Postfire Reforestation in New Mexico: Private Landowner Barriers, Financial Need, and Interest

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Abstract

Extreme wildfire is creating growing postfire reforestation needs across the southwestern United States, including on nonindustrial private forest (NIPF) lands where recovery depends on landowner willingness and capacity to replant. This study examined barriers, financial assistance needs, and likelihood of reforestation among private forest landowners affected by the 2022 Hermits Peak/Calf Canyon Fire and 2024 South Fork Fire in New Mexico. A mixed-mode survey conducted in summer 2026 produced 408 usable responses; descriptive and bivariate analyses were used to assess barriers, and ordinal logistic regression was used to examine financial assistance needs and likelihood of reforesting. More than 70% of respondents identified lack of information, materials, technical support, or financial support as barriers, and about half did not feel capable of reforesting. Lower financial security and Hispanic landowners reported greater barriers and substantially greater financial assistance needs, while higher personal responsibility and self-efficacy were associated with lower financial assistance needs. Greater likelihood of reforesting was associated with lower financial security, personal responsibility, self-efficacy, concern about future wildfire, and greater forest impacts from wildfire; Hispanic landowners reported somewhat lower likelihood of reforesting. Findings suggest that effective postfire reforestation programs should combine targeted financial assistance with technical support, capacity building, and outreach, while considering differences in socioeconomic constraints and wildfire impacts when recruiting participants.

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1. Introduction

The severity and scale of wildfire events are increasing across the western United States (US), with the southwestern US disproportionately impacted. This wildfire crisis is leading to an unprecedented number of burned forested landscapes, many of which will not regenerate naturally under optimal timeframes. This is leading to the loss of important ecosystem services with negative cultural and economic impacts to local communities. Biophysical research to improve reforestation success through improvements in seed source and outplanting is a critical element to improving postfire reforestation outcomes. However, postfire reforestation on nonindustrial private forest (NIPF) lands also requires understanding what motivates people to undertake restoration and what prevents them from doing it, in order to effectively engage and support landowners in these actions. This study focused on postfire reforestation on non-Tribal NIPF lands in two recent wildfire areas in New Mexico. The specific research questions included:

(1) What barriers do landowners face to reforest after wildfire?

(2) What types of landowners report greater financial need to reforest?

(3) What types of landowners are likely to reforest after wildfire?

The study was conducted in the 2022 Hermits Peak/Calf Canyon (HPCC) Fire scar and the 2024 South Fork (SF) Fire scar, both of which burned significant areas of NIPF lands (Figure 1). The HPCC Fire was the result of two escaped US Forest Service burns on the Santa Fe National Forest in April 2022 that later merged. The fire ultimately burned roughly 341,735 acres, becoming the largest wildfire in NM's recorded history. The fire impacted roughly 145,000 acres of national forest, 200,000 acres of private land, and under 1,000 acres of state land. Private land was about 58% of the burn area, and this was mostly land-grant and small-holder parcels in Mora and San Miguel counties (Fire Adapted New Mexico, 2024). Soil burn severity was high on 21-34% of assessed acres, with roughly 82,000 acres burned at high fire severity (USDA Forest Service, 2022a, 2022b, 2022c). While no deaths were attributed to the fire itself, at least three people died in postfire flooding, and more than 75 flash-flood and debris-flow reports occurred on the burn scar between June 2022 and June 2024 (Fire Adapted New Mexico, 2024). Congress created the HPCC Fire Assistance Act compensation fund in 2022 and subsequently added to that amount, for a total of about $5.45 billion by 2024 for postfire recovery (U.S. Department of Homeland Security, Office of Inspector General, 2026). The FEMA Claims Office partnered with the Natural Resources Conservation Service (NRCS) to develop a separate Conservation Restoration Plan for the affected private lands. The estimated restoration costs on private lands by NRCS were about $1.12 billion for just over 160,000 acres. The

work included removing dead trees, tree and shrub establishment, containing soil erosion, and debris removal, among other actions; about $581 million had been compensated as of November 2024 (USDA Natural Resources Conservation Service, 2024).

The SF Fire was ignited by lightning on the Mescalero Apache Reservation in June 2024, alongside the smaller Salt Fire, and ran roughly 15,000 acres in its first 24 hours under extreme fire behavior (crowning, long-range spotting) into the Village of Ruidoso and the Lincoln National Forest. The final fire size was 17,066 acres (the two fires combined burned 25,370 acres), of which 5,822 acres were on national forest land; the remaining ~11,200 acres were across the Mescalero Apache Tribal trust land and private/municipal land in Lincoln County (USDA Forest Service, 2024). Soil burn severity was mapped at 20% high, 46% moderate, 23% low, and 11% unburned/very low for the SF Fire (USDA Forest Service, 2024). Human impacts were acute: more than 8,000 residents of Ruidoso and Ruidoso Downs were evacuated (New Mexico Office of the Governor, 2024), and over 900 structures were destroyed (McCarthy, 2024). The Governor of NM issued Executive Order 2024-107 and a federal major disaster declaration (DR-4795) followed. Postfire flooding began within a day of ignition when moisture from Tropical Storm Alberto fell on the fresh burn scar, and the community has since been under at least a dozen flash-flood emergencies, with more than 150 additional structure losses to postfire flooding. Postfire restoration efforts have focused on watershed protection, erosion control, and flood/debris-risk reduction supported by $50 million through NRCS's Emergency Watershed Protection program and $10 million in state postfire appropriations, with an additional $10 million requested from the US Forest Service (McCarthy, 2024).

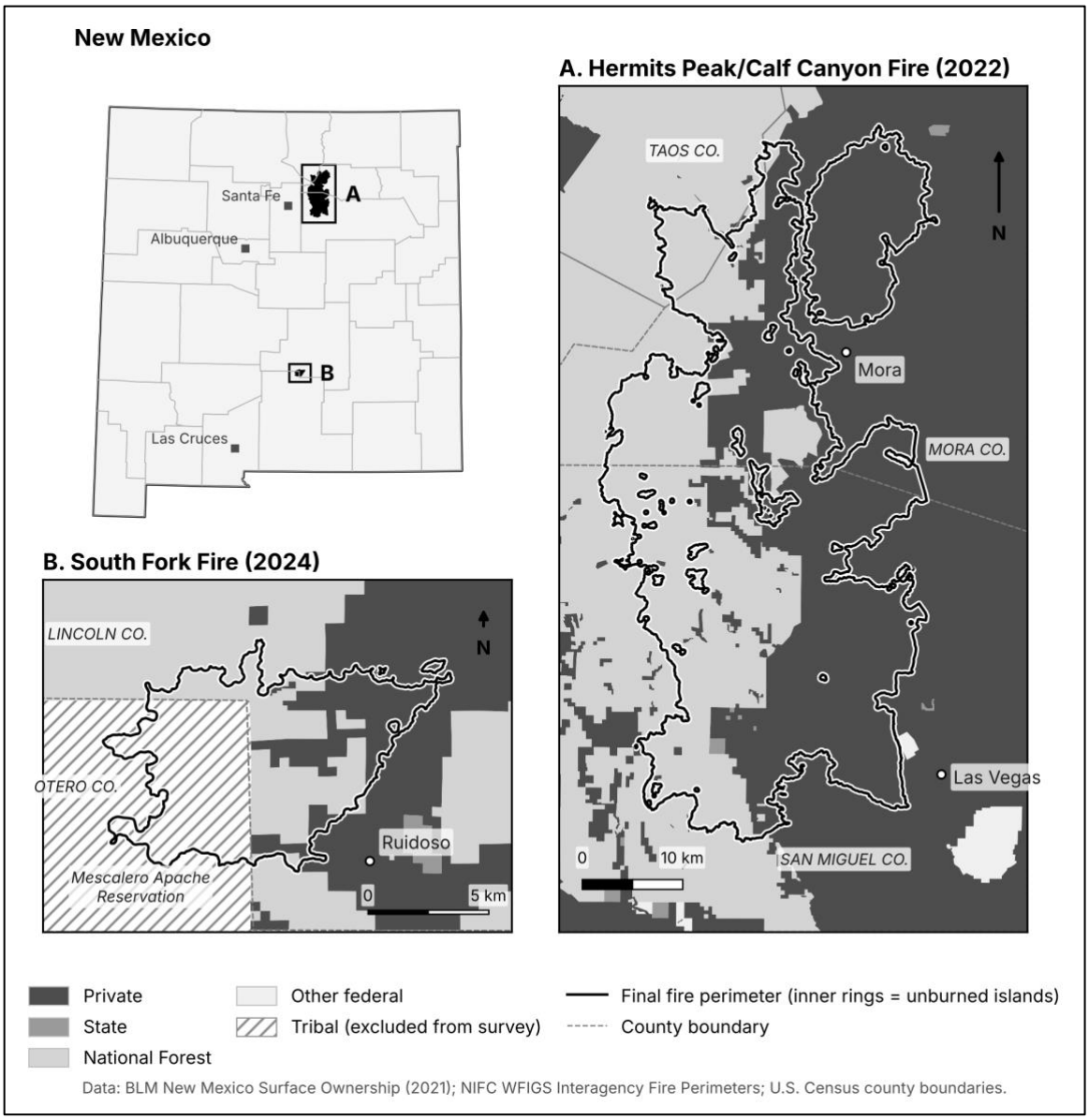


Figure 1. Study area: the 2022 Hermits Peak/Calf Canyon (HPCC) Fire (A) and the 2024 South Fork (SF) Fire (B) in New Mexico, showing land ownership within and around each final fire perimeter. Private land made up about 58% of the HPCC burn area (~199,000 acres) and about 25% of the SF burn area (~4,300 acres); Tribal land on the Mescalero Apache Reservation (~41% of the SF burn area) was excluded from the survey. Data: Bureau of Land Management, New Mexico State Office (2021); National Interagency Fire Center (n.d.); U.S. Census Bureau (2017).

2. Methods

2.1. Survey

A short survey was developed to learn about private forest landowners' experience with wildfire, postfire reforestation interest, and reforestation barriers and financial assistance need. The survey instrument was informed by similar surveys on NIPF landowner reforestation in Oregon and Washington State (Baylog et al., 2025; Steen-Adams & Klotz, 2025), as well as a broader literature review on landowner motivations and participation in reforestation and forest actions across the US (Clarke et al., 2025; Dawes et al., 2018; Floress et al., 2019; Hamilton et al., 2018; Myers et al., 2023; Schneider et al., 2025; Waks et al., 2019).

