

# Who Rebuilds and Why? Examining Post-Wildfire Housing Recovery Decisions

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## Study Summary

By any metric, California has had an unprecedented last decade of fires. Eleven out of 15 of the largest wildfires in California history have occurred since 2015, destroying over five million acres of land. Five of the 15 deadliest fires in state history have occurred over that same period, accounting for 138 confirmed deaths. Likewise, 12 of the 15 most destructive wildfires have occurred since 2015, destroying 41,831 structures. After these fires, affected households must decide whether to rebuild in the same place or relocate. It is important to understand how households make their post-disaster housing decisions, as housing is pivotal to community recovery, as well as the mitigation measures that need to be adopted to reduce future wildfire risks. We conducted 70 photovoice interviews with homeowners from four counties in California who lost their homes to wildfires since 2015. Across our interviews we found that nature bonding, collective healing, barriers to recovery, reasons to stay, and reasons to leave emerged as prominent themes. In response to the 2023 Lahaina Fire, which destroyed 2,207 properties, killed 102 people, and resulted in \$5.5 billion in economic losses, we have added Maui as a study site. Data collection in Lahaina is ongoing, with 14 interviews conducted as of June 2025.

## Research Questions

- What place-based factors influence residents' interpretation of the post-disaster environment?
- What role does place attachment play in post-disaster residential adjustment, including rebuilding, mitigation, and relocation?
- To what extent do current place attachment measures capture the observed dynamics of place attachment in disaster contexts?

## Study Area

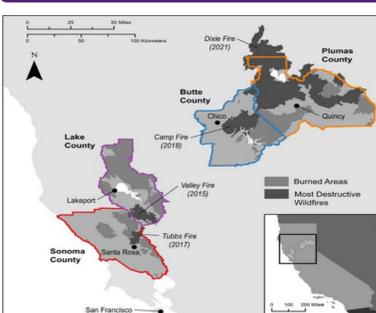


Fig 1: Study areas in Northern California

### Highlights

- In total, 70 households participated in the study from our four counties: Butte (25), Plumas (8), Sonoma (23), and Lake (14).
- Selection criteria included homeowners who suffered major damage or had lost their homes to wildfires since 2015.
- Study participants represented experience across nine different wildfires.
- Among the households, 25 had relocated, 35 had rebuilt in the same place, and 10 were in the process of rebuilding.

## Study Design

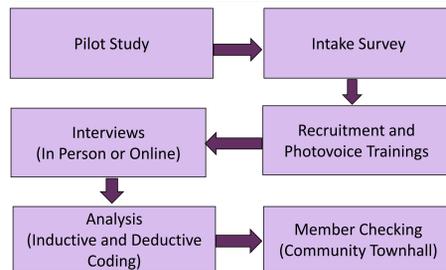


Fig 2: Steps taken in the overall design of the study

### Pilot Study: Flashpoints

- This study builds on a 2019 pilot project aimed at understanding challenges in post-wildfire recovery and long-term mitigation.
- Our team interviewed 37 stakeholders, including federal, state, and local officials, wildfire professionals, and community leaders.
- Participants saw wildfire as a chronic hazard and agreed on risk reduction as an important component of long-term recovery, but they lacked consensus over strategy.
- Most solutions were small-scale compromises shaped by economic development concerns and state policy guidance.
- The lack of strategy alignment disrupts the prolonged and transformative land-use planning and fuel reduction. This leads to the necessity of our research with households.



Fig 3: Modified theoretical framework built on Mihaylov and Perkin's (2014) model to assess the decision-making process

### Model Highlights (Fig. 3)

- The model begins with a disaster that disrupts community functioning.
- After a disruption, households interpret their situation and form narratives around what the disruption means to them and how it alters their relationship with their place of residence.
- In the response phase, households choose one of three potential outcomes:
  - relocate to a new community (Pathway 1),
  - rebuild without mitigating (Pathway 2), or
  - rebuild with new mitigation measures (Pathway 3).

### Schematic of the Photovoice Method



Fig 4: Steps involved in the photovoice interview

### Photovoice Method

- We met with households in person and online. During training, participants received the following photo prompts:
  1. Take pictures of things around your house that tell the story of your recovery from the fires.
  2. Take pictures of things in your neighborhood, community, and natural environment that show changes since the fires that are meaningful to you.
- Photos included a mix of pre- and post-fire photographs.
- Participants took photos over several months, using either a disposable camera or their own camera.
- In the interview, photos were laid out in a grid (Fig. 6) and participants shared their experiences regarding the photos.

