying by high-income communities is unlikely to explain the observed misallocation of prevention resources to recently-burned, high-SES areas documented in prior research.

These findings do not suggest that high-income communities lack support for wildfire prevention altogether. It is well established that high-income homeowners are significantly more likely to invest in individual-level wildfire mitigation measures, such as home hardening, defensible space creation, and private vegetation management (Brenkert-Smith et al., 2013; Champ and Brenkert-Smith, 2016; Paveglio et al., 2015), and are more likely to participate in cost-share programs that combine private and federal dollars to fund hazardous fuels management (US Forest Service, 2022b). While wildfire exposure alone increases perceived effectiveness across all income groups, the concentration of prevention efforts in wealthy areas may stem from a combination of institutional risk calculations focused on asset protection (Scott et al., 2013) and high-SES communities' baseline support for thinning practices. This pre-existing support can facilitate project approval and implementation, creating a feedback

[16] Pairwise comparisons and significance tests are presented in Tables A16-A19

loop that reinforces existing inequities in prevention resource distribution (Agrawal and Monroe, 2006).

Our findings extend this literature and complement empirical evidence showing that higher-SES communities receive disproportionate wildfire prevention resources. Our results suggest that these resource disparities may not always be driven by differential community demand following wildfire exposure, particularly in communities that have received prevention in the past. In such contexts, the misallocation likely reflects institutional priorities and biases, particularly the tendency to prioritize protection of high-value properties in areas with similar wildfire risk (Plantinga et al., 2022).

### *4.5 Preferences for prevention in the overall wildfire budget*

We estimate fractional logistic regression models to examine how wildfire and pre-fire thinning exposure affect respondents' preferred and believed federal wildfire budget allocation between prevention and suppression activities. The dependent variable represents the preferred (believed) proportion of the federal wildfire budget allocated to prevention (0 = all suppression, 1 = all prevention).

Budget allocation preferences reveal a markedly different pattern than effectiveness perceptions, with considerably smaller differences across exposure groups. While respondents generally prefer allocating approximately 50% of federal wildfire budgets to prevention activities, they believe current prevention spending represents only 43-45% of total expenditures, indicating broad public support for increased prevention investments regardless of personal wildfire or thinning experience (Table 11). Unlike the strong preparedness paradox effects observed in effectiveness ratings, budget allocation preferences show minimal variation across exposure categories (ranging from 49.6% to 50.5%), consistent with research on psychological distance showing that abstract federal policies are perceived differently than concrete local experiences (Spence et al., 2012; Trope and Liberman, 2010). When people evaluate distant, abstract governance issues like federal budget allocation, they rely more on general ideological considerations rather than specific experiential learning (Wang et al., 2021), which may explain why fiscal policy preferences are less susceptible to experience-based updating than local effectiveness evaluations. Demographic differences and full model results are presented in Appendix A.8.

## 5 Conclusion

This study examined two related questions in wildfire prevention policy: first, whether wildfire prevention exhibits characteristics of the preparedness paradox—where successful prevention reduces visible harm and thereby undermines future support—and second, whether post-fire political demand contributes to the misallocation of prevention toward recently burned, high–socioeconomic status (SES) communities. Together, our findings reveal a fundamental demand-side challenge in wildfire governance with important implications for the political sustainability of federal fuels management programs.

We find that wildfire exposure and preventive thinning independently increase perceived effectiveness of prevention, consistent with prior evidence that experience can raise support for mitigation. However, when these exposures coincide—specifically when wildfire occurs following preventive treatment—perceived effectiveness declines sharply. This pattern is consistent with attribution failure: salient fire damages dominate public inference while the counterfactual benefits of prevention remain unobserved. Because perceived effectiveness is a key determinant of public support for fuels management (Shindler et al., 2009), this preparedness paradox poses a significant obstacle to sustaining long-term investment in wildfire risk reduction.

These dynamics carry urgent policy relevance amid substantial institutional change and expanded federal investment in wildfire prevention. Recent administrative restructuring consolidated federal wildfire management under the U.S. Wildland Fire Service (USWFS), and recent budget proposals substantially increase funding for hazardous fuels management (U.S. Department of the Interior, 2025). Yet these investments occur alongside signals of renewed emphasis on rapid suppression (USFS, 2025a; Woodhouse, 2025) and reductions in complementary programs, including burned area rehabilitation, facilities maintenance, and the elimination of the Joint Fire Science Program. Our results suggest that without addressing how the public interprets outcomes in treated areas, prevention investments may undermine their own political support when fires occur.

These findings underscore the importance of integrating fuels treatments with sustained public communication and community engagement. Prevention projects should explicitly convey realistic expectations about treatment outcomes, emphasizing severity reduction rather than fire exclusion. This need is especially acute given reductions in post-fire rehabilitation, which increase the visibility of fire impacts in treated areas and therefore intensify the attribution problem identified here. The elimination of the Joint Fire Science Program further exacerbates this challenge by weakening the infrastructure that translates scientific evidence into public understanding (McCaffrey, 2009; Toman et al., 2014; Vogt et al., 2005). Without parallel investments in communication and knowledge dissemination, federal wildfire policy risks entering a self-reinforcing cycle in which effective prevention erodes its own political viability.

We also provide new evidence relevant to debates over the post-fire misallocation of prevention resources. While wildfire exposure increases perceived thinning effectiveness across all income groups, we find no evidence that high-SES communities exhibit greater responsiveness to wildfire exposure or are less susceptible to declines in support when wildfire follows treatment. The absence of income-differentiated demand responses suggests that observed post-fire allocations to affluent communities are unlikely to be driven by differential political pressure. Instead, these patterns are more consistent with institutional preferences for asset protection and risk aversion in agency decision-making.

Concerns about inequitable allocation of prevention resources are well documented (Anderson et al., 2023a, 2023b; Lynn and Gerlitz, 2006), and recent policy efforts, including the 2022 Wildfire Crisis Strategy, explicitly sought to prioritize equity in fuels treatment planning (U.S. Forest Service, 2022a). Our findings reinforce the importance of these objectives and suggest that addressing SES bias in prevention provision requires direct policy intervention rather than reliance on local political demand.

Overall, this study provides empirical evidence that the preparedness paradox operates within wildfire prevention policy through attribution-driven policy feedback. By demonstrating how effective treatments can paradoxically weaken public support when followed by fire events, our results highlight a critical gap between prevention performance and public perception. As climate change intensifies wildfire risk, sustaining investment in proactive risk reduction will require not only expanding prevention on the ground, but also addressing the belief formation processes that shape political demand for prevention over time.

## 6 Tables

**Table 1.** Comparison of OLS regressions on perceived effectiveness of past (2023/2024) thinning at reducing wildfire outcomes

| **y = effectiveness of past thinning at reducing** | **probability of wildfire** | **size and severity of wildfire** |
|---|---|---|
| Pre-fire thinning exposure | 0.1483*** | 0.1183*** |
| | (0.0129) | (0.0129) |
| Wildfire exposure | 0.0950*** | 0.0875*** |
| | (0.0138) | (0.0137) |
| Pre-fire thinning × wildfire | −0.2812*** | −0.2651*** |
| | (0.0192) | (0.0191) |
| Constant | 0.3686*** | 0.4117*** |
| | (0.0199) | (0.0198) |
| Observations = 8,321 | | |
| R-squared | 0.0978 | 0.0859 |
| Adj. R-squared | 0.0958 | 0.0839 |
| Root MSE | 0.4332 | 0.4312 |

*Note:* **p<0.05, ***p<0.01

**Table 2.** Comparison of OLS regressions on perceived effectiveness of future (2025/2026) thinning at reducing wildfire outcomes

| **y = effectiveness of future thinning at reducing** | **probability of wildfire** | **size and severity of wildfire** |
|---|---|---|
| Pre-fire thinning exposure | 0.0860*** | 0.0723*** |
| | (0.0129) | (0.0128) |
| Wildfire exposure | 0.0790*** | 0.0918*** |
| | (0.0137) | (0.0136) |
| Pre-fire thinning × wildfire | −0.1827*** | −0.1762*** |
| | (0.0190) | (0.0190) |
| Constant | 0.4114*** | 0.4266*** |
| | (0.0197) | (0.0197) |
| Observations = 8,321 | | |
| R-squared | 0.0843 | 0.0723 |
| Adj. R-squared | 0.0824 | 0.0703 |
| Root MSE | 0.4307 | 0.4288 |

*Note:* **p<0.05, ***p<0.01

**Table 3.** GLOM predicted effectiveness of past thinning (PT) and future thinning (FT) margins by exposure status for all wildfire outcomes

| **y = effectiveness of** | **PT on fire probability** | **PT on size/severity** | **FT on fire probability** | **FT on size/severity** |
|---|---|---|---|---|
| Neither exposure | 2.852 | 2.918 | 2.932 | 2.957 |
| | (0.024) | (0.024) | (0.023) | (0.023) |
| Thinning only | 3.143 | 3.158 | 3.104 | 3.116 |
| | (0.017) | (0.018) | (0.018) | (0.018) |
| Wildfire only | 3.038 | 3.074 | 3.084 | 3.149 |
| | (0.025) | (0.026) | (0.027) | (0.025) |
| Both exposures | 2.722 | 2.749 | 2.830 | 2.887 |
| | (0.020) | (0.021) | (0.021) | (0.021) |

*Notes*: Standard errors in parentheses.
Predicted margins calculated at sample means for all other covariates.
Scale: 1 = not effective at all, 4 = very effective.

**Table 4.** OLS regressions on perceived effectiveness of past (2023/2024) thinning at reducing wildfire outcomes with income interactions

| **y = effectiveness of past thinning at reducing** | **probability of wildfire** | **size and severity of wildfire** |
|---|---|---|
| Pre-fire thinning exposure | 0.1473*** | 0.1178*** |
| | (0.0130) | (0.0129) |
| Wildfire exposure | 0.1175*** | 0.0975*** |
| | (0.0212) | (0.0211) |
| Pre-fire thinning × wildfire | −0.2810*** | −0.2649*** |
| | (0.0192) | (0.0191) |
| Wildfire × income quartile | | |
| WF × \$25k–49k | −0.0401 | −0.0120 |
| | (0.0270) | (0.0269) |
| WF × \$50k–74k | 0.0027 | −0.0054 |
| | (0.0287) | (0.0285) |
| WF × \$75k+ | −0.0441 | −0.0200 |
| | (0.0258) | (0.0256) |
| Constant | 0.3585*** | 0.4072*** |
| | (0.0211) | (0.0210) |
| Observations = 8,321 | | |
| R-squared | 0.0983 | 0.0860 |
| Adj. R-squared | 0.0960 | 0.0837 |
| Root MSE | 0.4331 | 0.4313 |

*Note:* **p<0.05, ***p<0.01.

**Table 5.** OLS regressions on perceived effectiveness of future (2025/2026) thinning at reducing wildfire outcomes with income interactions

| **y = effectiveness of future thinning at reducing** | **probability of wildfire** | **size and severity of wildfire** |
|---|---|---|
| Pre-fire thinning exposure | 0.0849*** | 0.0724*** |
| | (0.0129) | (0.0128) |
| Wildfire exposure | 0.1041*** | 0.0938*** |
| | (0.0211) | (0.0210) |
| Pre-fire thinning × wildfire | −0.1822*** | −0.1764*** |
| | (0.0190) | (0.0190) |
| Wildfire × income quartile | | |
| WF × \$25k–49k | −0.0297 | −0.0195 |
| | (0.0269) | (0.0267) |
| WF × \$50k–74k | −0.0298 | 0.0195 |
| | (0.0285) | (0.0284) |
| WF × \$75k+ | −0.0404 | −0.0036 |
| | (0.0256) | (0.0255) |
| Constant | 0.4002*** | 0.4257*** |
| | (0.0210) | (0.0209) |
| Observations = 8,321 | | |
| R-squared | 0.0846 | 0.0725 |
| Adj. R-squared | 0.0823 | 0.0702 |
| Root MSE | 0.4307 | 0.4288 |

*Note:* **p<0.05, ***p<0.01.

**Table 6.** Predicted perceived effectiveness of past thinning at reducing probability of wildfire (by income)

| | *Low-Middle Income* | | *High Income* | |
|---|---|---|---|---|
| | **Predicted response** | **Std. Error** | **Predicted response** | **Std. Error** |
| Neither exposure | 2.836 | (0.024) | 2.918 | (0.035) |
| Thinning only | 3.132 | (0.018) | 3.206 | (0.029) |
| Wildfire only | 3.017 | (0.026) | 3.094 | (0.034) |
| Both exposures | 2.704 | (0.021) | 2.787 | (0.033) |

*Notes*: Standard errors in parentheses.
Predicted margins calculated at sample means for all other covariates.
Response scale: 1 = not effective at all, 4 = very effective.

**Table 7.** Predicted perceived effectiveness of past thinning at reducing size and severity of wildfire (by income)

| | *Low-Middle Income* | | *High Income* | |
|---|---|---|---|---|
| | **Predicted response** | **Std. Error** | **Predicted response** | **Std. Error** |
| Neither exposure | 2.897 | (0.025) | 2.973 | (0.036) |
| Thinning only | 3.149 | (0.019) | 3.218 | (0.030) |
| Wildfire only | 3.051 | (0.028) | 3.123 | (0.035) |
| Both exposures | 2.731 | (0.022) | 2.810 | (0.035) |

*Notes*: Standard errors in parentheses.
Predicted margins calculated at sample means for all other covariates.
Response scale: 1 = not effective at all, 4 = very effective.