The final survey had 23 questions (Appendix A); all were close-ended. The survey was targeted to NIPF landowners whose forests were impacted by fire in the 2022 HPCC fire or 2024 SF fire. The survey was distributed both online and in the mail using several dissemination approaches:

- The online survey was shared by NM's Forestry Division with landowner listservs in both the HPCC and SF. The approximate number of landowners was 325. The online survey was shared by the South-Central Mountain Resource Conservation and Development (SCM RC&D) Council to landowners in the SF that were part of the NRCS Emergency Watershed Protection program. The approximate number of landowners was 750. An initial email with survey link was sent out, and two weeks later, a reminder email was sent.
- A mailed survey packet that included a cover letter, the survey, a stamped return envelope, and a link to take the online survey was mailed to 750 households in the HPCC fire area. Postal addresses were obtained through an agreement with American Forests. Forty envelopes were returned to sender, for a total of 710 mailed surveys. A reminder postcard with a phone number and link to the online survey was mailed two weeks later.
- A mailed invitation letter with a link to the online survey was mailed to 750 households in the SF area. Postal addresses were obtained through an agreement with American Forests. Thirty-seven envelopes were returned to sender, for a total of 713 mailed letters. No reminder postcards were sent.

The survey was open for two months in summer 2026. The total number of survey responses was 408. Sixty-four additional landowners started the survey but did not complete enough of the survey to be included in analysis and two surveys were returned past the survey end date and were not included. The total number of usable survey

responses in the HPCC fire area was 212. In the SF area, there were 196 usable landowner responses. Based on disseminated versus returned survey numbers, the overall response rate was 16% for usable surveys, and 19% when including the 66 landowners that engaged with the survey but were not included in analysis. The response rate varied widely across dissemination strategy with the highest response rate from landowners emailed by NM's Forestry Division (39%), followed by the mailed survey packet that included the survey and return envelope (21%), and much lower rates from the landowners emailed by SCM RC&D and that only received an invitation letter with the online link (<10% each). The response rate cannot be split by fire area since emails from NM's Forestry Division included landowners in both sites.

2.2. Analysis

The 23 survey questions were summarized for the full sample and each wildfire area, and similarities and differences across wildfire areas were tested using Pearson Chi2 tests for binary variables and Wilcoxon rank-sum tests for ordinal variables. These descriptive statistics are reported in Section 3.

Pearson Chi2 tests and Wilcoxon rank-sum tests were also used to answer research question 1 about reforestation barriers and identify other associations between landowner characteristics and reforestation variables. The landowner characteristics that were used included age, education, financial situation, ethnicity, and distance to forested property. The five landowner characteristics were all binary following recoding of three variables to account for a low number of responses in one category. This included age, which was recategorized as landowners that were <65 (30%) and 65+ (70%). The education variable was reduced to landowners with a bachelor's degree or higher (67%) and those with less education (33%). Finally, the variable measuring financial security was recoded to landowners with higher financial security (54%) or lower financial security (46%). Ethnicity (Hispanic versus non-Hispanic) and distance to forest (<1 hour or >1 hour) remained the same as the original coding. Landowner characteristics were compared to barriers to reforestation (yes/no), forest management objectives prior to fire (personal use only, or both personal use and to make money), postfire reforestation objectives (yes/no), and stated reasons for not being interested in reforestation (yes/no). The same landowner characteristics were compared to reforestation likelihood (5-point Likert scale), minimum financial support needed (6 categories), feelings of self-efficacy, personal responsibility, and social norms toward reforestation (3-point Likert scale), the importance of planting the same types of trees (4 categories), the number of years a reforestation project would last (4 categories), and the percent of trees expected to survive after replanting (5 categories). Results are presented in Section 4.

Ordinal logistic regression was used to answer research questions 2 and 3. For research question 2, financial assistance needed to participate in a reforestation project was measured using six categories ranging from 0% to 100%. Independent variables that were tested included landowner characteristics of age, education, financial security, ethnicity, and distance to forest; behavioral or psychosocial variables of self-efficacy, personal responsibility, and social norms; and wildfire and forest variables of total forested acres, percent of forest affected by wildfire, and whether a house or other infrastructure was affected by wildfire. Starting with all independent variables, the best fitting model was determined based on theory and using likelihood ratio tests to achieve a parsimonious specification. To answer research question 3, reforestation likelihood was measured as a landowner's intention to reforest their land in the next 10 years. This dependent variable had five categories ranging from very unlikely to very likely. Independent variables that were tested included landowner characteristics of age, education, financial security, ethnicity, and distance to forest; behavioral or psychosocial variables of self-efficacy, personal responsibility, and social norms; and wildfire and forest variables of total forested acres, percent of forest affected by wildfire, and concern for future wildfire. Starting with all independent variables, a final, best fitting model was determined based on theory and using likelihood ratio tests. In both regression models, a wildfire regional dummy variable was included to control for any additional time-invariant unobserved differences across fire areas, landowners, and restoration process, such as the year the wildfire occurred. Results of ordinal logistic regression are reported as odds ratios, where a value >1 indicates a greater odds and a value <1 a lower odds. Results are presented in Sections 5 and 6.

3. Summary statistics by wildfire areas

In this section, responses to each survey question are summarized for all survey respondents and for respondents in each wildfire area (HPCC and SF). Since some questions were skipped by respondents, the response number varies. Figures 2–8 show responses to key questions, and tables of the summary statistics for every question, ordered by survey question number, can be found in Appendix B.

3.1 Forested acres prior to wildfire

Across all respondents, about half owned 1-5 acres (46%), with about 10% reporting owning 6-10, 11-20, 21-40, 41-100, 101-500, and only ~3% owning more than 500 acres. Landowners in the HPCC were more likely to own larger forested properties (Wilcoxon rank-sum, $p<0.01$). Respondents in the SF were more likely to own 1-5 acres

(80%) whereas in the HPCC landowners were more likely to own over 40 acres (>40%) (Figure 2; Table B6).

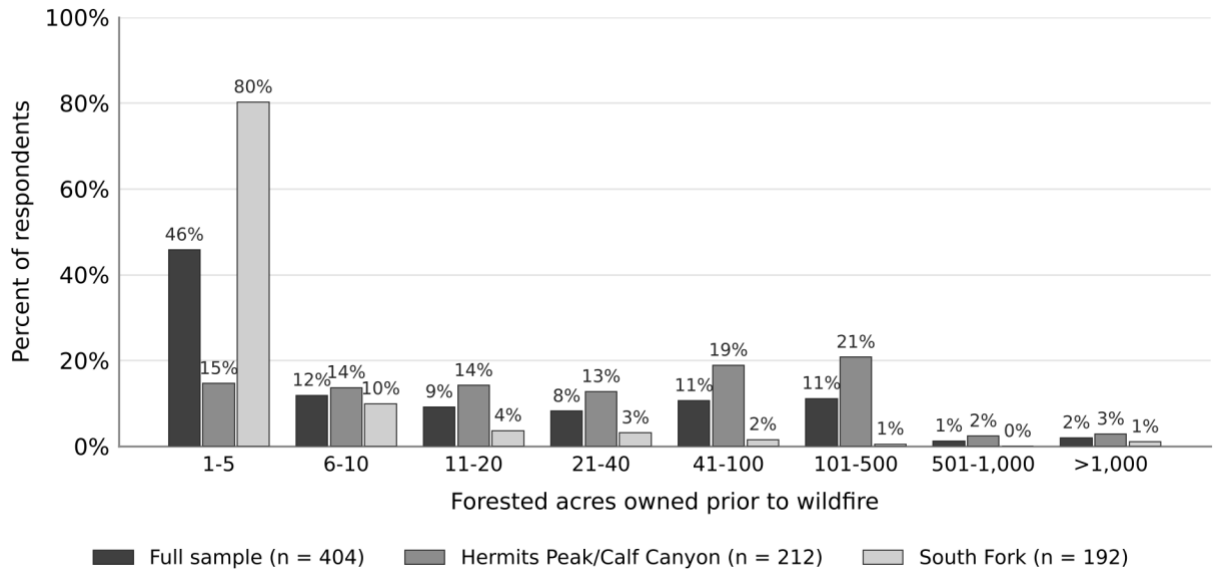


Figure 2. Forested acres owned prior to wildfire, by wildfire area (Q7).

There were also significant differences in length of forest ownership across fire areas, with people in the HPCC owning forest for more years (Wilcoxon rank-sum, $p<0.01$). Close to 70% of respondents in the HPCC had owned their forest for 20 years or more. In the SF, respondents were more likely to have owned the forest for 20 years or less (~60%) (Table B7).

Across the full sample about half of respondents (48%) lived within a 1-hour drive and half lived farther away. More landowners in the HPCC (57%) lived within a 1-hour drive of the forested property, versus landowners in the SF (38%). This difference was statistically significant ($Chi2(1)=15.32$, $p<0.01$) (Table B5).

3.2 Forest management

Having a Forest Management Plan (FMP) was not very common in the study area, with only 15% of the full sample reporting a FMP and 20% stating they did not know if they had one. HPCC respondents were more likely to report having a FMP (17%) although many SF respondents did not know if they had a FMP (29%). The distribution of responses differed significantly between the two fire areas ($Chi2(2)=16.09$,$p<0.01$) (Table B8).

Across both study sites, the motivation to manage forests for only personal use (77%) was much higher than for both personal use and money. Respondents in the HPCC

were more likely to manage forests for both personal use and as an income source (38%), which could include selling firewood or other products from the forest. The distribution of responses differed significantly across the two fire areas (Chi2(1)=52.96,p<0.01) (Table B9).

3.3 Wildfire impacts

Most respondents reported that 76-100% of their forest was affected by wildfire (59%) and this was consistent across both fire areas (57% in HPCC and 62% in SF). There was not a significant difference in forested acres impacted across fire areas (Figure 3; Table B11).

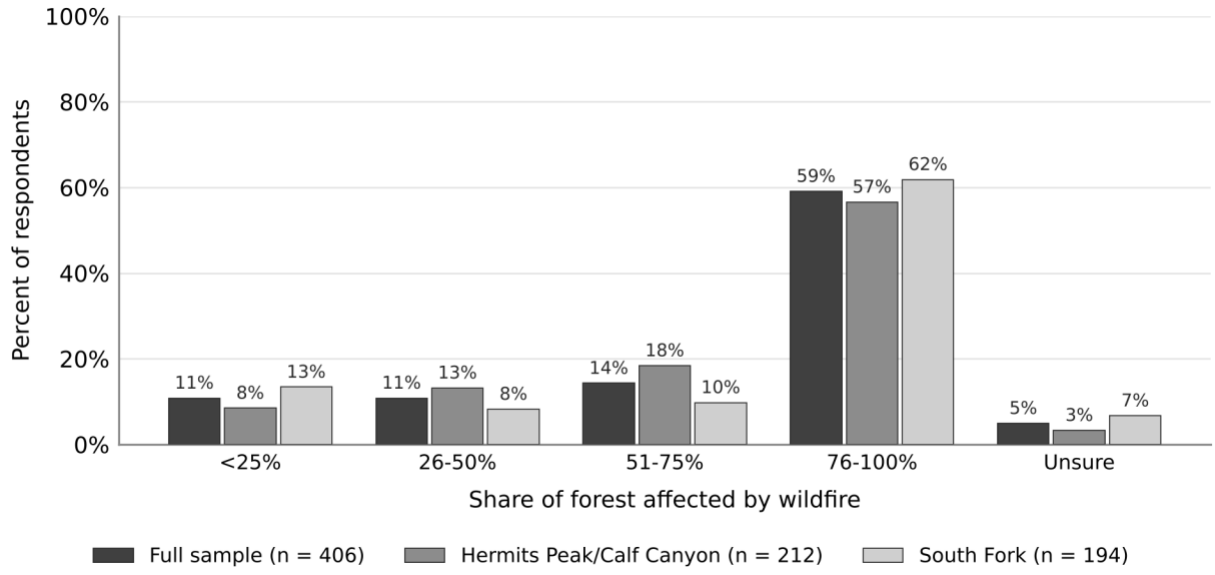


Figure 3. Share of forest affected by the most recent wildfire, by wildfire area (Q13).

More than half of all respondents stated that they remained very concerned about future wildfire on their property (52%), with about 29% somewhat concerned, 16% slightly concerned, and 3% not at all concerned. Level of concern differed significantly between the two fire areas (Wilcoxon rank-sum, p=0.02), with respondents in the HPCC reporting greater concern for future wildfire (Figure 4; Table B12).

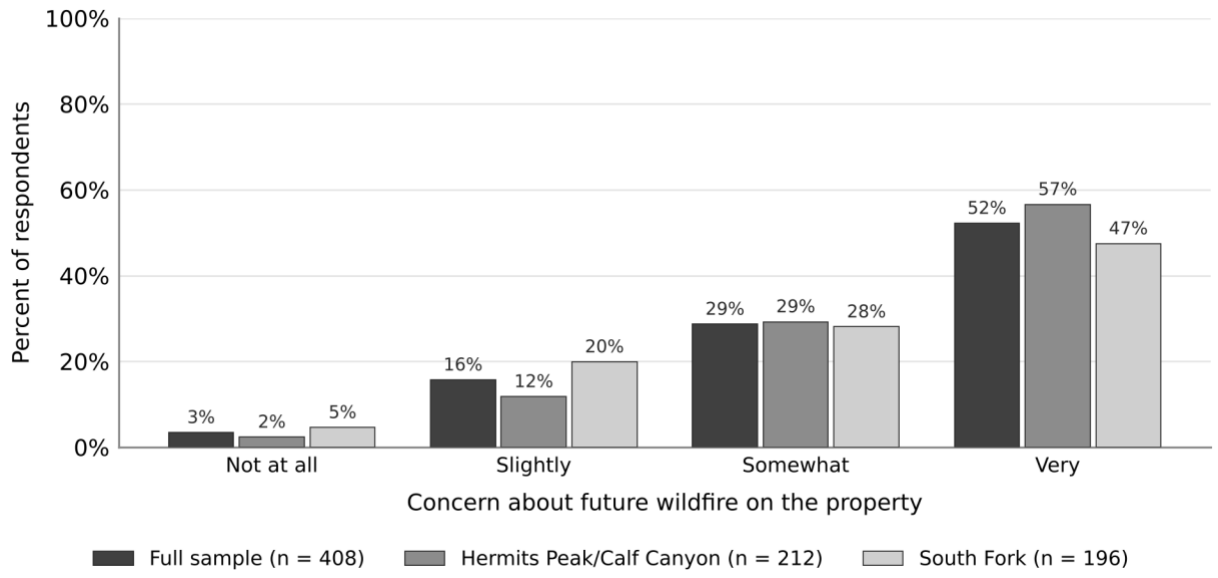


Figure 4. Concern about future wildfire on the forested property, by wildfire area (Q14). Categories are ordered from lowest to highest concern.

In terms of wildfire impacts to other assets, 76% of respondents reported that their house or other infrastructure were damaged by the fire. This damage could be either structural or smoke damage. This impact was statistically similar across the two fire areas (Table B10).

3.4 Post-wildfire reforestation interest and objectives

When asked about how likely they were to reforest their land in the next 10 years, 64% of all respondents reported they were very likely or likely to reforest. Fewer stated they were undecided (22%) or unlikely or very unlikely to reforest (14%). There was a statistically significant difference in responses across fire areas, with more people in the HPCC reporting being very likely or likely to reforest in the next ten years versus in the SF (Wilcoxon rank-sum, p=0.02). Slightly more people in the SF area were undecided about reforesting (Figure 5; Table B13).

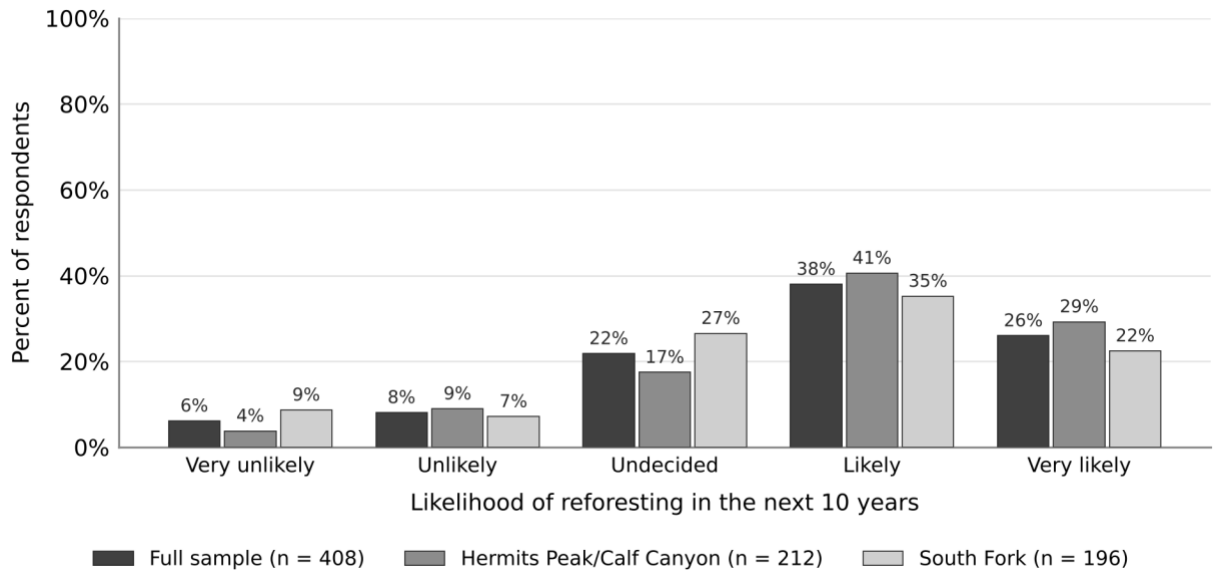


Figure 5. Likelihood of reforesting in the next 10 years, by wildfire area (Q15). Categories are ordered from lowest to highest likelihood.

Respondents that reported being very likely or likely to reforest were asked about their objectives when reforesting. Similar to the forest motivations stated earlier, most people were interested in objectives that would increase their personal use and enjoyment versus making money. Almost all respondents to this question mentioned scenic beauty/privacy, water and soil protection, and wildlife habitat/nature as reforestation objectives (>98% of the sample).

Respondents in the HPCC were more likely to state reforestation management objectives that included recreation, hunting/fishing, non-timber forest products, or timber objectives, compared to the SF (Table B14).

If a respondent reported they were unlikely or very unlikely to reforest, they were asked the reasons they were not likely to replant. This was a smaller sample of 58 respondents, with about 44-52 landowners responding to any given reason. The most stated reason for not being likely to replant was that reforestation was too expensive or challenging (71%), followed by beliefs that natural regeneration would take care of it (65%) (Table B15).

3.5 Reforestation support and barriers

Information was the most commonly stated type of support that respondents had received about reforestation (32%). The only type of support that differed significantly between respondents was financial support, with respondents in the HPCC more likely to

report they had received financial support for reforestation than respondents in the SF fire area (Chi2(1)=32.83, p<0.01) (Table B16).

Across the full sample, 70% or more of respondents identified lack of information, materials, technical support, and financial support as barriers to reforesting their land. For most barriers, the same portion of respondents across both fire areas stated it was a barrier. Lack of information or knowledge was the only barrier that was significantly different across the two fire areas, with more SF respondents stating it was a barrier (Chi2(1)=7.43, p=0.01) (Figure 6; Table B17).

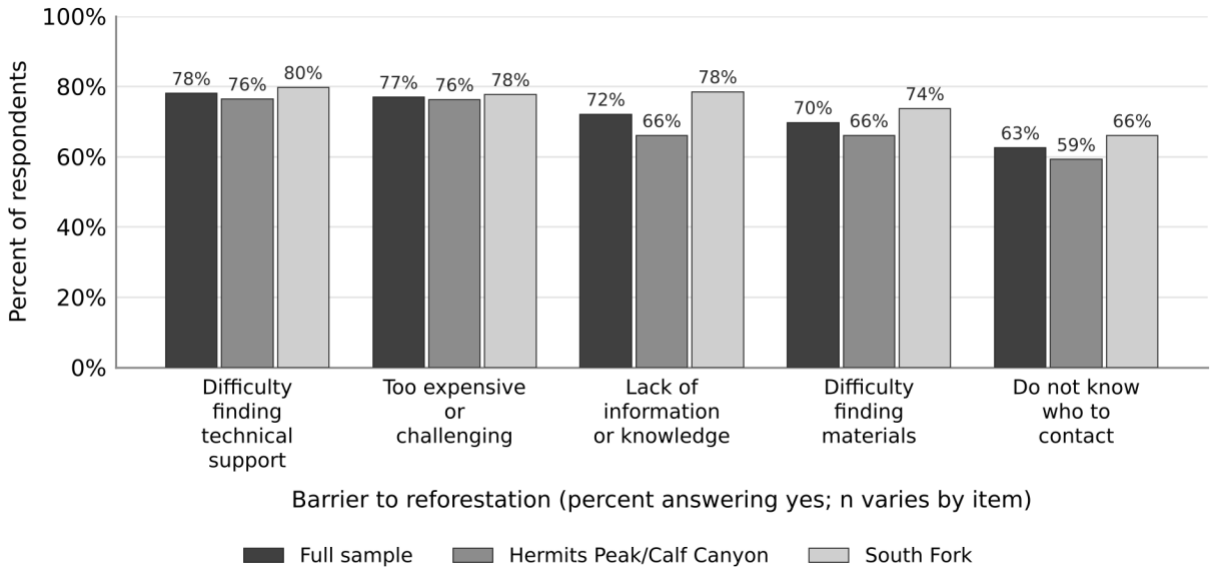


Figure 6. Barriers to reforestation, by wildfire area (Q17). Bars show the percent of respondents answering yes to each item; sample sizes vary by item.

Respondents were asked about whether they felt capable of reforesting their land as a measure of self-efficacy. Overall, about 50% of respondents did not feel capable of reforesting, with 52% in the HPCC and 47% in the SF stating that they did not feel capable of reforesting their land. These responses were not significantly different across the two fire areas (Figure 7A; Table B18).