**Table 8.** Predicted perceived effectiveness of future thinning at reducing probability of wildfire (by income)

| | *Low-Middle Income* | | *High Income* | |
|---|---|---|---|---|
| | **Predicted response** | **Std. Error** | **Predicted response** | **Std. Error** |
| Neither exposure | 2.917 | (0.024) | 3.007 | (0.033) |
| Thinning only | 3.092 | (0.019) | 3.176 | (0.030) |
| Wildfire only | 3.066 | (0.028) | 3.151 | (0.035) |
| Both exposures | 2.810 | (0.022) | 2.902 | (0.034) |

*Notes*: Standard errors in parentheses.
Predicted margins calculated at sample means for all other covariates.
Response scale: 1 = not effective at all, 4 = very effective.

**Table 9.** Predicted perceived effectiveness of future thinning at reducing size and severity of wildfire (by income)

| | *Low-Middle Income* | | *High Income* | |
|---|---|---|---|---|
| | **Predicted response** | **Std. Error** | **Predicted response** | **Std. Error** |
| Neither exposure | 2.943 | (0.024) | 3.013 | (0.035) |
| Thinning only | 3.106 | (0.019) | 3.173 | (0.031) |
| Wildfire only | 3.133 | (0.026) | 3.198 | (0.034) |
| Both exposures | 2.871 | (0.022) | 2.942 | (0.035) |

*Notes*: Standard errors in parentheses.
Predicted margins calculated at sample means for all other covariates.
Response scale: 1 = not effective at all, 4 = very effective.

**Table 10.** Fractional logistic regression of federal wildfire budget allocation preferences

| Variable | Preferred allocation | Believed allocation |
|---|---|---|
| Wildfire exposure | 0.036 | -0.018 |
| | (0.030) | (0.030) |
| Pre-fire thinning exposure | 0.001 | 0.065** |
| | (0.027) | (0.027) |
| Pre-fire thinning × Wildfire | -0.019 | -0.060 |
| | (0.041) | (0.041) |
| Constant | 0.466*** | 0.172*** |
| | (0.045) | (0.045) |
| Observations | 8,321 | 8,321 |
| Pseudo $R^2$ | 0.006 | 0.006 |
| Wald $\chi^2(14)$ | 270.05*** | 263.14*** |

*Notes*: *p<0.05, **p<0.01, ***p<0.001.

Dependent variables: preferred/believed proportion of federal wildfire budget allocated to prevention (0-1 scale).

**Table 11.** Predicted federal wildfire budget allocation (to prevention) by wildfire- and thinning-exposure status

| | *Preferred Prevention Share* | | *Believed Prevention Share* | |
|---|---|---|---|---|
| | **Margin** | **Std. Error** | **Margin** | **Std. Error** |
| Neither exposure | 0.496 | (0.005) | 0.430 | (0.005) |
| Thinning only | 0.496 | (0.005) | 0.446 | (0.005) |
| Wildfire only | 0.505 | (0.006) | 0.426 | (0.005) |
| Both exposures | 0.500 | (0.005) | 0.427 | (0.005) |

*Notes*: Predicted margins calculated at sample means for all other covariates.

Scale: 0 = all suppression, 1 = all prevention. All margins significant at p<0.001.

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# A Appendix

## *A.1 Extended descriptive stat.*

**Table A1.** Sample categorization

| | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 |
|---|---|---|---|---|---|---|---|---|
| Exposed to wildfire since June 2024 | X | X | X | X | | | | |
| Exposed to past thinning (2023/2024) | X | | X | | X | | X | |
| Exposed to future thinning (2025/2026) | X | X | | | | X | X | |

**Table A2.** Sample statistics

| **Variable** | **Pooled** | **Sample 1** | **Sample 2** | **Sample 3** | **Sample 4** |
|---|---|---|---|---|---|
| **Age** | | | | | |
| 18 to 24 | 9.61% | 8.71% | 10.96% | 9.82% | 11.17% |
| 25 to 34 | 17.33% | 14.79% | 20.02% | 19.63% | 18.51% |
| 35 to 44 | 19.72% | 20.96% | 19.28% | 20.06% | 16.54% |
| 45 to 54 | 15.76% | 14.79% | 13.07% | 13.70% | 15.22% |
| 55 to 64 | 16.91% | 18.81% | 16.02% | 18.55% | 15.55% |
| 65+ | 20.68% | 21.94% | 20.65% | 18.23% | 23.00% |
| **Gender** | | | | | |
| Male | 47.25% | 42.21% | 51.21% | 59.12% | 58.38% |
| Female | 52.29% | 57.20% | 48.37% | 40.67% | 41.18% |
| Other/Prefer not to say | 0.46% | 0.59% | 0.42% | 0.22% | 0.44% |
| **Education** | | | | | |
| Less than high school | 3.74% | 4.11% | 4.32% | 2.70% | 1.64% |
| High school/GED | 27.30% | 30.07% | 31.61% | 19.31% | 18.73% |
| Some college | 25.75% | 28.89% | 27.92% | 22.65% | 22.02% |
| Associate degree | 11.66% | 12.63% | 12.54% | 9.39% | 12.05% |
| Bachelor's degree | 20.60% | 14.30% | 15.38% | 28.91% | 29.68% |
| Graduate degree | 10.95% | 9.99% | 8.22% | 17.04% | 15.88% |
| **Income (thousands)** | | | | | |
| Under $25 | 25.43% | 30.95% | 30.77% | 20.82% | 17.53% |
| Between $25 and $50 | 25.01% | 26.84% | 24.77% | 19.20% | 19.39% |
| Between $50 and $75 | 19.71% | 19.88% | 18.76% | 20.49% | 18.40% |
| Between $75 and $100 | 11.63% | 9.60% | 10.22% | 12.41% | 16.10% |
| Between $100 and $150 | 11.43% | 8.72% | 9.59% | 14.02% | 18.62% |
| More than $150 | 6.79% | 4.02% | 5.90% | 13.05% | 9.97% |
| **Political view** | | | | | |
| Conservative | 32.47% | 32.91% | 34.46% | 31.28% | 30.89% |
| Liberal | 23.74% | 22.24% | 23.50% | 27.40% | 29.03% |
| Moderate | 43.78% | 44.86% | 42.04% | 41.32% | 40.09% |
| Wave 1 | 4293 | 501 | 456 | 454 | 451 |
| Wave 2 | 4028 | 520 | 493 | 473 | 462 |
| N = | 8321 | 1021 | 949 | 927 | 913 |

**Table A3.** Sample statistics (cont.)

| Variable | Sample 5 | Sample 6 | Sample 7 | Sample 8 |
|---|---|---|---|---|
| **Age** | | | | |
| 18 to 24 | 8.76% | 8.85% | 9.83% | 9.25% |
| 25 to 34 | 17.51% | 14.23% | 17.73% | 16.98% |
| 35 to 44 | 17.35% | 19.16% | 21.19% | 22.84% |
| 45 to 54 | 16.60% | 18.70% | 17.15% | 15.96% |
| 55 to 64 | 17.76% | 17.79% | 14.84% | 15.87% |
| 65+ | 22.03% | 21.26% | 19.26% | 19.09% |
| **Gender** | | | | |
| Male | 40.53% | 39.42% | 51.35% | 41.00% |
| Female | 58.55% | 60.22% | 48.27% | 58.74% |
| Other/Prefer not to say | 0.92% | 0.36% | 0.39% | 0.25% |
| **Education** | | | | |
| Less than high school | 3.17% | 4.47% | 3.56% | 5.43% |
| High school/GED | 27.69% | 28.19% | 24.66% | 35.48% |
| Some college | 27.69% | 28.28% | 24.66% | 23.26% |
| Associate degree | 12.18% | 11.41% | 11.46% | 11.46% |
| Bachelor's degree | 20.43% | 18.98% | 21.87% | 17.23% |
| Graduate degree | 8.84% | 8.67% | 13.78% | 7.13% |
| **Income (thousands)** | | | | |
| Under $25 | 21.60% | 27.10% | 24.37% | 29.37% |
| Between $25 and $50 | 27.86% | 26.82% | 24.85% | 28.10% |
| Between $50 and $75 | 21.36% | 19.89% | 19.17% | 19.35% |
| Between $75 and $100 | 12.43% | 10.68% | 11.85% | 10.36% |
| Between $100 and $150 | 11.18% | 10.31% | 11.66% | 8.74% |
| More than $150 | 5.59% | 5.20% | 8.09% | 4.07% |
| **Political view** | | | | |
| Conservative | 33.03% | 32.21% | 29.10% | 35.31% |
| Liberal | 22.94% | 22.35% | 25.82% | 18.59% |
| Moderate | 44.04% | 45.44% | 45.09% | 46.10% |
| Wave 1 | 679 | 576 | 518 | 658 |
| Wave 2 | 520 | 520 | 520 | 520 |
| N = | 1199 | 1096 | 1038 | 1178 |

**Table A4.** Descriptive statistics by 2024 wildfire exposure

| Variable | Description | Mean | Std. Dev. |
|---|---|---|---|
| *Not exposed to 2024 wildfire* | | | |
| Age Quartile | 1 = 18–34, 2 = 35–44, 3 = 45–64, 4 = 65+ | 2.488 | 1.084 |
| Income Quartile | 1 ≤ \$25k, 2 = \$25k–49k, 3 = \$50k–74k, 4 = \$75k+ | 2.493 | 1.145 |
| Male | 1 = Male | 0.429 | 0.495 |
| Bachelors Degree | 1 = Highest education is bachelor's or higher | 0.291 | 0.454 |
| Conservative | 1 = Conservative | 0.325 | 0.469 |
| Log Mean WHP | Log of mean wildfire hazard potential | 3.472 | 2.153 |
| Prescribed Fires | Number of prescribed fires since 1984 | 0.301 | 2.286 |
| Pre-2023 Thinning | Indicator for treatment presence | 0.0053 | 0.073 |
| Timber Harvest | Count of timber harvest polygons that intersect zip code | 26.156 | 154.564 |
| N | Number of observations | 4,511 | |
| *Exposed to 2024 wildfire* | | | |
| Age Quartile | 1 = 18–34, 2 = 35–44, 3 = 45–64, 4 = 65+ | 2.451 | 1.111 |
| Income Quartile | 1 ≤ \$25k, 2 = \$25k–49k, 3 = \$50k–74k, 4 = \$75k+ | 2.596 | 1.183 |
| Male | 1 = Male | 0.524 | 0.499 |
| Bachelors Degree | 1 = Highest education is bachelor's or higher | 0.345 | 0.475 |
| Conservative | 1 = Conservative | 0.324 | 0.468 |
| Log Mean WHP | Log of mean wildfire hazard potential | 4.431 | 2.339 |
| Prescribed Fires | Number of prescribed fires since 1984 | 0.034 | 0.263 |
| Pre-2023 Thinning | Indicator for treatment presence | 0.0047 | 0.069 |
| Timber Harvest | Count of timber harvest polygons that intersect zip code | 36.352 | 377.877 |
| N | Number of observations | 3,810 | |

**Table A5.** Descriptive statistics by pre-fire (2023/2024) thinning

| Variable | Description | Mean | Std. Dev. |
|---|---|---|---|
| *Not exposed to pre-fire (2023/2024) thinning* | | | |
| Age Quartile | 1 = 18–34, 2 = 35–44, 3 = 45–64, 4 = 65+ | 2.467 | 1.101 |
| Income Quartile | 1 ≤ \$25k, 2 = \$25k–49k, 3 = \$50k–74k, 4 = \$75k+ | 2.513 | 1.169 |
| Male | 1 = Male | 0.468 | 0.499 |
| Bachelors Degree | 1 = Highest education is bachelor's or higher | 0.297 | 0.457 |
| Conservative | 1 = Conservative | 0.333 | 0.471 |
| Log Mean WHP | Log of mean wildfire hazard potential | 4.191 | 2.004 |
| Prescribed Fires | Number of prescribed fires since 1984 | 0.280 | 2.338 |
| Pre-2023 thinning | Indicator for thinning between 2015 and 2023 | 0.0002 | 0.016 |
| Timber Harvest | Count of timber harvest polygons that intersect zip code | 12.564 | 96.223 |
| N | Number of observations | 4,136 | |
| *Exposed to pre-fire (2023/2024) thinning* | | | |
| Age Quartile | 1 = 18–34, 2 = 35–44, 3 = 45–64, 4 = 65+ | 2.475 | 1.092 |
| Income Quartile | 1 ≤ \$25k, 2 = \$25k–49k, 3 = \$50k–74k, 4 = \$75k+ | 2.567 | 1.158 |
| Male | 1 = Male | 0.477 | 0.500 |
| Bachelors Degree | 1 = Highest education is bachelor's or higher | 0.333 | 0.471 |
| Conservative | 1 = Conservative | 0.316 | 0.465 |
| Log Mean WHP | Log of mean wildfire hazard potential | 3.634 | 2.511 |
| Prescribed Fires | Number of prescribed fires since 1984 | 0.079 | 0.556 |
| Pre-2023 thinning | Indicator for thinning between 2015 and 2023 | 0.0098 | 0.099 |
| Timber Harvest | Count of timber harvest polygons that intersect zip code | 48.870 | 382.086 |
| N | Number of observations | 4,185 | |

**Table A6.** Descriptive statistics of wildfire and pre-fire thinning proximity measures (zip code level)

| | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| No. of 2024 wildfires | 3.26 | 3.13 | 1 | 15 |
| Median distance from fire to thinning (miles) | 24.95 | 8.60 | 9.61 | 81.81 |
| Mean distance from fire to thinning (miles) | 24.56 | 8.72 | 9.61 | 81.81 |
| Fire-thinning intersect | 0.20 | 0.40 | 0 | 1 |
| N = 1,942 | | | | |

**Table A7.** Descriptions of outcome variables

| Label | Survey Wording | Response Set |
|---|---|---|
| Effect of thinning on probability of past fire | "Considering the recently completed thinning, how effective do you think the thinning was at reducing the chances of the recent wildfire in your area?" | (1) Not effective at all - (4) Very effective |
| Effect of thinning on size and severity of past fire | "Considering the recently completed thinning, how effective do you think the thinning was at reducing the size and severity of the recent wildfire in your area?" | (1) Not effective at all - (4) Very effective |
| Effect of thinning on probability of future fire | "In your view, how effective do you think the planned thinning will be at reducing the chances of future wildfires in your area?" | (1) Not effective at all - (4) Very effective |
| Effect of thinning on size and severity of future fire | "In your view, how effective do you think the planned thinning will be at reducing the size and severity of any future wildfire in your area?" | (1) Not effective at all - (4) Very effective |
| Believed allocation | "What is your best guess of the actual budget allocation between prevention and suppression activities over the previous 10 years?" | Scale response from 100% prevention to 100% suppression |
| Preferred allocation | "What would have been your preferred budget allocation between prevention vs suppression activities over the previous 10 years?" | Scale response from 100% prevention to 100% suppression |


**Figure A1.** Exposure to 2024 wildfire (left); Average distance between 2024 wildfire and nearby completed thinning (right)

### *A.2 Model Specification*

We estimate the effect of wildfire and prevention exposure on a respondent's perceived effectiveness of prevention using a linear probability model (discussed in Section 2.3) and a series of ordered logit models. In the ordered logit, the unobserved propensity of a respondent to rate thinning as more or less effective, $y^*$, is modeled as a linear function of covariates, $\mathbf{x}_i$, and a logistic error term:

$$y_i^* = \mathbf{x}_i'\beta + u_i,$$

where $\beta$ is a vector of coefficients and $u_i$ follows a standard logistic distribution. The observed outcome $y_i$ falls into ordinal category $j$ if the latent variable $y_i^*$ lies between two thresholds $\alpha_{j-1}$ and $\alpha_j$:

$$y_i = j \quad \text{if} \quad \alpha_{j-1} < y_i^* \leq \alpha_j.$$

Accordingly, the probability that respondent $i$ selects category $j$ is

$$P(y_i = j) = F(\alpha_j - \mathbf{x}_i'\beta) - F(\alpha j - 1 - \mathbf{x}_i'\beta),$$

where $F(\cdot)$ is the logistic cumulative distribution function,

$$F(z) = \frac{e^z}{(1 + e^z)},$$

and $z = \alpha_j - \mathbf{x}_i'\beta$.

This formulation assumes proportional odds, meaning the effect of a covariate is consistent across all thresholds. Ordered logit models are frequently employed in areas where ordinal outcomes are common due to their interpretability. For example, the probability that a wildfire-exposed individual perceives thinning as "slightly effective" ($j = 2$) instead of "not effective" ($j = 1$) is

$$P(y_i = 2) = F(\alpha_2 - \mathbf{x}_i'\beta) - F(\alpha_1 - \mathbf{x}_i'\beta),$$

where $\mathbf{x}_i$ includes a binary indicator for wildfire exposure. As an aside, we choose the logit specification over the ordered probit because the logit coefficients are interpretable as odds ratios.

When the proportional odds assumption is rejected, we estimate the model using a generalized ordered logit specification, which relaxes the equality of coefficients and allows covariate effects to vary by outcome threshold. The cumulative probability of observing

$$Pr(y_i \leq j) = \frac{e^{\alpha_j - \mathbf{x}_i'\beta}}{1 + e^{\alpha_j - \mathbf{x}_i'\beta}},\ j = 1, ..., J - 1,$$

thus becomes

$$Pr(y_i \leq j) = \frac{e^{\alpha_j - \mathbf{x}_i'\beta_j}}{1 + e^{\alpha_j - \mathbf{x}_i'\beta_j}},\ j = 1, ..., J - 1,$$

in the generalized ordered logit model, where the coefficient vector $\beta_j$ is now specific to each threshold $j$.

Additionally, we estimate respondents' preferred and believed budget allocation between prevention and suppression. The outcome variable is a continuous proportion bounded between 0 and 1 with observed values at both endpoints. To model this outcome we use a fractional response model as proposed by Papke and Wooldridge (1996). Specifically, we estimate:

$$E[Y_i|\mathbf{X}_i] = G(\mathbf{X}_i'\boldsymbol{\beta}),$$

where $Y_i$ is the fraction of the budget individual $i$ allocates to prevention, $\mathbf{X}_i$ is a vector of explanatory variables, and $\beta$ is the corresponding vector of coefficients. The function $G(\cdot)$ maps the linear index to the unit interval $[0, 1]$, and in the logit specification, is given by:

$$G(\mathbf{X}_i'\boldsymbol{\beta}) = \frac{e^{\mathbf{X}_i'\boldsymbol{\beta}}}{1 + e^{\mathbf{X}_i'\boldsymbol{\beta}}}.$$

## *A.3 OLS Results*

**Table A8.** Comparison of OLS regressions on perceived effectiveness of past (PT) and future (FT) thinning at reducing wildfire outcomes

| **y = effectiveness of** | **PT on fire probability** | **PT on size/severity** | **FT on fire probability** | **FT on size/severity** |
|---|---|---|---|---|
| Pre-fire thinning exposure | 0.1483*** | 0.1183*** | 0.0860*** | 0.0723*** |
| | (0.0129) | (0.0129) | (0.0129) | (0.0128) |
| Wildfire exposure | 0.0950*** | 0.0875*** | 0.0790*** | 0.0918*** |
| | (0.0138) | (0.0137) | (0.0137) | (0.0136) |
| Pre-fire thinning × wildfire | −0.2812*** | −0.2651*** | −0.1827*** | −0.1762*** |
| | (0.0192) | (0.0191) | (0.0190) | (0.0190) |
| Age quartile | | | | |
| 35–44 | −0.0014 | −0.0044 | 0.0140 | 0.0173 |
| | (0.0142) | (0.0141) | (0.0141) | (0.0140) |
| 45–64 | 0.0177 | 0.0156 | 0.0291** | 0.0417*** |
| | (0.0125) | (0.0125) | (0.0124) | (0.0124) |
| 65+ | 0.0405** | 0.0461*** | 0.0555*** | 0.0751*** |
| | (0.0143) | (0.0143) | (0.0142) | (0.0142) |
| Income quartile | | | | |
| $25k–49k | 0.0335** | 0.0382*** | 0.0074 | 0.0200 |
| | (0.0135) | (0.0134) | (0.0134) | (0.0134) |
| $50k–74k | 0.0079 | 0.0208 | 0.0208 | 0.0240* |
| | (0.0145) | (0.0145) | (0.0144) | (0.0144) |
| $75k+ | 0.0304** | 0.0389*** | 0.0210 | 0.0305** |
| | (0.0140) | (0.0140) | (0.0140) | (0.0139) |
| Male | 0.0335*** | 0.0257*** | −0.0056 | −0.0136 |
| | (0.0098) | (0.0098) | (0.0098) | (0.0097) |
| Conservative | 0.0347*** | 0.0343*** | 0.0318*** | 0.0420*** |
| | (0.0103) | (0.0103) | (0.0102) | (0.0102) |
| Bachelor's | 0.0120 | 0.0229** | 0.0028 | 0.0181 |
| | (0.0113) | (0.0113) | (0.0112) | (0.0112) |
| Wildfire concern | | | | |
| Slightly concerned (WF) | 0.0554*** | 0.0585*** | 0.0735*** | 0.0716*** |
| | (0.0146) | (0.0146) | (0.0145) | (0.0145) |
| Moderately concerned (WF) | 0.1578*** | 0.1471*** | 0.1922*** | 0.1567*** |
| | (0.0146) | (0.0145) | (0.0145) | (0.0144) |
| Extremely concerned (WF) | 0.1718*** | 0.1740*** | 0.2217*** | 0.2006*** |
| | (0.0155) | (0.0154) | (0.0154) | (0.0153) |
| Self-reported WF management knowledge | | | | |
| Slightly informed (WFM) | 0.0693*** | 0.0575*** | 0.0520*** | 0.0461*** |
| | (0.0149) | (0.0148) | (0.0148) | (0.0147) |
| Moderately informed (WFM) | 0.1560*** | 0.1183*** | 0.1289*** | 0.1229*** |
| | (0.0153) | (0.0152) | (0.0152) | (0.0151) |
| Very informed (WFM) | 0.2433*** | 0.2151*** | 0.1925*** | 0.1591*** |
| | (0.0189) | (0.0188) | (0.0188) | (0.0187) |
| Constant | 0.3686*** | 0.4117*** | 0.4114*** | 0.4266*** |
| | (0.0199) | (0.0198) | (0.0197) | (0.0197) |
| Observations = 8,321 | | | | |
| R-squared | 0.0978 | 0.0859 | 0.0843 | 0.0723 |
| Adj. R-squared | 0.0958 | 0.0839 | 0.0824 | 0.0703 |
| Root MSE | 0.4332 | 0.4312 | 0.4307 | 0.4288 |

*Note:* *p<0.10, **p<0.05, ***p<0.01. WF = wildfire; WFM = wildfire management knowledge.

### *A.4 Propensity Score Matching*

Following Austin (2011), we employed nearest neighbor matching with a caliper width of 0.05 to balance treatment and control groups while retaining a sufficient sample size. Propensity scores were estimated using a probit model that included seven covariates: the log of mean wildfire hazard potential (to address distributional skewness), housing density per square kilometer, income quartile, educational attainment, gender, the log of housing density, and an interaction term between income quartile and housing density. In general, thinning treatments are assigned to a region based on a complex interaction of variables (wildfire risk, resource availability, public demand, agency ability)[17]. As such, we include the covariates identified in Anderson et al. (2023a, 2023b) and Wibbenmeyer et al. (2019) as having a significant effect on thinning treatment assignment.

The matching procedure successfully balanced the treatment and control groups. Before matching, treated and control units exhibited significant covariate imbalances, with standardized mean differences exceeding 20% for key variables like wildfire hazard potential (24.5%) and housing density (37.5%). The joint significance test rejected covariate balance ($\chi^2$= 371.33, p < 0.001).

**Table A9.** Covariate Balance Before and After Matching

| **Panel B: Covariate Balance Before and After Matching** | | | | | |
|---|---|---|---|---|---|
| | Before Matching | | After Matching | | |
| Variable | % Bias | t-stat | % Bias | t-stat | % Bias Reduction |
| Log wildfire hazard potential | −24.5 | −11.18*** | −2.5 | −1.11 | 90.0% |
| Housing density per km$^2$ | 37.5 | 17.04*** | 0.6 | 0.40 | 98.3% |
| Income quartile | 4.6 | 2.11** | −1.9 | −0.83 | 59.8% |
| Bachelor's degree | 7.7 | 3.53*** | −0.9 | −0.38 | 88.9% |
| Male | 2.0 | 0.90 | −1.0 | −0.44 | 50.5% |
| Log housing density | 23.2 | 10.57*** | 1.2 | 0.54 | 94.8% |
| Income × housing interaction | 15.2 | 6.92*** | 0.4 | 0.16 | 97.6% |

After matching, covariate balance improved substantially. All standardized mean differences fell below 3%, with most under 1%. The joint significance test confirmed successful balance ($\chi^2$ = 4.41, p = 0.732), and the pseudo R-squared dropped from 0.032 to 0.001. The final matched sample included 7,846 observations (4,034 treated, 3,812 controls) from the original 8,321 respondents, with 146 treated units falling outside the common support region. Results of the propensity score matching procedure are presented in Table (A9) and Table (A10). Distributions of the matched and unmatched samples are presented in Figure A2 and Figure A3.

[17]There is no "formula" for the factors that determine thinning assignment available anywhere in the literature. As such, we reached out to a contact in the Forest Service familiar with the process, who confirmed

**Table A10.** Covariate Balance Statistics

| Statistic | Before Matching | After Matching |
|---|---|---|
| Pseudo $R^2$ | 0.032 | 0.001 |
| LR $\chi^2$ (7 df) | 371.33*** | 4.41 |
| p-value | 0.000 | 0.732 |
| Mean bias | 16.4% | 1.2% |
| Median bias | 15.2% | 1.0% |
| Rubin's B | 38.2* | 5.3 |
| Rubin's R | 6.24* | 1.11 |

*Notes:* *p<0.10, **p<0.05, ***p<0.01.