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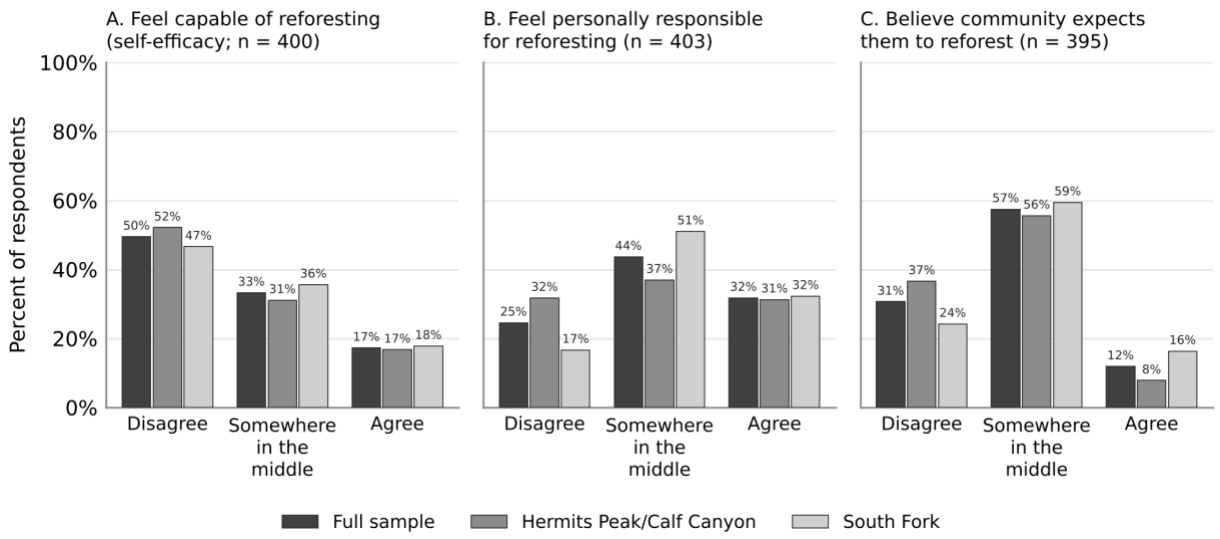


Figure 7. Self-efficacy (A), personal responsibility (B), and perceived community expectations (C) toward reforestation, by wildfire area (Q18).

3.6 Reforestation norms

Respondents were asked about whether they felt personally responsible for reforesting their land, to get at personal motivations, and whether they felt their community expected them to reforest, to get at social norms or expectations. In both fire areas there were mixed feelings on whether landowners felt personally responsible for reforesting. In the HPCC, some people explicitly wrote in that they did not start the fire and so it was not their responsibility to reforest (Figure 7B; Table B19).

Respondents also did not report a strong feeling that their community had expectations that they reforest their land, with fewer people in the HPCC stating that this was an expectation than in the SF fire area (Figure 7C; Table B20).

3.7 Reforestation program design preferences and expectations

Respondents were asked to rank the types of assistance that would be most important to their decision to participate in a reforestation project in the future. For the full sample, financial support was most likely to be ranked first (42% frequency), access to materials was more likely to be ranked second (30%), access to labor was most often ranked third, and respondents were more likely to rank professional support as fourth in importance. This question only had 320 respondents, as many people that completed the hardcopy version of the survey did not complete this question correctly (Table B21).

Most respondents in the HPCC indicated that financial support (50%) was the most important factor, with less priority for professional support compared to access to materials or labor. SF respondents also ranked financial support as their most important factor (35%), but a considerable number also ranked that factor fourth (29%). There was not as much consistency with where SF respondents ranked factors like access to materials or professional support. The only factor that differed significantly in distribution across the two fire areas was access to materials (Chi2(3)=12.53,p=0.01) (Tables B22–B23).

The minimum amount of financial support needed to participate in a reforestation project was significantly higher for HPCC respondents (Wilcoxon rank-sum, p<0.01). Specifically, 41% of respondents in the HPCC said they would need full financial support compared to 28% in the SF. In the SF fire scar, the majority of people (32%) stated they would need between 50-74% of a reforestation project financially supported (Figure 8; Table B24).

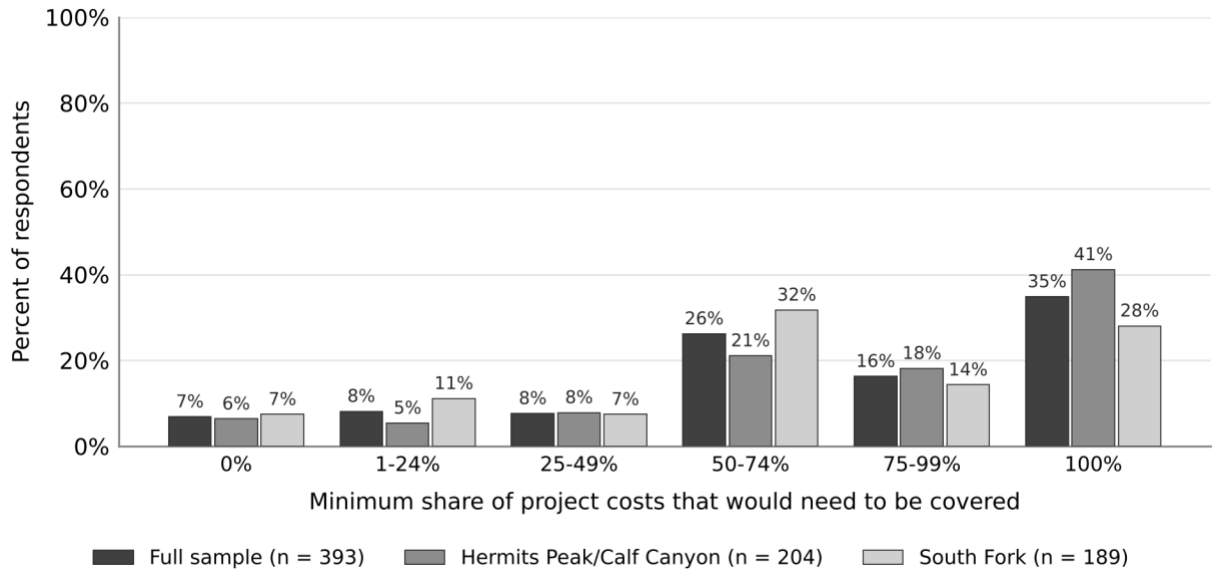


Figure 8. Minimum financial support needed to take part in a reforestation project, by wildfire area (Q20).

Most people reported that it was very (40%) or somewhat (38%) important to them to plant the same type of trees on their property during a reforestation project as were there before the fire. Respondents in the HPCC were more likely to place importance on planting the same type of trees that were present before the fire (Wilcoxon rank-sum, p<0.01) (Table B25).

Expectations for reforestation projects were measured by asking about the number of years people thought a project would take and what percent of planted trees would survive. Most people expected a project to take more than 5 years to complete (55%), but respondents in the HPCC more frequently reported that it would take 5 years or more to reforest than respondents in the SF (Wilcoxon rank-sum, $p<0.01$) (Table B26).

Most respondents estimated that between 26-50% or 51-75% of planted trees would survive. Respondents in the SF more frequently reported higher percentages of trees would survive, than respondents in the HPCC (Wilcoxon rank-sum, $p<0.01$) (Table B27).

3.8 Landowner characteristics

The most common age of respondents in the survey was 65+ for the full sample and this was statistically similar across both fire areas, with only about 25-30% of respondents younger than 65 (Table B1).

Education levels were also similar in both fire areas, with 67% of all respondents having a bachelor's degree or higher and 33% having less than this (Table B2).

The percent of Hispanic, Latino, or Spanish respondents was higher in the HPCC ($Chi2(1)=36.64$, $p<0.01$), as expected, with about 41% of respondents reporting this ethnicity. About 14% of respondents in the SF fire area were of Hispanic, Latino, or Spanish ethnicity (Table B3).

Most respondents reported their financial situation before fire as comfortable/secure (54%) or stable but limited savings (43%). Respondents in the SF fire area were more likely to report being comfortable/secure than respondents in the HPCC (Wilcoxon rank-sum, $p=0.01$) (Table B4).

4. Associations between landowner characteristics and reforestation variables

4.1 Age

Both older and younger respondents had similar perceptions of barriers to reforestation, with one exception (Table 1): older respondents were more likely to identify reforestation as being too expensive or challenging as a barrier. Older respondents were also more likely to state that they did not feel capable of reforesting their land, i.e., they reported lower self-efficacy (Table 2), versus younger landowners. Additionally, older landowners were less likely to feel that their community expected them to reforest (Table 2). All other reforestation variables were similar across older and younger landowners.

4.2 Education

Less formally educated landowners were more likely to have postfire reforestation objectives linked to income generation, including hunting or fishing, timber production, and non-timber forest products (Table 1). Less educated respondents expressed more need for full financial (100%) support to participate in a reforestation project (Table 2). This could be picking up an association with income as the two variables were correlated. Finally, less educated respondents were more likely to reply that it was important that the same type of trees were planted on their land as were there before a fire versus landowners with more formal education (Table 2).

4.3 Financial situation

Respondents with lower financial security were more likely to classify their forest management objectives before wildfire as being for personal use and for making money, than more financially secure landowners (Table 1). Consistent with this difference, landowners that were less financially secure were more likely to respond that their postfire reforestation objectives included hunting or fishing, recreation other than hunting or fishing, timber, and non-timber forest products (Table 1).

Landowners with less financial security were more likely to respond that it was difficult to find reforestation materials and that it was too expensive or challenging to reforest (Table 1). These lower financial security respondents were also more likely to report that they would need more financial support to carry out a reforestation project (Table 2) and less likely to perceive that they were personally responsible for reforesting (Table 2). Despite these higher barriers, landowners that were less financially secure reported more frequently that they were likely to reforest their land in the next ten years compared to landowners with more financial security (Table 2).

4.4 Ethnicity

Hispanic respondents were more likely to identify forest management objectives related to personal use and income generation (Table 1) and mention postfire reforestation objectives related to hunting or fishing, recreation other than hunting or fishing, timber, and non-timber forest products (Table 1), than non-Hispanic respondents.

Hispanic respondents were more likely to identify reforestation as too expensive or challenging and to state that it was difficult to find reforestation materials (Table 1), compared to non-Hispanic respondents. Hispanic respondents were more likely to respond that they would need full financial support to carry out a reforestation project (Table 2) and that they were not personally responsible for replanting (Table 2). Among the smaller number of respondents who replied that they were not interested or were very uninterested in reforestation, Hispanic landowners were more likely to give the response

that reforestation was too expensive or challenging as their reason for lack of interest (Table 1), than non-Hispanic landowners.