% Bias represents standardized mean differences between treated and control groups.

Rubin's B and R are measures of balance; values marked with * indicate imbalance (B > 25%, R outside [0.5, 2]).

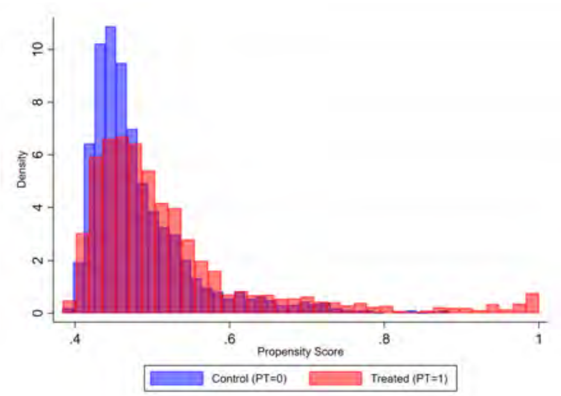


**Figure A2.** Propensity score distribution before matching

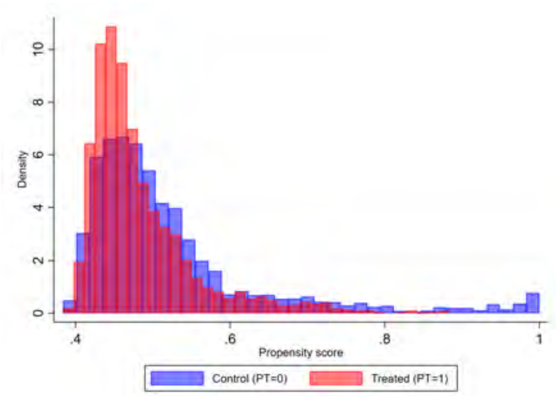


**Figure A3.** Propensity score distribution after matching

that these variables - in conjunction with a complicated burearatic process - largely determine which areas will be thinned.

## A.5 GLOM Results

**Table A11.** Generalized ordered logit estimates of perceived effectiveness of past (2023/2024) thinning at reducing probability of wildfire

| | **Not effective at all** | **Slightly effective** | **Moderately effective** |
|---|---|---|---|
| Wildfire exposure | 0.419*** | 0.419*** | 0.419*** |
| | (0.078) | (0.078) | (0.078) |
| Pre-fire thinning exposure | 0.667*** | 0.667*** | 0.667*** |
| | (0.068) | (0.068) | (0.068) |
| Pre-fire thinning × Wildfire | -1.369*** | -1.369*** | -1.369*** |
| | (0.101) | (0.101) | (0.101) |
| Age Quartile | | | |
| 35-44 | 0.152* | 0.152* | 0.152* |
| | (0.072) | (0.072) | (0.072) |
| 45-64 | 0.044 | 0.182* | 0.420*** |
| | (0.114) | (0.073) | (0.076) |
| 65+ | 0.239· | 0.306*** | 0.611*** |
| | (0.135) | (0.086) | (0.086) |
| Income Quartile | | | |
| $25k–49k | 0.164* | 0.164* | 0.164* |
| | (0.068) | (0.068) | (0.068) |
| $50k–74k | 0.357** | 0.098 | 0.219* |
| | (0.127) | (0.084) | (0.086) |
| $75k+ | 0.228** | 0.228** | 0.228** |
| | (0.074) | (0.074) | (0.074) |
| Male | -0.026 | 0.186** | 0.141* |
| | (0.097) | (0.059) | (0.061) |
| Conservative | 0.255*** | 0.255*** | 0.255*** |
| | (0.052) | (0.052) | (0.052) |
| Bachelor's | 0.144 | 0.080 | -0.094 |
| | (0.115) | (0.069) | (0.070) |
| Log Mean WHP | 0.007 | 0.007 | 0.007 |
| | (0.011) | (0.011) | (0.011) |
| Wildfire Concern | | | |
| Slightly concerned | 1.053*** | 0.305*** | -0.225* |
| | (0.128) | (0.082) | (0.091) |
| Moderately concerned | 1.335*** | 0.766*** | -0.004 |
| | (0.139) | (0.086) | (0.090) |
| Extremely concerned | 1.383*** | 0.837*** | 0.628*** |
| | (0.146) | (0.093) | (0.092) |
| Self-reported WF management information | | | |
| Slightly informed | 1.036*** | 0.292*** | -0.073 |
| | (0.115) | (0.080) | (0.090) |
| Moderately informed | 1.090*** | 0.701*** | 0.229* |
| | (0.126) | (0.084) | (0.090) |
| Very informed | 1.363*** | 1.363*** | 1.363*** |
| | (0.103) | (0.103) | (0.103) |

*Notes*: Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$, ·$p < 0.1$

**Table A12.** Generalized ordered logit estimates of perceived effectiveness of past (2023/2024) thinning at reducing size and severity of wildfire

| | **Not effective at all** | **Slightly effective** | **Moderately effective** |
|---|---|---|---|
| Wildfire exposure | 0.338*** | 0.338*** | 0.338*** |
| | (0.079) | (0.079) | (0.079) |
| Pre-fire thinning exposure | 0.530*** | 0.530*** | 0.530*** |
| | (0.067) | (0.067) | (0.067) |
| Pre-fire thinning × Wildfire | -1.223*** | -1.223*** | -1.223*** |
| | (0.100) | (0.100) | (0.100) |
| Age Quartile | | | |
| 35-44 | 0.130* | 0.130* | 0.130 |
| | (0.073) | (0.073) | (0.086) |
| 45-64 | -0.012 | 0.173* | 0.320*** |
| | (0.112) | (0.073) | (0.074) |
| 65+ | 0.121 | 0.320*** | 0.526*** |
| | (0.136) | (0.085) | (0.083) |
| Income Quartile | | | |
| \$25k–49k | 0.283*** | 0.283*** | 0.283*** |
| | (0.068) | (0.068) | (0.068) |
| \$50k–74k | 0.278*** | 0.278*** | 0.278*** |
| | (0.074) | (0.074) | (0.074) |
| \$75k+ | 0.310*** | 0.310*** | 0.310*** |
| | (0.074) | (0.074) | (0.074) |
| Male | -0.089 | 0.120* | 0.059 |
| | (0.097) | (0.060) | (0.059) |
| Conservative | 0.272*** | 0.272*** | 0.272*** |
| | (0.053) | (0.053) | (0.053) |
| Bachelor's | 0.247* | 0.128$^{\cdot}$ | -0.040 |
| | (0.117) | (0.070) | (0.068) |
| Log Mean WHP | 0.003 | 0.003 | 0.003 |
| | (0.011) | (0.011) | (0.011) |
| Wildfire Concern | | | |
| Slightly concerned | 0.882*** | 0.249*** | -0.222* |
| | (0.126) | (0.083) | (0.087) |
| Moderately concerned | 1.352*** | 0.677*** | -0.128 |
| | (0.141) | (0.086) | (0.087) |
| Extremely concerned | 1.225*** | 0.875*** | 0.600*** |
| | (0.142) | (0.095) | (0.090) |
| Self-reported WF management information | | | |
| Slightly informed | 0.927*** | 0.271*** | 0.095 |
| | (0.116) | (0.081) | (0.087) |
| Moderately informed | 0.921*** | 0.482*** | 0.354*** |
| | (0.125) | (0.085) | (0.088) |
| Very informed | 1.150*** | 1.150*** | 1.150*** |
| | (0.103) | (0.103) | (0.103) |

*Notes*: Standard errors in parentheses. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$, $^{\cdot}p < 0.1$

**Table A13.** Generalized ordered logit estimates of perceived effectiveness of future (2025/2026) thinning at reducing probability of wildfire

| | **Not effective at all** | **Slightly effective** | **Moderately effective** |
|---|---|---|---|
| Wildfire exposure | 0.338$^{***}$ | 0.338$^{***}$ | 0.338$^{***}$ |
| | (0.079) | (0.079) | (0.079) |
| Pre-fire thinning exposure | 0.385$^{***}$ | 0.385$^{***}$ | 0.385$^{***}$ |
| | (0.066) | (0.066) | (0.066) |
| Pre-fire thinning × Wildfire | -0.943$^{***}$ | -0.943$^{***}$ | -0.943$^{***}$ |
| | (0.100) | (0.100) | (0.100) |
| Age Quartile | | | |
| 35-44 | 0.132$^{\cdot}$ | 0.132$^{\cdot}$ | 0.132$^{\cdot}$ |
| | (0.073) | (0.073) | (0.073) |
| 45-64 | 0.097 | 0.190$^{*}$ | 0.440$^{***}$ |
| | (0.118) | (0.076) | (0.075) |
| 65+ | 0.033 | 0.292$^{***}$ | 0.573$^{***}$ |
| | (0.137) | (0.088) | (0.085) |
| Income Quartile | | | |
| $25k–49k | 0.167$^{*}$ | 0.167$^{*}$ | 0.167$^{*}$ |
| | (0.070) | (0.070) | (0.070) |
| $50k–74k | 0.254$^{***}$ | 0.254$^{***}$ | 0.254$^{***}$ |
| | (0.074) | (0.074) | (0.074) |
| $75k+ | 0.255$^{***}$ | 0.255$^{***}$ | 0.255$^{***}$ |
| | (0.074) | (0.074) | (0.074) |
| Male | 0.024 | 0.024 | 0.024 |
| | (0.051) | (0.051) | (0.051) |
| Conservative | 0.288$^{***}$ | 0.288$^{***}$ | 0.288$^{***}$ |
| | (0.054) | (0.054) | (0.054) |
| Bachelor's | 0.005 | 0.005 | 0.005 |
| | (0.060) | (0.060) | (0.060) |
| Log Mean WHP | 0.088$^{***}$ | 0.047$^{***}$ | -0.005 |
| | (0.023) | (0.014) | (0.013) |
| Wildfire Concern | | | |
| Slightly concerned | 1.015$^{***}$ | 0.283$^{***}$ | -0.115 |
| | (0.129) | (0.082) | (0.090) |
| Moderately concerned | 1.499$^{***}$ | 0.839$^{***}$ | 0.119 |
| | (0.149) | (0.087) | (0.090) |
| Extremely concerned | 1.350$^{***}$ | 1.077$^{***}$ | 0.880$^{***}$ |
| | (0.159) | (0.097) | (0.092) |
| Self-reported WF management information | | | |
| Slightly informed | 0.684$^{***}$ | 0.142$^{\cdot}$ | 0.053 |
| | (0.124) | (0.083) | (0.094) |
| Moderately informed | 0.685$^{***}$ | 0.522$^{***}$ | 0.277$^{***}$ |
| | (0.134) | (0.088) | (0.095) |
| Very informed | 0.548$^{***}$ | 0.942$^{***}$ | 1.169$^{***}$ |
| | (0.189) | (0.130) | (0.114) |

*Notes*: Standard errors in parentheses. $^{***}p < 0.01$, $^{*}p < 0.1$, $^{\cdot}p < 0.1$

**Table A14.** Generalized ordered logit estimates of perceived effectiveness of future (2025/2026) thinning at reducing size and severity of wildfire

| | **Not effective at all** | **Slightly effective** | **Moderately effective** |
|---|---|---|---|
| Wildfire exposure | 0.427*** | 0.427*** | 0.427*** |
| | (0.077) | (0.077) | (0.077) |
| Pre-fire thinning exposure | 0.351*** | 0.351*** | 0.351*** |
| | (0.066) | (0.066) | (0.066) |
| Pre-fire thinning × Wildfire | -0.928*** | -0.928*** | -0.928*** |
| | (0.099) | (0.099) | (0.099) |
| Age Quartile | | | |
| 35-44 | 0.106 | 0.106 | 0.106 |
| | (0.070) | (0.070) | (0.070) |
| 45-64 | 0.300*** | 0.300*** | 0.300*** |
| | (0.063) | (0.063) | (0.063) |
| 65+ | 0.471*** | 0.471*** | 0.471*** |
| | (0.074) | (0.074) | (0.074) |
| Income Quartile | | | |
| $25k–49k | 0.193*** | 0.193*** | 0.193*** |
| | (0.068) | (0.068) | (0.068) |
| $50k–74k | 0.231*** | 0.231*** | 0.231*** |
| | (0.071) | (0.071) | (0.071) |
| $75k+ | 0.226*** | 0.226*** | 0.226*** |
| | (0.073) | (0.073) | (0.073) |
| Male | -0.300*** | -0.094 | 0.033 |
| | (0.100) | (0.061) | (0.058) |
| Conservative | 0.267*** | 0.267*** | 0.267*** |
| | (0.052) | (0.052) | (0.052) |
| Bachelor's | 0.278* | 0.143* | -0.007 |
| | (0.118) | (0.071) | (0.067) |
| Log Mean WHP | 0.025* | 0.025* | 0.025* |
| | (0.011) | (0.011) | (0.011) |
| Wildfire Concern | | | |
| Slightly concerned | 1.172*** | 0.286*** | -0.079 |
| | (0.137) | (0.083) | (0.086) |
| Moderately concerned | 1.697*** | 0.684*** | 0.071 |
| | (0.148) | (0.085) | (0.086) |
| Extremely concerned | 1.325*** | 0.949*** | 0.698*** |
| | (0.145) | (0.096) | (0.089) |
| Self-reported WF management information | | | |
| Slightly informed | 0.849*** | 0.188* | 0.088 |
| | (0.124) | (0.081) | (0.085) |
| Moderately informed | 0.894*** | 0.568*** | 0.244** |
| | (0.128) | (0.086) | (0.086) |
| Very informed | 0.922*** | 0.922*** | 0.922*** |
| | (0.099) | (0.099) | (0.099) |

*Notes*: Standard errors in parentheses. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.05$

**Table A15.** Pairwise comparisons of predicted effectiveness margins by exposure status

| Comparison | Difference | Std. Error | 95% Confidence Interval |
|---|---|---|---|
| *Effectiveness of PT at reducing probability of wildfire* | | | |
| Thinning only vs. Neither | 0.291*** | (0.030) | [0.233, 0.349] |
| Wildfire only vs. Neither | 0.186*** | (0.035) | [0.118, 0.254] |
| Wildfire only vs. Thinning only | -0.105*** | (0.031) | [-0.165, -0.045] |
| Both exposures vs. Neither | -0.130*** | (0.031) | [-0.190, -0.070] |
| Both exposures vs. Thinning only | -0.421*** | (0.027) | [-0.475, -0.367] |
| Both exposures vs. Wildfire only | -0.316*** | (0.032) | [-0.378, -0.254] |
| *Effectiveness of PT at reducing size/severity* | | | |
| Thinning only vs. Neither | 0.291*** | (0.030) | [0.233, 0.349] |
| Wildfire only vs. Neither | 0.186*** | (0.035) | [0.118, 0.254] |
| Wildfire only vs. Thinning only | -0.105*** | (0.031) | [-0.165, -0.045] |
| Both exposures vs. Neither | -0.130*** | (0.031) | [-0.190, -0.070] |
| Both exposures vs. Thinning only | -0.421*** | (0.027) | [-0.475, -0.367] |
| Both exposures vs. Wildfire only | -0.316*** | (0.032) | [-0.378, -0.254] |
| *Effectiveness of FT at reducing probability* | | | |
| Thinning only vs. Neither | 0.172*** | (0.029) | [0.114, 0.230] |
| Wildfire only vs. Neither | 0.152*** | (0.035) | [0.083, 0.221] |
| Wildfire only vs. Thinning only | -0.020 | (0.033) | [-0.084, 0.044] |
| Both exposures vs. Neither | -0.102*** | (0.031) | [-0.163, -0.042] |
| Both exposures vs. Thinning only | -0.275*** | (0.028) | [-0.330, -0.219] |
| Both exposures vs. Wildfire only | -0.254*** | (0.033) | [-0.319, -0.190] |
| *Effectiveness of FT at reducing size/severity* | | | |
| Thinning only vs. Neither | 0.158*** | (0.030) | [0.100, 0.217] |
| Wildfire only vs. Neither | 0.192*** | (0.034) | [0.124, 0.259] |
| Wildfire only vs. Thinning only | 0.033 | (0.031) | [-0.028, 0.095] |
| Both exposures vs. Neither | -0.070** | (0.031) | [-0.132, -0.009] |
| Both exposures vs. Thinning only | -0.229*** | (0.029) | [-0.285, -0.173] |
| Both exposures vs. Wildfire only | -0.262*** | (0.032) | [-0.325, -0.199] |

*Notes*: ***p<0.01, **p<0.05. Contrasts represent differences in predicted effectiveness ratings on 1–4 scale.

**Table A16.** Pairwise comparisons between income groups - perceived effectiveness of past thinning at reducing probability of wildfire

| **Comparison** | **Contrast** | **95% CI** |
|---|---|---|
| *Income effects within treatment conditions:* | | |
| High vs Low Income (No exposure) | 0.076* | (0.012, 0.140) |
| High vs Low Income (PT only) | 0.069* | (0.011, 0.127) |
| High vs Low Income (WF only) | 0.072* | (0.011, 0.133) |
| High vs Low Income (Both exposures) | 0.079* | (0.012, 0.145) |
| *Treatment effects for low income:* | | |
| PT only vs No exposure | 0.251*** | (0.192, 0.311) |
| WF only vs No exposure | 0.154*** | (0.082, 0.225) |
| Both vs No exposure | -0.166*** | (-0.229, -0.103) |
| WF only vs PT only | -0.098** | (-0.162, -0.034) |
| Both vs PT only | -0.418*** | (-0.474, -0.362) |
| Both vs WF only | -0.320*** | (-0.386, -0.254) |
| *Treatment effects for high income:* | | |
| PT only vs No exposure | 0.321*** | (0.237, 0.404) |
| WF only vs No exposure | 0.226*** | (0.135, 0.316) |
| Both vs No exposure | -0.088 | (-0.178, 0.003) |
| WF only vs PT only | -0.095** | (-0.157, -0.033) |
| Both vs PT only | -0.409*** | (-0.464, -0.353) |
| Both vs WF only | -0.314*** | (-0.378, -0.249) |

Notes: Contrasts represent differences in predicted mean effectiveness scores. Confidence intervals are unadjusted. * p<0.05, ** p<0.01, *** p<0.001.

**Table A17.** Pairwise comparisons between income groups - perceived effectiveness of past thinning at reducing size and severity of wildfire

| **Comparison** | **Contrast** | **95% CI** |
|---|---|---|
| *Income effects within treatment conditions:* | | |
| High vs Low Income (No exposure) | 0.076* | (0.012, 0.140) |
| High vs Low Income (PT only) | 0.069* | (0.011, 0.127) |
| High vs Low Income (WF only) | 0.072* | (0.011, 0.133) |
| High vs Low Income (Both exposures) | 0.079* | (0.012, 0.145) |
| *Treatment effects for low income:* | | |
| PT only vs No exposure | 0.251*** | (0.192, 0.311) |
| WF only vs No exposure | 0.154*** | (0.082, 0.225) |
| Both vs No exposure | -0.166*** | (-0.229, -0.103) |
| WF only vs PT only | -0.098** | (-0.162, -0.034) |
| Both vs PT only | -0.418*** | (-0.474, -0.362) |
| Both vs WF only | -0.320*** | (-0.386, -0.254) |
| *Treatment effects for high income:* | | |
| PT only vs No exposure | 0.321*** | (0.237, 0.404) |
| WF only vs No exposure | 0.226*** | (0.135, 0.316) |
| Both vs No exposure | -0.088 | (-0.178, 0.003) |
| WF only vs PT only | -0.095** | (-0.157, -0.033) |
| Both vs PT only | -0.409*** | (-0.464, -0.353) |
| Both vs WF only | -0.314*** | (-0.378, -0.249) |

Notes: Contrasts represent differences in predicted mean effectiveness scores. Confidence intervals are unadjusted. * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

**Table A18.** Pairwise comparisons between income groups - perceived effectiveness of future thinning at reducing probability of wildfire

| **Comparison** | **Contrast** | **95% CI** |
|---|---|---|
| *Income effects within treatment conditions:* | | |
| High vs Low Income (No exposure) | 0.089** | (0.028, 0.151) |
| High vs Low Income (PT only) | 0.084* | (0.026, 0.142) |
| High vs Low Income (WF only) | 0.085** | (0.026, 0.143) |
| High vs Low Income (Both exposures) | 0.092** | (0.028, 0.155) |
| *Treatment effects for low income:* | | |
| PT only vs No exposure | 0.174*** | (0.116, 0.233) |
| WF only vs No exposure | 0.148*** | (0.078, 0.218) |
| Both vs No exposure | -0.108* | (-0.169, -0.047) |
| WF only vs PT only | -0.026 | (-0.091, 0.039) |
| Both vs PT only | -0.282*** | (-0.338, -0.226) |
| Both vs WF only | -0.256*** | (-0.321, -0.191) |
| *Treatment effects for high income:* | | |
| PT only vs No exposure | 0.258*** | (0.174, 0.343) |
| WF only vs No exposure | 0.233*** | (0.143, 0.324) |
| Both vs No exposure | -0.016 | (-0.105, 0.074) |
| WF only vs PT only | -0.025 | (-0.087, 0.037) |
| Both vs PT only | -0.274*** | (-0.328, -0.220) |
| Both vs WF only | -0.249*** | (-0.312, -0.185) |

Notes: Contrasts represent differences in predicted mean effectiveness scores. Confidence intervals are unadjusted. * p<0.05, ** p<0.01, *** p<0.001.

**Table A19.** Pairwise comparisons between income groups - perceived effectiveness of future thinning at reducing size and severity of wildfire

| Comparison | Contrast | 95% CI |
|---|---|---|
| *Income effects within treatment conditions:* | | |
| High vs Low Income (No exposure) | 0.070* | (0.006, 0.134) |
| High vs Low Income (PT only) | 0.066* | (0.006, 0.126) |
| High vs Low Income (WF only) | 0.066* | (0.006, 0.125) |
| High vs Low Income (Both exposures) | 0.071* | (0.006, 0.136) |
| *Treatment effects for low income:* | | |
| PT only vs No exposure | 0.164*** | (0.105, 0.222) |
| WF only vs No exposure | 0.190*** | (0.122, 0.258) |
| Both vs No exposure | -0.072* | (-0.133, -0.010) |
| WF only vs PT only | 0.026 | (-0.035, 0.088) |
| Both vs PT only | -0.235*** | (-0.291, -0.179) |
| Both vs WF only | -0.262*** | (-0.325, -0.198) |
| *Treatment effects for high income:* | | |
| PT only vs No exposure | 0.230*** | (0.145, 0.315) |
| WF only vs No exposure | 0.256*** | (0.166, 0.345) |
| Both vs No exposure | -0.000 | (-0.090, 0.089) |
| WF only vs PT only | 0.026 | (-0.034, 0.085) |
| Both vs PT only | -0.230*** | (-0.285, -0.175) |
| Both vs WF only | -0.256*** | (-0.318, -0.194) |

Notes: Contrasts represent differences in predicted mean effectiveness scores. Confidence intervals are unadjusted. * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

## *A.6 Profiling Results*

**Table A20.** Profiling differences in perceived effectiveness of past (2023/2024) thinning at reducing probability of wildfire

| Demographic Group | Three-Way Interaction | | Predicted Effectiveness Ratings | | |
|---|---|---|---|---|---|
| | **Coefficient** | **SE** | **Thinning Only** | **Both Exposures** | **Difference** |
| ***Age Groups (Reference: 18-34)*** | | | | | |
| 35-44 years | -0.334 | 0.250 | 2.85 | 2.58 | -0.27 |
| 45-64 years | -0.348 | 0.220 | 2.91 | 2.64 | -0.27 |
| 65+ years | **-0.894*** ** | **0.252** | **2.98** | **2.35** | **-0.63** |
| ***Income Groups (Reference: Under $25k)*** | | | | | |
| $25k-50k | -0.244 | 0.240 | 2.82 | 2.55 | -0.27 |
| $50k-75k | -0.385 | 0.256 | 2.84 | 2.51 | -0.33 |
| $75k+ | **-0.621** ** | **0.232** | **2.89** | **2.41** | **-0.48** |
| ***Gender (Reference: Female)*** | | | | | |
| Male | 0.323† | 0.173 | 2.86 | 2.64 | -0.22 |
| ***Political Identity (Reference: Non-Conservative)*** | | | | | |
| Conservative | -0.040 | 0.183 | 2.84 | 2.52 | -0.32 |
| ***Wildfire Concern (Reference: Not Concerned)*** | | | | | |
| Slightly Concerned | 0.508† | 0.269 | 2.91 | 2.68 | -0.23 |
| Moderately Concerned | **0.666*** | **0.266** | **2.87** | **2.67** | **-0.20** |
| Extremely Concerned | 0.287 | 0.288 | 2.94 | 2.71 | -0.23 |
| ***Wildfire Information (Reference: Not Informed)*** | | | | | |
| Slightly Informed | -0.083 | 0.265 | 2.85 | 2.58 | -0.27 |
| Moderately Informed | **0.530*** | **0.271** | **2.89** | **2.69** | **-0.20** |
| Very Informed | 0.306 | 0.353 | 2.92 | 2.73 | -0.19 |
| ***Highest Risk Combinations*** | | | | | |
| 65+, $75k+, Female, Not Concerned | Combined effect | | 2.99 | 2.32 | **-0.67** |
| 65+, $75k+, Female, Mod. Concerned | Combined effect | | 3.07 | 2.46 | **-0.61** |
| 65+, $75k+, Male, Not Concerned | Combined effect | | 2.99 | 2.46 | **-0.53** |
| ***Lowest Risk Combinations*** | | | | | |
| 18-34, Under $25k, Male, Mod. Concerned | Combined effect | | 2.57 | 2.60 | **+0.03** |
| 18-34, Under $25k, Male, Not Concerned | Combined effect | | 2.49 | 2.46 | **-0.02** |

Note: Three-way interaction coefficients from ordered logistic regression model.
Difference = $y_{\textbf{thinning only}} - y_{\textbf{combined exposure}}$.
Significance levels: *** p<0.001, **p<0.01, *p<0.05, † p<0.10.
*Model includes controls for:* Education (bachelor's degree), wildfire hazard potential (log), and other demographic variables.