Finally, Hispanic respondents were more likely to state that planting the same type of trees that were there before the fire was very important to them, versus non-Hispanic respondents (Table 2).

4.5 Distance to forest

Respondents that lived within a 1-hour drive were more likely to respond that they managed their forest for both personal use and to make money, than landowners that live farther away (Table 1). The respondents that lived closer to their forest were more likely to mention the postfire reforestation objective of non-timber forest products (Table 1).

Respondents that were located more than a 1-hour drive of their forested property were more likely than landowners that live closer to mention lack of information or technical knowledge, and difficulty finding professional help, as barriers to reforesting their land (Table 1). Respondents that lived within a 1-hour drive were more likely to respond that they would need more financial support to participate in a reforestation project (Table 2), than more remote landowners. The respondents that live closer to their forest were also more likely to perceive that their community expects them to reforest (Table 2).

Table 1. Landowner characteristics and their association to reforestation variables that were coded as binary variables. Pearson Chi2 tests and statistical significance reported at the 95% confidence level as * and in bold. The interpretation of the sign depends on the coding of the variable and cannot be interpreted directly from this table (see text).

Reforestation variables (binary)	**Landowner characteristics**				
	By age	**By education**	**By financial security**	**By ethnicity**	**By distance to forest**
Barriers to reforestation					
Lack of information or knowledge	0.21	0.44	0.18	0.04	10.78*
Difficulty finding materials	0.22	2.49	6.41*	6.68*	3.02
Difficulty finding technical support	0.18	2.49	1.63	0.42	6.74*
Do not know who to contact	0.83	0.15	2.36	0.00	0.46

Too expensive or challenging to reforest	10.63*	0.05	14.88*	11.63*	0.11
Forest management objective includes personal use and income generation	0.37	2.82	16.13*	90.94*	4.07*
Postfire reforestation objectives					
Hunting or fishing	3.08	5.77*	15.32*	60.36*	0.00
Recreation, other than hunting or fishing	0.01	0.00	11.22*	13.61*	0.44
Timber	0.02	15.24*	21.43*	48.92*	2.29
Forest products, other than timber (e.g., firewood, seeds, nuts, berries)	1.62	12.94*	20.17*	47.87*	4.78*
Reasons not interested in reforesting					
Nature will take care of it	0.48	0.33	1.00	0.47	1.37
Wildfire damage was not that bad	0.69	1.00	2.72	1.00	1.00
Converting my land to another use or selling the land	0.72	1.00	1.00	0.31	1.81
Prefer my land without trees	1.00	1.00	0.54	0.44	0.49
Too expensive or challenging to reforest	0.30	0.74	1.00	0.04*	0.23

Table 2. Landowner characteristics and their association to reforestation variables that were coded as ordinal variables. Wilcoxon rank-sum tests reported: Z-scores and statistical significance reported at the 95% confidence level as * and in bold. The interpretation of the sign depends on the coding of the variable and cannot be interpreted directly from this table (see text).

Reforestation variables (ordinal)	Landowner characteristics				
	By age	By education	By financial security	By ethnicity	By distance to forest
Reforestation likelihood	1.49	0.42	-2.07*	0.24	-1.44
Minimum financial support needed	0.88	3.41*	-6.77*	-5.21*	-2.12*
Feel capable of reforesting (Self-efficacy)	3.07*	0.72	-0.25	-0.06	-1.89
Feel personal responsibility to reforest	1.32	-1.78	2.58*	3.09*	-1.00
Believe community expects them to reforest	2.82*	-0.19	-1.29	0.74	2.90*
Importance of planting same type of trees	0.35	-2.81*	1.23	4.20*	-0.07
Number of years for a reforestation project	0.06	-0.32	-0.65	-1.73	0.08
Percent of trees expected to survive	1.50	1.66	-0.18	-1.24	1.56

5. Factors associated with the minimum amount of financial assistance needed for reforestation

The best fitting ordinal logistic regression model to explain reported financial assistance need for reforestation consisted of eight independent variables—financial security, ethnicity, distance to forested property, personal responsibility, self-efficacy, total forested acres, percent of forest affected by wildfire, and whether a house or other infrastructure was affected—plus the fire regional dummy variable. The proportional odds

assumption was not rejected for the final ordinal logistic regression model (Chi2(56)=62.12, p-value=0.27). The number of observations was reduced in the final regression model because 20 landowners reported they were unsure about the percent of their forested acres affected by wildfire. Additionally, there were various missing responses for other independent variables.

Lower financial security, Hispanic landowners, landowners owning >100 forested acres, and landowners that had >76% of their forest burn, were associated with the greatest financial assistance needs. Landowners with higher personal responsibility and self-efficacy were associated with substantially lower financial assistance needs (Table 3 and Figure 9). Living in closer proximity to one's forest and having infrastructure impacted by the wildfire were associated with greater financial assistance needs but the evidence is weaker for these variables since the p-values are <90% versus <95%. The fire regional dummy was not statistically significant.

Respondents with lower financial security had 3.8 times the odds of reporting greater financial assistance needs compared to respondents with higher financial security (p-value<0.01). Hispanic respondents had approximately 2 times the odds of reporting a higher level of financial assistance needed to participate in a reforestation project than non-Hispanic landowners (p-value=0.01). Landowners that lived within 1-hour of their forested property had 1.5 times the odds of reporting a higher level of financial assistance need for reforestation (p-value=0.07). Feeling personally responsible for reforestation lowered the odds of reporting greater financial assistance needs, with landowners that reported moderate or high responsibility having 82% and 90% lower odds of reporting greater financial need, respectively, compared to respondents that reported low personal responsibility. The overall effect of this variable was statistically significant (overall Wald Chi2(2)=48.35, p<0.01). Similarly, feeling self-efficacy toward reforesting lowered the odds of reporting greater financial assistance, with landowners that reported moderate or high self-efficacy having 52% and 69% lower odds of reporting greater financial need, respectively, compared to respondents that reported low self-efficacy (overall Wald Chi2(2)=18.70, p<0.01). Landowners that had infrastructure impacted by the fire had about 1.5 times the odds of reporting greater assistance needs (p-value=0.06). Compared to landowners with 1-10 forested acres, landowners with >100 acres of forest had 2.2 times the odds of reporting greater financial assistance needs. The joint effect of forested acres on financial assistance need was not statistically significant at conventional levels (overall Wald Chi2(2)=4.46, p=0.11). Relative to landowners with the lowest percent of forest impacted by wildfire, respondents with most of their forest impacted (>76%) had 2.3 times the odds of reporting a greater need for financial assistance. The overall effect of percent

of forest impacted by wildfire was associated with greater financial need at a 90% significance level (overall Wald Chi2(3)=6.48, p=0.09).

These findings suggest that there are important social and economic characteristics relevant to reforestation program targeting. Specifically, landowners with lower financial security and Hispanic landowners may face different barriers to reforestation that require tailoring of financial assistance programs. Landowners that live closer to their forested properties also expressed more financial assistance need than those further away. Because financial security, acres of forest, and fire region are already in the model, this variable is picking up additional differences in landowners that live closer to their forested property, such as landowner engagement, or perceived costs and logistical barriers to reforestation that are not explained by economic resources or forest or fire area alone. Personal responsibility was strongly associated with lower financial assistance need. This type of personal belief may be relatively difficult for a program to target specifically but can help explain why some landowners, even with large impacts from fire or lower financial security, may require lower amounts of financial assistance to undertake reforestation – they are personally motivated to do so. Landowners who feel capable of reforesting (self-efficacy) reported needing less financial assistance. This implies that capacity-building and technical support that increases self-efficacy may complement financial assistance programs. There was an association between respondents that had more forest impacted by fire and that had infrastructure damaged by fire, and both variables are generally associated with a greater financial assistance need for reforestation. Having lost a house or other infrastructure likely influences a landowner's current financial situation. Additionally, financial assistance need was associated with very large, forested landholdings and a large proportion of forest impacted by fire, and both would correspond to the size of effort needed to replant.

Table 3. Factors associated with the amount of financial assistance landowners report needing for reforestation. Odds ratios greater than 1 indicate greater odds of reporting a higher level of financial assistance needed and less than 1 a lower odds of reporting a higher level of financial assistance needed. Statistical significance at the 95% confidence level is indicated as * and in bold. Statistical association at the 90% confidence level is indicated as ^.

Independent variable	Odds ratio	p-value
Low financial security	3.84	<0.00*
Hispanic	2.03	0.01*
<1-hour to forest	1.50	0.07^
Personal responsibility (overall)		<0.00*
Middle vs low	0.18	<0.00*
High vs low	0.10	<0.00*
Self-efficacy (overall)		<0.00*

Middle vs low	0.48	<0.00*
High vs low	0.31	<0.00*
Total forest (overall)		0.11
11-100 acres vs 1-10 acres	1.48	0.18
>100 acres vs 1-10 acres	2.18	0.04*
Infrastructure impacted by wildfire	1.59	0.06^
Percent forest impacted by wildfire (overall)		0.09^
26-50% vs. <25%	1.59	0.28
51-75% vs. <25%	1.62	0.22
76-100% vs. <25%	2.26	0.01*
South Fork Fire Region	1.43	0.17
LR chi2(14)=166.83		
Log likelihood = -470.43		
Observations=341		