**Table A21.** Profiling differences in perceived effectiveness of past (2023/2024) thinning at reducing size/severity of wildfire

| Demographic Group | Three-Way Interaction | | Predicted Effectiveness Ratings | | |
|---|---|---|---|---|---|
| | **Coefficient** | **SE** | **Thinning Only** | **Both Exposures** | **Difference** |
| ***Age Groups (Reference: 18-34)*** | | | | | |
| 35-44 years | -0.060 | 0.249 | 3.16 | 2.74 | -0.42 |
| 45-64 years | -0.406† | 0.218 | 3.20 | 2.78 | -0.42 |
| 65+ years | **-0.816*** ** | **0.250** | **3.28** | **2.87** | **-0.41** |
| ***Income Groups (Reference: Under $25k)*** | | | | | |
| $25k-50k | -0.146 | 0.238 | 3.09 | 2.66 | -0.43 |
| $50k-75k | -0.165 | 0.253 | 3.09 | 2.66 | -0.43 |
| $75k+ | **-0.649** ** | **0.229** | **3.09** | **2.66** | **-0.43** |
| ***Gender (Reference: Female)*** | | | | | |
| Male | 0.202 | 0.172 | 3.09 | 2.66 | -0.43 |
| ***Political Identity (Reference: Non-Conservative)*** | | | | | |
| Conservative | 0.418* | 0.182 | 3.09 | 2.66 | -0.43 |
| ***Wildfire Concern (Reference: Not Concerned)*** | | | | | |
| Slightly Concerned | 0.427 | 0.269 | 3.09 | 2.66 | -0.43 |
| Moderately Concerned | **0.681** ** | **0.265** | **3.09** | **2.66** | **-0.43** |
| Extremely Concerned | **0.679* ** | **0.289** | **3.09** | **2.66** | **-0.43** |
| ***Wildfire Information (Reference: Not Informed)*** | | | | | |
| Slightly Informed | 0.001 | 0.263 | 3.09 | 2.66 | -0.43 |
| Moderately Informed | 0.498† | 0.269 | 3.09 | 2.66 | -0.43 |
| Very Informed | 0.583† | 0.348 | 3.09 | 2.66 | -0.43 |
| ***Highest Risk Combinations*** | | | | | |
| 65+, $75k+, Female, Not Concerned | Combined effect | | 3.40 | 2.77 | **-0.63** |
| 65+, $75k+, Female, Mod. Concerned | Combined effect | | 3.62 | 3.15 | **-0.47** |
| 65+, $75k+, Male, Not Concerned | Combined effect | | 3.40 | 2.77 | **-0.63** |
| ***Lowest Risk Combinations*** | | | | | |
| 18-34, Under $25k, Male, Mod. Concerned | Combined effect | | 2.89 | 2.81 | **-0.08** |
| 18-34, Under $25k, Male, Not Concerned | Combined effect | | 2.70 | 2.42 | **-0.28** |

Note: Three-way interaction coefficients from ordered logistic regression model.
Difference = $y_{\textbf{thinning only}} - y_{\textbf{combined exposure}}$.
Significance levels: *** p<0.001, **p<0.01, *p<0.05, † p<0.10.
*Model includes controls for:* Education (bachelor's degree), wildfire hazard potential (log), and other demographic variables.

**Table A22.** Profiling differences in perceived effectiveness of future (2025/2026) thinning at reducing probability of wildfire

| Demographic Group | Three-Way Interaction | | Predicted Effectiveness Ratings | | |
|---|---|---|---|---|---|
| | Coefficient | SE | Thinning Only | Both Exposures | Difference |
| ***Age Groups (Reference: 18-34)*** | | | | | |
| 35-44 years | -0.060 | 0.249 | 3.16 | 2.74 | -0.42 |
| 45-64 years | -0.406† | 0.218 | 3.20 | 2.78 | -0.42 |
| 65+ years | **-0.816*****| **0.250** | **3.28** | **2.87** | **-0.41** |
| ***Income Groups (Reference: Under $25k)*** | | | | | |
| $25k-50k | -0.146 | 0.238 | 3.09 | 2.66 | -0.43 |
| $50k-75k | -0.165 | 0.253 | 3.09 | 2.66 | -0.43 |
| $75k+ | **-0.649**** | **0.229** | **3.09** | **2.66** | **-0.43** |
| ***Gender (Reference: Female)*** | | | | | |
| Male | 0.202 | 0.172 | 3.09 | 2.66 | -0.43 |
| ***Political Identity (Reference: Non-Conservative)*** | | | | | |
| Conservative | 0.418* | 0.182 | 3.09 | 2.66 | -0.43 |
| ***Wildfire Concern (Reference: Not Concerned)*** | | | | | |
| Slightly Concerned | 0.427 | 0.269 | 3.09 | 2.66 | -0.43 |
| Moderately Concerned | **0.681**** | **0.265** | **3.09** | **2.66** | **-0.43** |
| Extremely Concerned | **0.679*** | **0.289** | **3.09** | **2.66** | **-0.43** |
| ***Wildfire Information (Reference: Not Informed)*** | | | | | |
| Slightly Informed | 0.001 | 0.263 | 3.09 | 2.66 | -0.43 |
| Moderately Informed | 0.498† | 0.269 | 3.09 | 2.66 | -0.43 |
| Very Informed | 0.583† | 0.348 | 3.09 | 2.66 | -0.43 |
| ***Highest Risk Combinations*** | | | | | |
| 65+, $75k+, Female, Not Concerned | Combined effect | | 3.40 | 2.77 | **-0.63** |
| 65+, $75k+, Female, Mod. Concerned | Combined effect | | 3.62 | 3.15 | **-0.47** |
| 65+, $75k+, Male, Not Concerned | Combined effect | | 3.40 | 2.77 | **-0.63** |
| ***Lowest Risk Combinations*** | | | | | |
| 18-34, Under $25k, Male, Mod. Concerned | Combined effect | | 2.89 | 2.81 | **-0.08** |
| 18-34, Under $25k, Male, Not Concerned | Combined effect | | 2.70 | 2.42 | **-0.28** |

Note: Three-way interaction coefficients from ordered logistic regression model.
Difference = $y_{\textbf{thinning only}} - y_{\textbf{combined exposure}}$.
Significance levels: *** p<0.001, **p<0.01, *p<0.05, † p<0.10.
*Model includes controls for:* Education (bachelor's degree), wildfire hazard potential (log), and other demographic variables.

**Table A23.** Profiling differences in perceived effectiveness of future (2025/2026) thinning at reducing size/severity of wildfire

| **Demographic Group** | **Three-Way Interaction** | | **Predicted Effectiveness Ratings** | | |
|---|---|---|---|---|---|
| | **Coefficient** | **SE** | **Thinning Only** | **Both Exposures** | **Difference** |
| ***Age Groups (Reference: 18-34)*** | | | | | |
| 35-44 years | -0.494† | 0.249 | 3.11 | 2.87 | -0.24 |
| 45-64 years | -0.478* | 0.219 | 3.20 | 2.97 | -0.23 |
| 65+ years | **-0.584*** | **0.251** | **3.27** | **3.04** | **-0.23** |
| ***Income Groups (Reference: Under $25k)*** | | | | | |
| $25k-50k | 0.344 | 0.239 | 3.05 | 2.81 | -0.24 |
| $50k-75k | 0.302 | 0.253 | 3.05 | 2.81 | -0.24 |
| $75k+ | 0.049 | 0.231 | 3.05 | 2.81 | -0.24 |
| ***Gender (Reference: Female)*** | | | | | |
| Male | 0.266 | 0.172 | 3.05 | 2.81 | -0.24 |
| ***Political Identity (Reference: Non-Conservative)*** | | | | | |
| Conservative | 0.024 | 0.183 | 3.05 | 2.81 | -0.24 |
| ***Wildfire Concern (Reference: Not Concerned)*** | | | | | |
| Slightly Concerned | 0.454† | 0.269 | 3.05 | 2.81 | -0.24 |
| Moderately Concerned | **0.630*** | **0.266** | **3.05** | **2.81** | **-0.24** |
| Extremely Concerned | 0.381 | 0.287 | 3.05 | 2.81 | -0.24 |
| ***Wildfire Information (Reference: Not Informed)*** | | | | | |
| Slightly Informed | -0.468† | 0.263 | 3.05 | 2.81 | -0.24 |
| Moderately Informed | -0.063 | 0.268 | 3.05 | 2.81 | -0.24 |
| Very Informed | -0.225 | 0.346 | 3.05 | 2.81 | -0.24 |
| ***Highest Risk Combinations*** | | | | | |
| 65+, $75k+, Female, Not Concerned | Combined effect | | 3.51 | 3.27 | **-0.24** |
| 65+, $75k+, Female, Mod. Concerned | Combined effect | | 3.74 | 3.50 | **-0.24** |
| 65+, $75k+, Male, Not Concerned | Combined effect | | 3.51 | 3.27 | **-0.24** |
| ***Lowest Risk Combinations*** | | | | | |
| 18-34, Under $25k, Male, Mod. Concerned | Combined effect | | 3.34 | 3.10 | **-0.24** |
| 18-34, Under $25k, Male, Not Concerned | Combined effect | | 3.05 | 2.81 | **-0.24** |

Note: Three-way interaction coefficients from ordered logistic regression model.
Difference = $y_{\textbf{thinning only}} - y_{\textbf{combined exposure}}$.
Significance levels: *** p<0.001, **p<0.01, *p<0.05, † p<0.10.
*Model includes controls for:* Education (bachelor's degree), wildfire hazard potential (log), and other demographic variables.

**Table A24.** Effect of wildfire/thinning overlap on perceived effectiveness of past and future wildfire

| Outcome | Condition | Fire-on-Thinning | Margin | SE | 95% CI |
|---|---|---|---|---|---|
| ***Reducing Probability of Wildfire*** | | | | | |
| | Combined Exposure | No | 2.730 | 0.023 | [2.686, 2.775] |
| | Combined Exposure | Yes | 2.696 | 0.043 | [2.613, 2.779] |
| | Fire-on-Thinning Effect | | -0.034 | 0.047 | [-0.126, 0.057] |
| ***Reducing Size/Severity of Wildfire*** | | | | | |
| | Combined Exposure | No | 2.752 | 0.024 | [2.705, 2.799] |
| | Combined Exposure | Yes | 2.741 | 0.043 | [2.657, 2.825] |
| | Fire-on-Thinning Effect | | -0.011 | 0.048 | [-0.104, 0.082] |
| ***Reducing Probability of Future Wildfire*** | | | | | |
| | Combined Exposure | No | 2.823 | 0.023 | [2.778, 2.869] |
| | Combined Exposure | Yes | 2.851 | 0.045 | [2.763, 2.938] |
| | Fire-on-Thinning Effect | | 0.027 | 0.050 | [-0.071, 0.125] |
| ***Reducing Size/Severity of Future Wildfire*** | | | | | |
| | Combined Exposure | No | 2.888 | 0.023 | [2.842, 2.934] |
| | Combined Exposure | Yes | 2.874 | 0.044 | [2.787, 2.960] |
| | Fire-on-Thinning Effect | | -0.014 | 0.049 | [-0.110, 0.082] |

**Table A25.** Marginal effects of prescribed fires on perceived effectiveness of past and future thinning

| Outcome | Exposure Group | Marginal Effect | SE | 95% CI | Interpretation |
|---|---|---|---|---|---|
| ***Reducing Probability of Wildfire*** | | | | | |
| | No Thinning, No Wildfire | 0.010 | 0.006 | [-0.002, 0.021] | Positive, non-significant |
| | Thinning Only, No Wildfire | -0.038 | 0.024 | [-0.085, 0.010] | Negative, non-significant |
| | No Thinning, Wildfire Only | -0.057 | 0.080 | [-0.215, 0.100] | Negative, non-significant |
| | Thinning + Wildfire | -0.094 | 0.095 | [-0.280, 0.092] | Negative, non-significant |
| ***Reducing Size/Severity of Wildfire*** | | | | | |
| | No Thinning, No Wildfire | 0.011 | 0.007 | [-0.004, 0.025] | Positive, non-significant |
| | Thinning Only, No Wildfire | -0.060** | 0.021 | [-0.101, -0.019] | Negative, significant |
| | No Thinning, Wildfire Only | -0.055 | 0.089 | [-0.230, 0.120] | Negative, non-significant |
| | Thinning + Wildfire | -0.069 | 0.080 | [-0.226, 0.088] | Negative, non-significant |
| ***Reducing Probability of Future Wildfire*** | | | | | |
| | No Thinning, No Wildfire | 0.001 | 0.009 | [-0.016, 0.018] | Near zero, non-significant |
| | Thinning Only, No Wildfire | -0.013 | 0.031 | [-0.073, 0.048] | Negative, non-significant |
| | No Thinning, Wildfire Only | 0.668*** | 0.104 | [0.465, 0.871] | Strongly positive, significant |
| | Thinning + Wildfire | -0.064 | 0.067 | [-0.196, 0.067] | Negative, non-significant |
| ***Reducing Size/Severity of Future Wildfire*** | | | | | |
| | No Thinning, No Wildfire | -0.006 | 0.008 | [-0.022, 0.010] | Negative, non-significant |
| | Thinning Only, No Wildfire | -0.009 | 0.030 | [-0.068, 0.050] | Negative, non-significant |
| | No Thinning, Wildfire Only | -0.145 | 0.096 | [-0.333, 0.043] | Negative, non-significant |
| | Thinning + Wildfire | -0.103 | 0.081 | [-0.262, 0.057] | Negative, non-significant |

Note: Marginal effects represent the change in expected effectiveness rating (1-4 scale) for a one-unit increase in prescribed fires within each thinning/wildfire exposure group. ***p<0.001, **p<0.01.

**Table A26.** Marginal effects of timber polygons on perceived effectiveness of past and future thinning

| Exposure Group | Marginal Effect | SE | 95% CI | Interpretation |
|---|---|---|---|---|
| ***Reducing probability of wildfire*** | | | | |
| No Thinning, No Wildfire | 0.019 | 0.018 | [-0.016, 0.055] | Positive, non-significant |
| Thinning Only, No Wildfire | 0.322*** | 0.043 | [0.238, 0.407] | Positive, significant |
| No Thinning, Wildfire Only | -0.005 | 0.012 | [-0.029, 0.018] | Negative, non-significant |
| Thinning + Wildfire | 0.003 | 0.012 | [-0.020, 0.026] | Near zero, non-significant |
| ***Reducing size/severity of wildfire*** | | | | |
| No Thinning, No Wildfire | 0.015 | 0.017 | [-0.018, 0.048] | Positive, non-significant |
| Thinning Only, No Wildfire | 0.261*** | 0.061 | [0.142, 0.380] | Positive, significant |
| No Thinning, Wildfire Only | 0.009 | 0.013 | [-0.017, 0.035] | Positive, non-significant |
| Thinning + Wildfire | -0.005 | 0.012 | [-0.028, 0.018] | Near zero, non-significant |
| ***Reducing likelihood of future wildfire*** | | | | |
| No Thinning, No Wildfire | 0.023 | 0.017 | [-0.011, 0.056] | Positive, non-significant |
| Thinning Only, No Wildfire | 0.403*** | 0.084 | [0.238, 0.567] | Positive, significant |
| No Thinning, Wildfire Only | 0.005 | 0.012 | [-0.019, 0.028] | Positive, non-significant |
| Thinning + Wildfire | 0.005 | 0.012 | [-0.019, 0.030] | Positive, non-significant |
| ***Reducing size/severity of future wildfire*** | | | | |
| No Thinning, No Wildfire | 0.019 | 0.016 | [-0.013, 0.051] | Positive, non-significant |
| Thinning Only, No Wildfire | 0.315*** | 0.089 | [0.140, 0.491] | Positive, significant |
| No Thinning, Wildfire Only | 0.012 | 0.012 | [-0.011, 0.035] | Positive, non-significant |
| Thinning + Wildfire | 0.002 | 0.012 | [-0.022, 0.026] | Near zero, non-significant |

Note: Marginal effects represent the change in expected effectiveness rating (1-4 scale) for a one-unit increase in prescribed fires within each thinning/wildfire exposure group.
***p<0.001, **p<0.01.

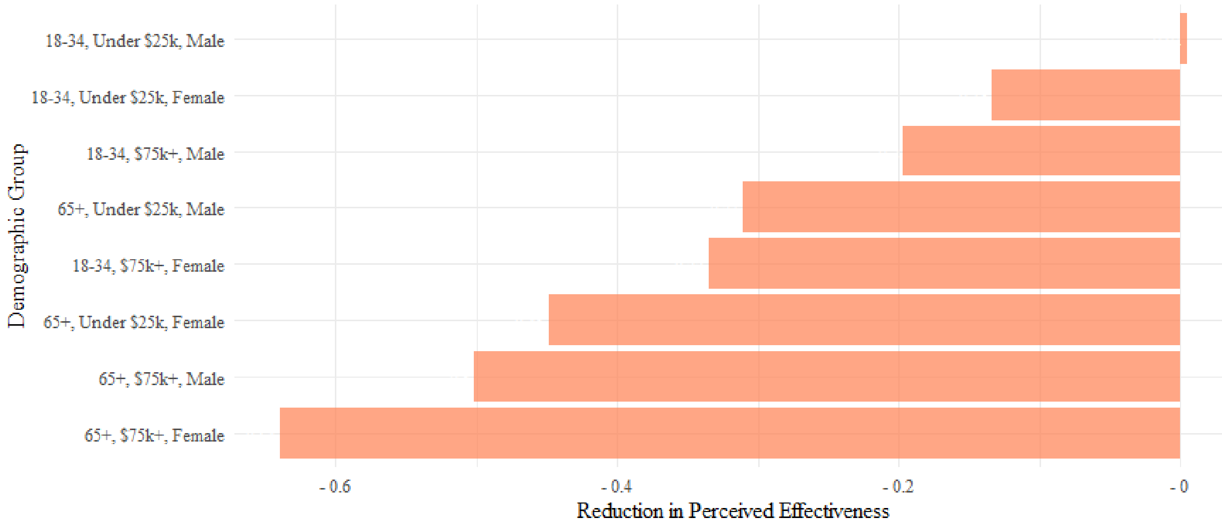


**Figure A4.** Demographic profiles most vulnerable to reduction in perceived effectiveness (y = perceived effectiveness of 2023/2024 thinning at reducing probability of wildfire)

## *A.7 Differences in SES groups*

**Table A27.** Comparison of OLS regressions on perceived effectiveness of past (PT) and future (FT) thinning at reducing wildfire outcomes with income interactions

| **y = effectiveness of** | **PT on fire probability** | **PT on size/severity** | **FT on fire probability** | **FT on size/severity** |
|---|---|---|---|---|
| Pre-fire thinning exposure | 0.1473*** | 0.1178*** | 0.0849*** | 0.0724*** |
| | (0.0130) | (0.0129) | (0.0129) | (0.0128) |
| Wildfire exposure | 0.1175*** | 0.0975*** | 0.1041*** | 0.0938*** |
| | (0.0212) | (0.0211) | (0.0211) | (0.0210) |
| Pre-fire thinning × wildfire | −0.2810*** | −0.2649*** | −0.1822*** | −0.1764*** |
| | (0.0192) | (0.0191) | (0.0190) | (0.0190) |
| Age quartile | | | | |
| 35–44 | −0.0007 | −0.0041 | 0.0144 | 0.0175 |
| | (0.0142) | (0.0141) | (0.0141) | (0.0141) |
| 45–64 | 0.0178 | 0.0158 | 0.0296** | 0.0414*** |
| | (0.0125) | (0.0125) | (0.0125) | (0.0124) |
| 65+ | 0.0410** | 0.0463*** | 0.0558*** | 0.0751*** |
| | (0.0143) | (0.0143) | (0.0142) | (0.0142) |
| Income quartile | | | | |
| $25k–49k | 0.0510*** | 0.0435** | 0.0207 | 0.0281 |
| | (0.0179) | (0.0178) | (0.0178) | (0.0177) |
| $50k–74k | 0.0067 | 0.0233 | 0.0344* | 0.0152 |
| | (0.0195) | (0.0194) | (0.0194) | (0.0193) |
| $75k+ | 0.0514*** | 0.0484*** | 0.0400** | 0.0322* |
| | (0.0186) | (0.0185) | (0.0185) | (0.0184) |
| Wildfire × income quartile | | | | |
| WF × $25k–49k | −0.0401 | −0.0120 | −0.0297 | −0.0195 |
| | (0.0270) | (0.0269) | (0.0269) | (0.0267) |
| WF × $50k–74k | 0.0027 | −0.0054 | −0.0298 | 0.0195 |
| | (0.0287) | (0.0285) | (0.0285) | (0.0284) |
| WF × $75k+ | −0.0441* | −0.0200 | −0.0404 | −0.0036 |
| | (0.0258) | (0.0256) | (0.0256) | (0.0255) |
| Male | 0.0337*** | 0.0258*** | −0.0056 | −0.0135 |
| | (0.0098) | (0.0098) | (0.0098) | (0.0097) |
| Conservative | 0.0345*** | 0.0342*** | 0.0316*** | 0.0421*** |
| | (0.0103) | (0.0103) | (0.0102) | (0.0102) |
| Bachelor's | 0.0119 | 0.0230** | 0.0028 | 0.0180 |
| | (0.0113) | (0.0113) | (0.0112) | (0.0112) |
| Wildfire concern | | | | |
| Slightly concerned (WF) | 0.0550*** | 0.0583*** | 0.0732*** | 0.0716*** |
| | (0.0146) | (0.0146) | (0.0146) | (0.0145) |
| Moderately concerned (WF) | 0.1579*** | 0.1471*** | 0.1923*** | 0.1567*** |
| | (0.0146) | (0.0145) | (0.0145) | (0.0144) |
| Extremely concerned (WF) | 0.1718*** | 0.1739*** | 0.2217*** | 0.2007*** |
| | (0.0155) | (0.0154) | (0.0154) | (0.0153) |
| Self-reported WF management knowledge | | | | |
| Slightly informed (WFM) | 0.0694*** | 0.0575*** | 0.0517*** | 0.0462*** |
| | (0.0149) | (0.0148) | (0.0148) | (0.0147) |
| Moderately informed (WFM) | 0.1563*** | 0.1185*** | 0.1290*** | 0.1230*** |
| | (0.0153) | (0.0152) | (0.0152) | (0.0151) |
| Very informed (WFM) | 0.2435*** | 0.2153*** | 0.1928*** | 0.1589*** |
| | (0.0189) | (0.0188) | (0.0188) | (0.0187) |
| Constant | 0.3585*** | 0.4072*** | 0.4002*** | 0.4257*** |
| | (0.0211) | (0.0210) | (0.0210) | (0.0209) |
| Observations = 8,321 | | | | |
| R-squared | 0.0983 | 0.0860 | 0.0846 | 0.0725 |
| Adj. R-squared | 0.0960 | 0.0837 | 0.0823 | 0.0702 |
| Root MSE | 0.4331 | 0.4313 | 0.4307 | 0.4288 |

*Note:* *p<0.10, **p<0.05, ***p<0.01.

### *A.8 Fractional Response Model Results*

Full results of the fractional response model are given in Table A28. Middle-aged respondents (35-44) show significantly lower support ($\beta = -0.110$, $p < 0.001$) compared to younger cohorts, while older groups show no significant differences from the baseline. Older respondents (65+) believe a greater proportion of the budget is being allocated to prevention ($\beta = 0.092$, $p < 0.001$).

Income demonstrates a positive relationship with prevention preferences across higher income quartiles ($\beta = 0.079$-$0.113$, $p < 0.05$), consistent with higher-income individuals supporting longer-term policy investments. However, income shows no significant association with beliefs about current spending levels, indicating that socioeconomic status affects budget preferences but not perceptions of existing allocations.

Gender significantly affects both outcomes, with male respondents preferring lower prevention allocations ($\beta = -0.092$, $p < 0.001$) and also believing lower proportions are currently allocated to prevention ($\beta = -0.056$, $p < 0.01$). Political orientation shows no significant effects on either outcome. Education shows positive but non-significant preferences for prevention spending, and is negatively correlated with beliefs about spending ($\beta = -0.089$, $p < 0.001$).

The strongest predictors of both budget preferences and beliefs are wildfire concern and self-reported wildfire management knowledge. Both are significantly negatively associated with preferred prevention allocations ($\beta = -0.083$ and $-0.106$, respectively; $p < 0.001$) and beliefs about current prevention spending ($\beta = -0.058$ and $-0.111$, respectively; $p < 0.001$). Despite these negative coefficients, highly concerned and knowledgeable individuals still support allocating substantially more to prevention than is currently spent (approx. 45% vs. 22%)[18]. These negative associations likely reflect more informed or calibrated expectations: individuals with greater knowledge of wildfire policy may be more aware of current funding levels, leading to lower estimates of prevention spending. Their preferences, while modestly lower than those of less-informed respondents, nonetheless reflect strong support for increased prevention investment. Accordingly, these coefficients should not be interpreted as indicating opposition to prevention, but rather as evidence of more grounded policy assessments relative to an uninformed or unconcerned baseline.

[18] The 22% figure represents the 10-year average share of the total federal wildfire management budget (across both the Department of the Interior and the U.S. Forest Service) allocated to prevention activities, as reported in Riddle (2024) and Riddle (2020).

**Table A28.** Fractional logistic regression of federal wildfire budget allocation preferences

| **Variable** | **Preferred allocation** | **Believed allocation** |
|---|---|---|
| Wildfire exposure | 0.036 | -0.018 |
| | (0.030) | (0.030) |
| Pre-fire thinning exposure | 0.001 | 0.065** |
| | (0.027) | (0.027) |
| Pre-fire thinning × Wildfire | -0.019 | -0.060 |
| | (0.041) | (0.041) |
| Age Quartile | | |
| 35-44 | -0.110*** | -0.027 |
| | (0.031) | (0.031) |
| 45-64 | -0.014 | 0.040 |
| | (0.027) | (0.027) |
| 65+ | 0.039 | 0.092*** |
| | (0.030) | (0.030) |
| Income Quartile | | |
| $25k-49k | 0.079** | 0.023 |
| | (0.028) | (0.028) |
| $50k-74k | 0.113*** | 0.049 |
| | (0.031) | (0.031) |
| $75k+ | 0.066* | -0.028 |
| | (0.030) | (0.030) |
| Male | -0.092*** | -0.056** |
| | (0.021) | (0.021) |
| Conservative | -0.031 | -0.014 |
| | (0.023) | (0.023) |
| Bachelor's degree | 0.035 | -0.089*** |
| | (0.025) | (0.025) |
| Wildfire concern | -0.083*** | -0.058*** |
| | (0.011) | (0.011) |
| WF management knowledge | -0.106*** | -0.111*** |
| | (0.013) | (0.013) |
| Constant | 0.466*** | 0.172*** |
| | (0.045) | (0.045) |
| Observations | 8,321 | 8,321 |
| Pseudo $R^2$ | 0.006 | 0.006 |
| Wald $\chi^2(14)$ | 270.05*** | 263.14*** |

*Notes*: *p<0.05, **p<0.01, ***p<0.001.