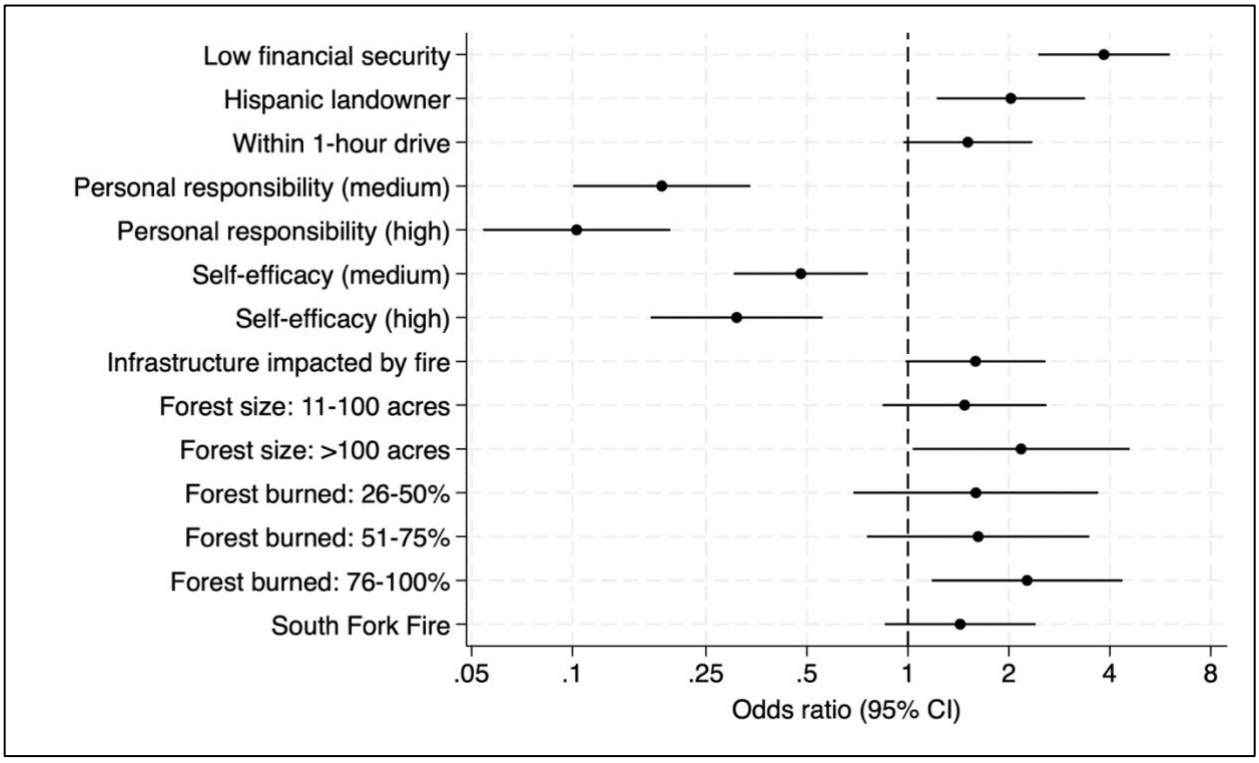


Figure 9. Factors associated with the amount of financial assistance landowners report needing for reforestation. Points show odds ratios from ordered logistic regression model; horizontal lines indicate 95% confidence intervals (CI). Odds ratios greater than 1 indicate greater odds of reporting a higher level of financial assistance needed and less than 1 a lower odds of reporting a higher level of financial assistance needed.

6. Factors associated with the likelihood of undertaking post-wildfire reforestation

The likelihood of reforesting in the next 10 years was best explained by eight independent variables—financial security, ethnicity, distance to forested property, personal responsibility, self-efficacy, total forested acres, percent of forest affected by wildfire, and concern for future wildfire—plus the fire regional dummy variable. The proportional odds assumption was not rejected for the final ordinal logistic regression model (Chi2(45)=49.35, p-value=0.30). The number of observations was reduced in the final regression model because 20 landowners reported they were unsure about the percent of forested acres affected by wildfire, as well as various missing responses for other independent variables.

Lower financial security landowners, landowners with higher personal responsibility, landowners with greater self-efficacy, landowners with more concern for future wildfire, and landowners that had >50% of their forest burn, were associated with the greatest likelihood of reforesting their land in the next ten years (Table 4 and Figure 10). Hispanic landowners and landowners in the SF Fire were associated with a lower likelihood of replanting, but the evidence is weaker since the p-values are <90% versus <95%. Living in closer proximity to one's forest and size of forested acres were not statistically significant.

Respondents with lower financial security had 1.6 times the odds of reporting a higher likelihood of reforesting than those with higher financial security (p-value=0.03). Landowners with the highest perceived personal responsibility for replanting had about 2.2 times the odds of reporting a higher likelihood of reforesting than those with the lowest responsibility (p-value<0.01). This overall variable was jointly significant (overall Wald Chi2(2)=8.68, p=0.01). Respondents that were somewhere in the middle or had high self-efficacy for replanting had approximately 2.2-2.3 times the odds of reporting a higher likelihood of reforesting than those with the lowest reported self-efficacy (overall Wald Chi2(2)=14.58, p<0.01). Wildfire concern had one of the largest positive associations with reporting a higher likelihood of reforesting (overall Wald Chi2(3)=9.67, p=0.02). Respondents that were somewhat or very concerned about future wildfire had approximately 4 times the odds of reporting a higher likelihood of reforesting than those with the lowest future wildfire concern. Relative to landowners with the lowest percent of forest impacted by wildfire, respondents with more than half (51%-75%) or most of their forest (>76%) impacted by fire had more than 2 times the odds of reporting a higher likelihood of reforesting (overall Wald Chi2(3)=7.31, p=0.06). Hispanic respondents had approximately 34% lower odds of reporting a higher likelihood of reforesting than non-

Hispanic landowners (p-value=0.09). Landowners in the SF Fire had about 39% lower odds of reporting a higher likelihood of reforesting than respondents in the HPCC (p-value=0.07).

These findings suggest that similar social and economic characteristics relevant to financial assistance need are also associated with likelihood of reforesting. Importantly, landowners with lower financial security reported a higher likelihood of reforesting than those with higher financial security, holding all other variables constant. This could reflect different relationships with the land, such as dependence on the land, attachment to it, or objectives for their forested property. Bivariate analyses provide some support for differences in land use and dependency as a possible explanation for this relationship (Tables 1 and 2). For example, landowners with lower financial security were more likely to report managing their forest for both personal use and to make money, and more frequently reported reforestation objectives related to hunting or fishing, timber, and non-timber forest products. At the same time, these landowners expressed a need for more financial assistance in order to reforest (Tables 2 and 3), suggesting that while less financially secure landowners may have greater stakes in reforesting fire-affected forests, and report a higher likelihood of reforesting, they also have fewer financial resources to undertake reforestation.

Although Hispanic landowners had somewhat lower odds of intending to reforest (OR=0.66), complementary analyses suggest that this pattern may reflect barriers to reforestation rather than lower interest in forest recovery (Tables 1 and 2). Similar to landowners with lower financial security, Hispanic landowners reported greater reliance on forests for income-generation (Table 1) and were more likely to report postfire reforestation objectives related to hunting or fishing, timber, non-timber forest products, than non-Hispanic landowners. This suggests that Hispanic landowners have substantial stakes in restoring fire-affected forests. However, Hispanic landowners were also more likely to identify expense and difficulty finding materials as barriers to reforestation and had about 2 times the odds of reporting greater financial assistance needs for reforestation, than non-Hispanic landowners (Tables 1 and 3). Together, these findings suggest that Hispanic landowners may face greater financial and logistical constraints on their ability to reforest, even though they have substantial stakes in doing so, which leads them to report a lower likelihood of replanting their fire-affected lands in the next ten years.

Personal responsibility was associated with higher likelihood of replanting. While it is an important explanatory factor, it would be relatively difficult for program managers to increase this motivation among landowners as a means of increasing reforestation. However, this finding is important to consider when recruiting landowners for new reforestation projects. Programs that primarily enroll landowners who already have strong

personal motivations to replant may have lower additionality if these landowners would have reforested even without assistance. This interpretation is supported by the earlier finding that greater personal responsibility was associated with lower financial assistance need (Table 3). It will be important for new programs to support highly motivated landowners in their reforestation efforts so as not to discourage or undermine their actions, while also reaching landowners for whom program assistance could make the difference between reforesting or not. Self-efficacy, or a landowner's confidence in their ability to reforest, was associated with higher likelihood of replanting at both intermediate and high levels of self-efficacy and may be more modifiable than personal responsibility. This is potentially more actionable because even if financial assistance cannot be provided, other forms of assistance such as technical assistance, information, demonstrations, or education could increase landowners' confidence and capacity to undertake a reforestation project. The significance of both intermediate and high levels of self-efficacy in the regression model suggests that even moderate self-efficacy is associated with greater likelihood of reforesting in Table 4, and less financial assistance need in Table 3.

The finding that a landowner's level of wildfire concern was associated with higher likelihood of replanting may be another actionable factor. Being at least somewhat concerned about future wildfire was associated with greater likelihood of reforesting. Thus, information or outreach that increases understanding or awareness of wildfire risk may increase concern and potentially motivate reforestation. This association may also reflect that landowners that are more knowledgeable about forest health overall, are more likely to engage in restoration practices. Not surprisingly, a landowners' intent to reforest was associated with the relative proportion of forest impacted by fire. Although this variable measured the percent of forest affected, percent of forest affected and total acreage were associated ($Chi2(6)=14.56$, p-value=0.02), but total acreage was not statistically significant. Thus, burn severity had more influence on individual likelihood of replanting, perhaps because it represents tree loss more directly than total forested acres. After controlling for these other independent variables, landowners within the SF Fire had lower reported intent to reforest. This may reflect the less time that has passed between the SF fire and the time of the study which could influence both landowner certainty about reforesting as well as information and assistance to reforest. These potential explanations are supported by the data that show that more landowners in the SF fire were undecided about replanting (26%) compared to the HPCC fire (17%) and were less likely to have received all types of reforestation support, including information, technical assistance, materials, or financial assistance.

Table 4. Factors associated with landowners' likelihood of reforesting after wildfire. Odds ratios greater than 1 indicate greater odds of reporting a higher likelihood of reforesting after wildfire; odds ratios less than 1 indicate a lower odds of reporting a higher likelihood of reforesting. Statistical significance at the 95% confidence level is indicated as * and in bold. Statistical association at the 90% confidence level is indicated as ^.

Independent variable	Odds ratio	p-value
Low financial security	1.63	0.03*
Hispanic	0.66	0.09^
<1-hour to forest	1.10	0.64
Personal responsibility (overall)		0.01*
Middle vs low	1.20	0.48
High vs low	2.21	0.01*
Self-efficacy (overall)		<0.00*
Middle vs low	2.27	<0.00*
High vs low	2.17	0.01*
Wildfire concern (overall)		0.02*
Slightly vs. little	2.54	0.10
Somewhat vs. little	3.93	0.01*
Very vs. little	4.40	0.01*
Total forest (overall)		0.30
11-100 acres vs 1-10 acres	0.71	0.23
>100 acres vs 1-10 acres	1.12	0.77
Percent forest impacted by wildfire (overall)		0.06^
26-50% vs. <25%	1.42	0.41
51-75% vs. <25%	2.38	0.04*
76-100% vs. <25%	2.30	0.02*
South Fork Fire Region	0.61	0.07^
LR chi2(16)=56.50		
Log likelihood = -471.27		
Observations=351		