Dependent variables: preferred/believed proportion of federal wildfire budget allocated to prevention (0-1 scale).

## B Survey Instrument

*Consent Section*

**Welcome.** You are being asked to complete this online survey as part of a research study on wildfire management. Participation does not require prior knowledge. We will provide you with the necessary background information before asking for your input. This survey is estimated to take about 6 minutes to complete. Participation is completely voluntary, and responses will remain completely confidential. There are no risks associated with participation beyond those of everyday use of computers. For additional information, contact the research team at the University of Wyoming (tcherry@uwyo.edu), and you may contact the Institutional Review Board at the University of Wyoming (irb@uwyo.edu) if you have questions about your rights as a participant. **By continuing to the survey, you consent to participating. Thank you!**

*Zip Code and Quotas*

(1) This survey is part of a study on wildfire management and the questions depend on local conditions. Your zip code allows you to receive the questions that match your local conditions. What is your zip code?
- Respondents enter their five-digit zip code.

(2) What is your gender?
- Male
- Female
- Other
- Prefer not to say

(3) What is your age?
- 18 to 19 years
- 20 to 24 years
- 25 to 34 years
- 34 to 44 years
- 45 to 54 years
- 55 to 64 years
- 65 to 74 years
- 75 to 84 years
- 85+ years

(4) Which race or ethnicity best describes you?
- American Indian or Alaskan Native
- Asian or Pacific Islander
- Black or African American

- Hispanic
- White or Caucasian
- Other

*Warm Up Section*

This survey is part of a study on public views on wildfire management on public lands. Federal public lands account for about 27% of total U.S. land area and are concentrated in the western states and Alaska. Federal lands include national parks, national forests, recreation areas, etc.

Wildfires are unplanned, unwanted fires burning in natural areas such as forests, grasslands, or prairie. In 2022, 68,988 wildfires burned 7.6 million acres of land in the United States. While some wildfires can benefit ecosystem vitality and renewal, wildfires can have significant ecological and economic costs. The estimated total cost of wildfires approaches $300 billion annually.

**The button to continue will appear after you've had enough time to read.**

(5) Generally speaking, how informed are you about wildfire management?
- Very informed
- Moderately informed
- Slightly informed
- Not informed at all

(6) More specifically, how informed are you about forest management activities in your area?
- Very informed
- Moderately informed
- Slightly informed
- Not informed at all

(7) How concerned are you about the threat of wildfires to your property and personal safety?
- Extremely concerned
- Moderately concerned
- Slight concerned
- Not concerned at all

*Background Section*

**Please read the following background information for the next few questions.**

Wildfire Management balances the ecological benefits of wildfires while minimizing the negative impacts that wildfires can have on ecosystems and communities.

Hazardous fuels thinning is a primary wildfire management technique that reduces the amount of flammable vegetation in an area, such as dry grass, fallen trees, logs, and shrubs. Thinning is a proactive or prevention action that is meant to reduce the risk and severity of wildfires.

**The button to continue will appear after you've had enough time to read.**

*Treatment Section*

Following an active wildfire season, the next few questions will ask for your views on the effectiveness of hazardous fuels thinning. We are interested in your views on **(i) how thinning reduced the chances of a fire occurring** and **(ii) how thinning reduced the size and severity of a fire that did occur.**

*Treatment 1*

Based on our records:

- In the previous two years, the U.S. Forest Service conducted hazardous fuels thinning in your area.
- This year, a severe wildfire occurred in your area (within 150 miles of your zip code).

**The button to continue will appear after you've had enough time to read.**

(8) Considering the recently completed thinning, how effective do you think the thinning was at reducing the chances of the recent wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(9) Considering the recently completed thinning, how effective do you think the thinning was reducing the size and severity of the recent wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

Over the next two years, the U.S. Forest Service is planning to conduct hazardous fuels thinning in your area.

(10) In your view, how effective do you think the planned thinning will be at reducing the chances of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective

- Not effective at all

(11) In your view, how effective do you think the planned thinning will be at reducing the size and severity of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

*Treatment 2*

Based on our records:

- In the previous two years, the U.S. Forest Service did NOT conduct hazardous fuels thinning in your area.
- This year, a severe wildfire occurred in your area (within 150 miles of your zip code).

**The button to continue will appear after you've had enough time to read.**

(12) Considering no recently completed thinning, how effective do you think thinning would have been at reducing the chances of the recent wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(13) Considering no recently completed thinning, how effective do you think thinning would have been at reducing the size and severity of the recent wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

Over the next two years, the U.S. Forest Service is planning to conduct hazardous fuels thinning in your area.

(14) In your view, how effective do you think the planned thinning will be at reducing the chances of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(15) In your view, how effective do you think the planned thinning will be at reducing the size and severity of future wildfires in your area?
- Very effective

- Moderately effective
- Slightly effective
- Not effective at all

*Treatment 3*

Based on our records:

- In the previous two years, the U.S. Forest Service conducted hazardous fuels thinning in your area.
- This year, a severe wildfire occurred in your area (within 150 miles of your zip code).

**The button to continue will appear after you've had enough time to read.**

(16) Considering the recently completed thinning, how effective do you think the thinning was at reducing the chances of the recent wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(17) Considering the recently completed thinning, how effective do you think the thinning was at reducing the size and severity of the recent wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

Over the next two years, the U.S. Forest Service is NOT planning to conduct hazardous fuels thinning in your area.

(18) In your view, how effective do you think thinning in the next two years would be at reducing the chances of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(19) In your view, how effective do you think thinning in the next two years would be at reducing the size and severity of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

*Treatment 4*

Based on our records:

- In the previous two years, the U.S. Forest Service did NOT conduct hazardous fuels thinning in your area.
- This year, a severe wildfire occurred in your area (within 150 miles of your zip code).

**The button to continue will appear after you've had enough time to read.**

(20) Considering no recently completed thinning, how effective do you think thinning would have been at reducing the chances of the recent wildfire in your area?
  - Very effective
  - Moderately effective
  - Slightly effective
  - Not effective at all

(21) Considering no recently completed thinning, how effective do you think thinning would have been at reducing the size and severity of the recent wildfire in your area?
  - Very effective
  - Moderately effective
  - Slightly effective
  - Not effective at all

Over the next two years, the U.S. Forest Service is NOT planning to conduct hazardous fuels thinning in your area.

(22) In your view, how effective do you think thinning in the next two years would be at reducing the chances of future wildfires in your area?
  - Very effective
  - Moderately effective
  - Slightly effective
  - Not effective at all

(23) In your view, how effective do you think thinning in the next two years would be at reducing the size and severity of future wildfires in your area?
  - Very effective
  - Moderately effective
  - Slightly effective
  - Not effective at all

*Treatment 5*

Based on our records:

- In the previous two years, the U.S. Forest Service conducted hazardous fuels thinning in your area.
- This year, a severe wildfire did NOT occur in your area (within 150 miles of your zip code).

**The button to continue will appear after you've had enough time to read.**

(24) Considering the recently completed thinning, how effective do you think the thinning was at reducing the chances of a potential wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(25) Considering the recently completed thinning, how effective do you think the thinning was reducing the size and severity of a potential wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

Over the next two years, the U.S. Forest Service is planning to conduct hazardous fuels thinning in your area.

(26) In your view, how effective do you think the planned thinning will be at reducing the chances of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(27) In your view, how effective do you think the planned thinning will be at reducing the size and severity of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

*Treatment 6*

Based on our records:

- In the previous two years, the U.S. Forest Service did NOT conduct hazardous fuels thinning in your area.

- This year, a severe wildfire did NOT occur in your area (within 150 miles of your zip code).

**The button to continue will appear after you've had enough time to read.**

(28) Considering no recently completed thinning, how effective do you think thinning would have been at reducing the chances of a potential wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(29) Considering no recently completed thinning, how effective do you think thinning would have been at reducing the size and severity of a potential wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

Over the next two years, the U.S. Forest Service is planning to conduct hazardous fuels thinning in your area.

(30) In your view, how effective do you think the planned thinning will be at reducing the chances of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(31) In your view, how effective do you think the planned thinning will be at reducing the size and severity of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

*Treatment 7*

Based on our records:

- In the previous two years, the U.S. Forest Service conducted hazardous fuels thinning in your area.
- This year, a severe wildfire did NOT occur in your area (within 150 miles of your zip code).

**The button to continue will appear after you've had enough time to read.**

(32) Considering the recently completed thinning, how effective do you think the thinning was at reducing the chances of a potential wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(33) Considering the recently completed thinning, how effective do you think the thinning was at reducing the size and severity of a potential wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

Over the next two years, the U.S. Forest Service is NOT planning to conduct hazardous fuels thinning in your area.

(34) In your view, how effective do you think thinning in the next two years would be at reducing the chances of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(35) In your view, how effective do you think thinning in the next two years would be at reducing the size and severity of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

*Treatment 8*

Based on our records:

- In the previous two years, the U.S. Forest Service did NOT conduct hazardous fuels thinning in your area.
- This year, a severe wildfire did NOT occur in your area (within 150 miles of your zip code).

**The button to continue will appear after you've had enough time to read.**

(36) Considering no recently completed thinning, how effective do you think thinning would have been at reducing the chances of a potential wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(37) Considering no recently completed thinning, how effective do you think thinning would have been at reducing the size and severity of a potential wildfire in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

Over the next two years, the U.S. Forest Service is NOT planning to conduct hazardous fuels thinning in your area.

(38) In your view, how effective do you think thinning in the next two years would be at reducing the chances of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

(39) In your view, how effective do you think thinning in the next two years would be at reducing the size and severity of future wildfires in your area?
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

*Prevention versus Suppression Section*

Wildfire management must decide how to allocate their spending between prevention and suppression. The tradeoff is that investing in prevention reduces the likelihood of a future fire occurring, while investing in suppression helps ensure effective responses to reduce the damages when fires do occur.

(40) What is your best guess of the actual budget allocation between prevention and suppression activities over the previous 10 years?

- Respondents use a slider to indicate the budget allocation between prevention and suppression (range from '100-0 all prevention' to '50-50 split' to '0-100 all suppression')

(41) What would have been your preferred budget allocation between prevention and suppression activities over the previous 10 years?
- Respondents use a slider to indicate the budget allocation between prevention and suppression (range from '100-0 all prevention' to '50-50 split' to '0-100 all suppression')

*Voluntary Section*

Firewise USA is a program that identifies ways that households can reduce the risk of destruction from wildfires. Importantly, a household's risk depends on what its neighbors do, so the effectiveness of the Firewise USA program depends on other households in the community joining. Households can join the program by adopting recommendations and contributing 1-hour of volunteering or paying $25 to help the community adopt the recommendations.

(42) What type of housing do you currently live in?
- House [go to 43]
- Townhome or duplex [go to 46]
- Condo [go to 46]
- Apartment [go to 46]
- Manufactured home [go to 46]
- Other [go to 46]

(43) Have you participated in Firewise USA
- Yes [go to 44]
- No [go to 45]

(44) How effective do you believe the Firewise USA program was in reducing the likelihood of fires or damage from fires this year?
- Not effective at all
- Slightly effective
- Moderately effective
- Very effective
- Extremely effective

(45) Which of the following statements best describe your willingness to join the Firewise USA program. I would join the Firewise USA program...
- Regardless of what my neighbors do.
- Only if others in my community join.
- I would not join in any case.

- I don't know.

(46) Would you support a requirement that households in your community join Firewise USA?
- Yes
- No
- I don't know

*Demographics Section*

Finally, we would like to ask some questions about you. Your answers to these questions are extremely important to make sure that our analysis is reliable and that results can better inform policy.

(47) In what state do you currently reside?

drop down menu

(48) What is the highest level of school you have completed or the highest degree you have received?
- Less than high school
- High school graduate (high school diploma or equivalent including GED)
- Some college but no degree
- Associate degree
- Bachelor's degree
- Graduate degree

(49) In general, how would you describe your views on most political issues?
- Very conservative
- Conservative
- Moderate
- Liberal
- Very liberal

(50) As close as you can recall, what is your household's total annual income before taxes?
- Under $15,000
- Between $15,000 and $24,999
- Between $25,000 and $34,999
- Between $35,000 and $49,000
- Between $50,000 and $64,999
- Between $65,000 and $74,999
- Between $75,000 and $99,999
- Between $100,000 and $149,999
- Between $150,000 and $199,999

- $200,000 or more