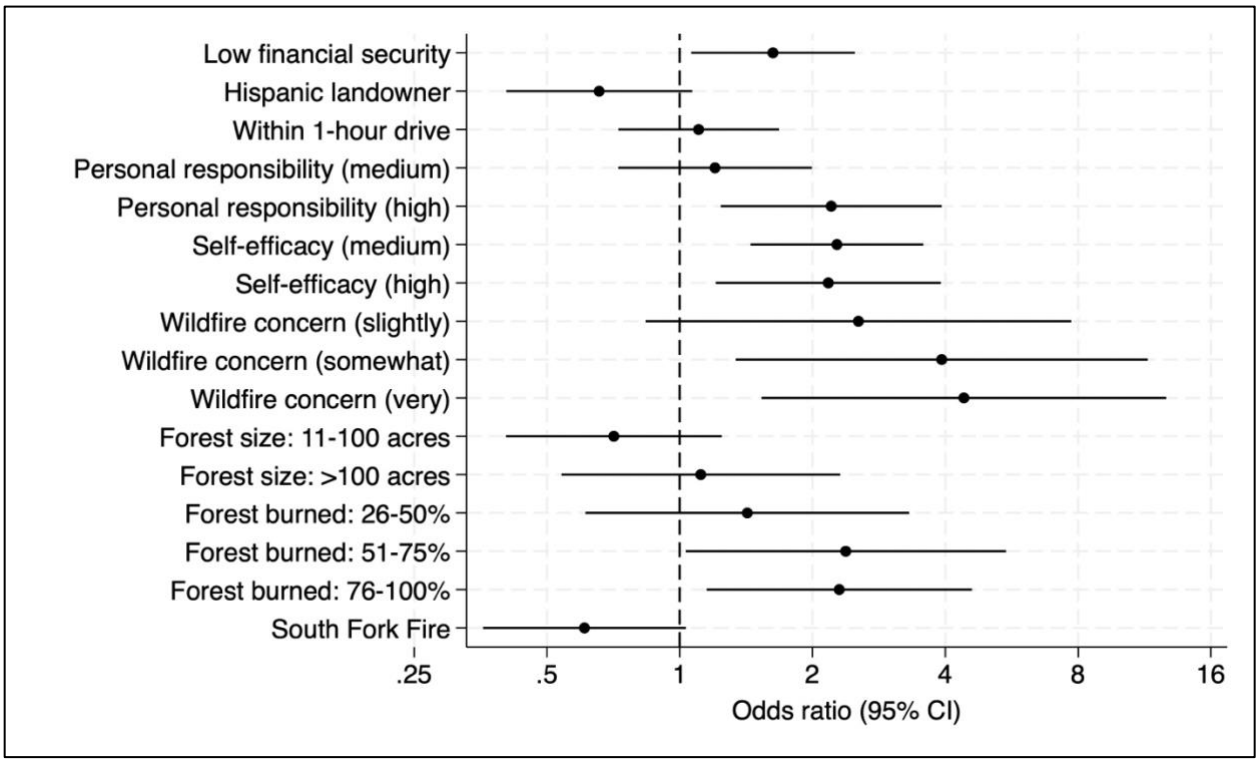


Figure 10. Factors associated with landowners' likelihood of reforesting after wildfire. Points show odds ratios from ordered logistic regression models; horizontal lines indicate 95% confidence intervals (CI). Odds ratios greater than 1 indicate greater odds of reporting a higher likelihood of reforestation, and odds ratios less than 1 indicate a lower odds of reporting a higher likelihood of reforestation.

7. Implications for postfire reforestation on NIPF lands

To address the postfire reforestation deficit in the western US requires engaging and assisting NIPF landowners in the difficult and challenging task of replanting. This study identified a number of barriers that NIPF landowners face in reforesting their private land but also revealed a great deal of interest in reforestation. This study also identified how reforestation barriers vary across landowner characteristics, what factors are associated with reporting greater financial assistance need to replant, and the factors associated with greater likelihood of reforesting. Taken together, these results point to some management recommendations about how to target landowners and the types of reforestation assistance needed to increase postfire planting on NIPF lands in NM.

First, the types of barriers faced, the financial need reported, and the likelihood of reforesting vary across landowners with different socioeconomic characteristics. Of particular importance in this study were financial security and ethnicity. Both lower

financial security and Hispanic landowners faced greater barriers to reforestation, required more financial assistance to reforest, and had more at stake if their forests were not restored because they were more likely to rely on forests for income-generating uses. Thus, if reforestation programs can recruit these landowners through offering financial assistance, along with reducing other barriers like access to materials, it could make a difference in whether these landowners reforest while also potentially limiting additional economic vulnerability due to forest loss.

Interestingly, while lower financial security was associated with greater stated likelihood of reforestation, Hispanic ethnicity was associated with lower stated likelihood. One interpretation of this finding is that financially insecure landowners may be highly interested despite limited resources, whereas Hispanic landowners faced constraints substantial enough to lower expectations of replanting. The fact that Hispanic landowners who reported being unlikely or very unlikely to replant were also more likely to report that the reason they were uninterested was that reforestation was too expensive or challenging, provides preliminary evidence for this interpretation, but additional research is warranted. Since both financial security and ethnicity were strongly associated with forest management objectives—for personal use and income generation—and postfire reforestation objectives related to timber, non-timber forest products, and hunting or fishing, suggests that these types of indicators could potentially be used to screen applicants most at need for financial assistance and other types of support in future reforestation programs.

Second, landowners that were personally motivated to reforest were the most likely to reforest and required less financial assistance to replant. This is a common finding among environmental and conservation programs, and it will be important for reforestation programs to encourage these landowners to replant, while recognizing that financial assistance may have less additional impact on whether they reforest. Other types of assistance such as technical support or access to materials could also prove just as important for these types of landowners, as they tended to rank these types of assistance more importantly than less personally motivated landowners.

Third, potentially more actionable landowner characteristics included self-efficacy and concern about future wildfire events. Landowners who felt more capable of reforesting were more likely to report intent to reforest and needing less financial assistance. This suggests that non-financial support may be an important complement to financial assistance in meeting reforestation objectives, and that technical assistance, planning support, and other capacity-building efforts that help landowners feel able to carry out reforestation could boost replanting efforts. Landowners who are more concerned about

future wildfire events were more likely to report greater reforestation likelihood. Thus, outreach and education that improve understanding of future wildfire risk may help motivate reforestation participation. This link may not be specific to wildfire risk alone but may be related to broader forest restoration or health knowledge, but this specific mechanism needs to be further explored.

Finally, landowners that experienced more impact to their forests were more likely to reforest and need more financial assistance. This indicates that burn severity or similar postfire spatial data could be a good indicator to target reforestation programs to find landowners interested in replanting and that need financial support.

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Appendix A – Survey instrument

I am 18 years old or older and have read the consent to participate form. I understand the benefits and risks associated with the study and I am willing to continue. ☐ Yes ☐ No

If you answered YES, please continue with the survey. If you answered NO, thank you for your time but do not complete this survey.

Please answer all questions below if you have forested property that was affected by wildfire. Select only one response per question, unless instructed otherwise.

PART 1. About you

1. How old are you? ☐ 18-39 years ☐ 40-64 years ☐ 65 years or older	2. What is the highest level of education you have completed? ☐ High school or less ☐ Some college or associate degree ☐ Bachelor's degree or higher
3. Are you of Hispanic, Latino, or Spanish origin? ☐ Yes ☐ No	4. What best describes your household's financial situation before the most recent wildfire? ☐ Struggled to meet basic needs ☐ Stable but limited savings ☐ Comfortable/secure

PART 2. Property and forest characteristics

5. What is your 5-digit US zip code for this property? |__|__|__|__|__|	6. Is your primary residence located within a 1-hour drive to this property? ☐ Yes ☐ No
7. How many acres of this property were forested prior to wildfire? ☐ 1-5 acres ☐ 6-10 acres ☐ 11-20 acres ☐ 21-40 acres ☐ 41-100 acres ☐ 101-500 acres ☐ 501-1,000 acres ☐ More than 1,000 acres	8. How many years has this property been in your family? ☐ 1-5 years ☐ 6-10 years ☐ 11-20 years ☐ 21-40 years ☐ 41-100 years ☐ More than 100 years
9. Do you have a forest management plan for this property? ☐ Yes ☐ No ☐ I don't know	10. Prior to fire, did you use your forest to make money, for personal use or enjoyment, or both? ☐ To make money (e.g., selling timber or firewood) ☐ For personal use or enjoyment ☐ Both to make money and for personal use or enjoyment

11. What year was the most recent wildfire on this property? (YYYY) |__|__|__|__|	12. Did a home or other infrastructure get damaged by the most recent wildfire (smoke or structural)? ☐ Yes ☐ No
13. How much of your forest was affected by the most recent wildfire? ☐ Less than 10% ☐ 10-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐ Unsure	14. How concerned are you about future wildfire on your forested property? ☐ Very concerned ☐ Somewhat concerned ☐ Slightly concerned ☐ Not at all concerned

PART 3. Post-fire tree planting

15. How likely are you to reforest your land in the next 10 years?
Reforestation after a wildfire includes activities such as removing hazard trees and site preparation, contour felling, procuring and planting seeds or seedlings, and post-planting activities like vegetation control.

☐ Very likely: I have completed or am in the process of completing these activities.

☐ Likely

→ If you selected "Very likely" or "Likely" to question 15, please respond to this question:
15.1 Which of the following are primary objectives for reforesting your land? Mark each option yes or no. Then move to question 16.

Yes	No	
☐	☐	Scenic beauty or privacy
☐	☐	Ability to pass on to next generation
☐	☐	Wildlife habitat or nature
☐	☐	Water or soil protection (e.g., erosion, water quality)
☐	☐	Hunting or fishing
☐	☐	Recreation, other than hunting or fishing
☐	☐	Wildfire risk reduction
☐	☐	Timber
☐	☐	Forest products, other than timber (e.g., firewood, seeds, nuts, berries)

☐ Undecided → If you selected "Undecided" to question 15, please move to question 16.

☐ Unlikely → If you selected "Unlikely" or "Very Unlikely" to question 15, please respond to this question:

☐ Very unlikely

15.2 Which of the following are reasons you are <u>not</u> interested in reforesting? Mark each option yes or no. Then move to question 16.

Yes	No	
☐	☐	Nature will take care of it
☐	☐	Wildfire damage was not that bad
☐	☐	Converting my land to another use or selling the land
☐	☐	Prefer my land without trees
☐	☐	Too expensive or challenging to reforest

16. Have you received any of the following information about or support for reforestation? Mark each option yes or no.

Yes	No	
☐	☐	Information on the topic
☐	☐	Materials like seeds, seedlings, or saplings
☐	☐	Technical assistance from forestry professionals or planners
☐	☐	Financial assistance

17. Do you see the following as barriers to reforestation? Mark each option yes or no.

Yes	No	
☐	☐	Lack of information or technical knowledge
☐	☐	Difficulty finding materials like seeds, seedlings, etc.
☐	☐	Difficulty finding professional help or contractors
☐	☐	Do not know who to contact for support
☐	☐	Too expensive or challenging to reforest

18. Mark whether you agree or disagree with the following statements:	Agree	Neutral	Disagree
It is my responsibility to reforest my land.	☐	☐	☐
I feel capable of reforesting my land.	☐	☐	☐
My community expects me to reforest.	☐	☐	☐

19. Rank these factors in importance from 1 (most important) to 4 (least important) in how they would influence your decision to participate in a reforestation project led by an organization (e.g., State Forestry Department). Write a 1, 2, 3, or 4 next to each, where 1 is the factor most important to you and 4 the least important (you should only mark one box as "1", one as "2", and so forth).

☐ Provides access to professional support (forestry professionals and site planners)
☐ Provides access to materials (seeds, seedlings, equipment)
☐ Provides access to labor to do the work on the ground (contractors, volunteers)
☐ Provides financial support

20. What is the minimum amount of financial support you would need to take part in a reforestation project led by an organization?

☐ 0%, No financial support needed
☐ 1-24%
☐ 25-49%
☐ 50-74%

21. How important is it to you to plant the same types of trees that were on your property before the wildfire?

☐ Very important
☐ Somewhat important
☐ Slightly important
☐ Not at all important

☐75-99% ☐100%, Full financial support needed	
22. How many years would you expect it to take to reforest your land? ☐Less than 1 year ☐1 to 3 years ☐3 to 5 years ☐More than 5 years	23. What percentage of trees would you expect to survive after reforesting your land? ☐Less than 10% ☐10-25% ☐26-50% ☐51-75% ☐76-100%

You have finished the survey - thank you! Please send back all three pages of the survey to kwjones@nmsu.edu.

Appendix B – Tables summarizing survey results

Tables are ordered by survey question number (Appendix A). Values are percent of respondents in the full sample and in each wildfire area (HPCC = Hermits Peak/Calf Canyon Fire; SF = South Fork Fire); the number of responses is shown at the bottom of each table where it applies to the whole question.

Table B1. Respondent age (Q1).

Respondent age	Full	HPCC	SF
18-39	2.26	0.97	3.66
40-64	27.89	25.12	30.89
65+	69.85	73.91	65.45
Responses	398	207	191

Table B2. Highest level of education completed (Q2).

Respondent education	Full	HPCC	SF
High school or less	7.83	8.29	7.33
Some college	25.25	24.88	25.65
Bachelor's degree or higher	66.92	66.83	67.02
Responses	396	205	191

Table B3. Hispanic, Latino, or Spanish origin (Q3).

Hispanic, Latino, or Spanish origin	Full	HPCC	SF
No	71.87	58.62	86.17
Yes	28.13	41.38	13.83
Responses	391	203	188

Table B4. Household financial situation before the most recent wildfire (Q4).

Financial situation	Full	HPCC	SF
Struggled to meet basic needs	3.1	4.52	1.6
Stable but limited savings	42.89	47.74	37.77
Comfortable/secure	54.01	47.74	60.64
Responses	387	199	188

Table B5. Primary residence within a 1-hour drive of the forested property (Q6).

Location of forest to residence	Full sample (%)	HPCC sample (%)	SF sample (%)
<1-hour drive	48.02	57.42	37.95

>1-hour drive	51.98	42.58	62.05
Responses	404	209	195

Table B6. Forested acres owned prior to wildfire (Q7).

Acres of forest owned	Full sample (%)	HPCC sample (%)	SF sample (%)
1-5	45.79	14.62	80.21
6-10	11.88	13.68	9.9
11-20	9.16	14.15	3.65
21-40	8.17	12.74	3.12
41-100	10.64	18.87	1.56
101-500	11.14	20.75	0.52
501-1000	1.24	2.36	0
>1000	1.98	2.83	1.04
Responses	404	212	192

Table B7. Years the property has been in the family (Q8).

Years owned forest	Full sample (%)	HPCC sample (%)	SF sample (%)
0-5	15.72	9.48	22.45
6-10	15.23	10.43	20.41
11-20	14.25	11.85	16.84
21-40	22.85	23.22	22.45
41-100	20.88	24.17	17.35
>100	11.06	20.85	0.51
Responses	407	211	196

Table B8. Has a forest management plan (Q9).

Has a FMP	Full sample (%)	HPCC sample (%)	SF sample (%)
Yes	14.5	17.14	11.73
No	65.11	70.14	59.69
Does not know	20.39	12.86	28.57
Responses	407	211	196

Table B9. Forest management motivations prior to wildfire (Q10).

Motivations	Full sample (%)	HPCC sample (%)	SF sample (%)
Personal use	77.04	62.38	92.82
Both personal use & make money	22.96	37.62	7.18

Responses	405	210	195

Table B10. Home or other infrastructure damaged by the most recent wildfire (Q12).

House impacted	Full sample (%)	HPCC sample (%)	SF sample (%)
Yes	75.87	76.21	75.51
No	24.13	23.79	24.49
Responses	402	206	196

Table B11. Share of forest affected by the most recent wildfire (Q13).

Acres impacted	Full sample (%)	HPCC sample (%)	SF sample (%)
<25%	10.84	8.49	13.40
26-50%	10.84	13.21	8.25
51-75%	14.29	18.4	9.79
76-100%	59.11	56.6	61.86
Unsure	4.93	3.3	6.7
Responses	406	212	194

Table B12. Concern about future wildfire on the forested property (Q14).

Concern for future wildfire	Full sample (%)	HPCC sample (%)	SF sample (%)
Very	52.21	56.6	47.45
Somewhat	28.68	29.25	28.06
Slightly	15.69	11.79	19.9
Not at all	3.43	2.36	4.59
Responses	408	212	196

Table B13. Likelihood of reforesting in the next 10 years (Q15).

Likelihood of reforesting	Full sample (%)	HPCC sample (%)	SF sample (%)
Very likely	25.98	29.25	22.45
Likely	37.99	40.57	35.2
Undecided	21.81	17.45	26.53
Unlikely	8.09	8.96	7.14
Very unlikely	6.13	3.77	8.67
Responses	408	212	196

Table B14. Primary objectives for reforesting, among respondents very likely or likely to reforest (Q15.1).

Reforestation objectives	Full sample (%)	HPCC sample (%)	SF sample (%)
Scenic beauty/privacy	98.83	98.60	99.12
Water & soil protection	98.42	98.57	98.23
Wildlife habitat/nature	98.03	97.90	98.20
Legacy/bequest	91.76	90.91	92.86
Wildfire risk reduction	90.57	91.97	88.79
Recreation (non-consumptive)	74.06	81.34	64.76
Forest products (non-timber)	46.58	63.36	25.24
Timber	34.19	47.69	17.31
Hunting/fishing	30.13	43.20	14.42
Responses	varies	varies	varies

Table B15. Reasons for not being interested in reforesting, among respondents unlikely or very unlikely to reforest (Q15.2).

Why not interested in reforesting	Full sample (%)	HPCC sample (%)	SF sample (%)
Too expensive or challenging to reforest	71.15	79.17	64.29
Nature will take care of it	64.58	71.43	59.26
Converting land or selling it	37.50	20.00	50.00
Wildfire damage not that bad	26.67	16.67	33.33
Prefer land without trees	4.55	5.56	3.85
Responses	varies	varies	varies

Table B16. Reforestation information and support already received (Q16).

Received reforestation support	Full sample (%)	HPCC sample (%)	SF sample (%)
Information	32.16	34.78	29.32
Materials	12.88	14.98	10.58
Technical support	14.14	15.05	13.16
Financial support	15.27	25.12	4.30
Responses	varies	varies	varies

Table B17. Barriers to reforestation (Q17).

Barriers to reforestation	Full sample (%)	HPCC sample (%)	SF sample (%)
Lack of information or knowledge	72.06	65.99	78.49
Difficulty finding materials	69.71	65.99	73.66
Difficulty finding technical support	78.01	76.41	79.68
Do not know who to contact	62.50	59.18	65.96
Too expensive or challenging to reforest	76.92	76.24	77.66
Responses	varies	varies	varies

Table B18. Feel capable of reforesting (self-efficacy) (Q18).

Feel capable of reforesting (Self-efficacy)	Full	HPCC	SF
Agree	17.25	16.75	17.8
Somewhere in the middle	33.25	31.1	35.6
Disagree	49.5	52.15	46.6
Responses	400	209	191

Table B19. Feel personally responsible for reforesting (Q18).

Feel personal responsibility to reforest	Full	HPCC	SF
Agree	31.76	31.28	32.29
Somewhere in the middle	43.67	36.97	51.04
Disagree	24.57	31.75	16.67
Responses	403	211	192

Table B20. Believe the community expects them to reforest (Q18).

Believe community expects them to reforest	Full	HPCC	SF
Agree	11.9	7.8	16.32
Somewhere in the middle	57.47	55.61	59.47
Disagree	30.63	36.59	24.21
Responses	395	209	190

Table B21. Ranking of reforestation program features, full sample (Q19).

Program design features (Full)	Ranked #1 (%)	Ranked #2 (%)	Ranked #3 (%)	Ranked #4 (%)
Financial support	42.19	19.06	11.88	26.88

Access to materials	19.06	30.31	29.06	21.56
Access to labor	19.38	26.25	34.38	20.0
Professional support	19.38	24.38	24.69	31.56
Responses	varies	varies	varies	varies

Table B22. Ranking of reforestation program features, Hermits Peak/Calf Canyon Fire area (Q19).

Program design features (HPCC)	Ranked #1 (%)	Ranked #2 (%)	Ranked #3 (%)	Ranked #4 (%)
Financial support	49.38	16.88	9.38	24.38
Access to materials	14.38	33.12	35.62	16.88
Access to labor	20.62	28.75	29.38	21.25
Professional support	15.62	21.25	25.62	37.5
Responses	varies	varies	varies	varies

Table B23. Ranking of reforestation program features, South Fork Fire area (Q19).

Program design features (SF)	Ranked #1 (%)	Ranked #2 (%)	Ranked #3 (%)	Ranked #4 (%)
Financial support	35.0	21.25	14.38	29.38
Access to materials	23.75	27.5	22.5	26.25
Access to labor	18.12	23.75	39.38	18.75
Professional support	23.12	27.5	23.75	25.62
Responses	varies	varies	varies	varies

Table B24. Minimum financial support needed to take part in a reforestation project (Q20).

Financial support needed to participate in reforestation	Full	HPCC	SF
0%	6.87	6.37	7.41
1-24%	8.14	5.39	11.11
25-49%	7.63	7.84	7.41
50-74%	26.21	21.08	31.75
75-99%	16.28	18.14	14.29
100%	34.86	41.18	28.04
Responses	393	204	189

Table B25. Importance of planting the same types of trees as before the fire (Q21).

Importance of planting same type of trees	Full	HPCC	SF
Very	39.55	46.15	32.28
Somewhat	38.29	37.98	38.62
Slightly	11.84	8.65	15.34
Not at all	10.33	7.21	13.76
Responses	397	208	189

Table B26. Expected number of years to reforest (Q22).

Number of years for a reforestation project	Full	HPCC	SF
<1	5.36	4.41	6.38
1-3	16.58	14.71	18.62
3-5	22.96	18.14	28.19
>5	55.1	62.75	46.81
Responses	392	204	188

Table B27. Expected percentage of planted trees that would survive (Q23).

Percent of trees expected to survive	Full	HPCC	SF
<10%	6.96	8.46	5.35
10-25%	17.53	22.89	11.76
26-50%	32.47	33.33	31.55
51-75%	29.12	23.38	35.29
76-100%	13.92	11.94	16.04
Responses	388	201	187