### Number of participating households



Fig 5: Participating households, grouped by the time elapsed since their most significant (self-defined) wildfire experience

## Study Design (Contd.)



Fig 6: Setup for photovoice interviews in person (left) and online (right).



### Member-checking

- In October 2024, four town hall meetings were convened in Butte, Plumas, Sonoma, and Lake counties to present preliminary research findings and for member checking.
- Preliminary study findings were displayed across posters (Fig. 7), each organized around a central theme.
- The nine themes addressed were: 1) Barriers to recovery, 2) Facilitators of recovery, 3) Connections to place, 4) Reliance on others, 5) Reasons to stay, 6) Reasons to leave, 7) Adapting to changing risks, 8) Recovery is not linear, and 9) Coping and getting through it together.
- We systematically documented participant feedback for each theme by asking them to respond to three prompts beside each poster: "What resonates with me is...", "Something that is missing...", and "Something that surprises me here is..."
- Additionally, one poster was dedicated to presenting policy and practice recommendations.



Fig 7: Validation of findings with participants conducted in three ways a) Researchers shared policy recommendations; b) Participants engaged in discussions about the findings presented in posters; c) Participants documented their perspectives by noting key strengths, challenges, and any gaps they identified.

## Findings

### Theme: Nature Bonding



So, I think a lot of it has to do with, it's the environment...That's why we came back here... I don't have a lot of fancy stuff, or I don't, I don't go to, out to clubs or, I just, I'm very connected to the natural world. Which is for me is my environment, my garden, my animals, you know, that sort of stuff. Every night I sit out on that porch and just listen to the toads and, the birds and the animal sounds. That's why I love it here. And it's a, you know, it's not a beautiful area right now, but it was a very beautiful area... And I think to me, it's kind

of like if you had a really, really good friend, and...then they got into some horrible accident, and they were grossly disfigured. And at first, when you saw your friend, you would go, oh, my poor friend. They're so grossly disfigured, but then it would just be your friend again...that's kind of how it is for me here. **Sonoma County**



So the gardening thing is not good, but there's wolves here. There are bears. There's wilderness, there's a forest, and places to explore, and beautiful wildflowers. And we're on the Pacific Flyway. There's a lot of waterfowl that that come here. There's water, lakes and rivers, and places to go kayaking and that's a real wonderful part of this area for sure. In fact, it's like a kind of a place where I've often driven for hours and hours to get to, to vacation in. So, now I'm in the, yeah now I'm there... Although, <laugh> it's been fraught with fire danger, campgrounds closed because of high fire danger or because of fire. So, it's not always available to us, but potentially it gives us some opportunities to explore nature. **Butte County**

### Theme: Collective Healing

You know, there was something, just the way the community came together. They had, this huge room full of people like the DMV so you could go get, driver's licenses or whatever. And over here, you can apply to get your birth certificate and marriage license and all these other documents that were burned. And, over here, you know, you get free clothing, and you could just...



there was a store there in Hidden Valley where you could just go and take what you needed kitchen utensils and stuff, and clothing. And they really satisfied that need to get us going right away. **Lake County**



After the fire, we were, people started gathering there and just talking, just telling our stories. Which I realized how important that was. Everybody had their stories, and we kept cutting each other off, which was one of the things with the therapist, I was able to tell my story from beginning to end without being interrupted. Which was kind of a relief. And also made me realize like I just need to listen to other people. That's part of the healing is just to hear other people's stories. Anyway, you know, soon after the fire I was in here and it was... even though I didn't have a

home to come back to, I could come back to the community. The community was there, so it was a place to return to. I think that was probably some part of the decision to rebuild. **Sonoma County**

### Theme: Barriers to Recovery



We took our house plans. There's the new state in fact, state county code laws say that every house has to now have a sprinkler system and solar panels. Well when the Paradise Fire,...Camp Fire...And they realize, okay, these people want to get back in quick. We don't want to impose a bunch of new codes on them. That's just going to slow this thing down. We want these people to get back in... Those are expensive things. I mean, it's like \$20,000 to \$40,000 that you have to have for 20 ish for the solar and 20 ish for the sprinkler. So, it's like if you're under insured to begin with that's \$40,000 you've got to

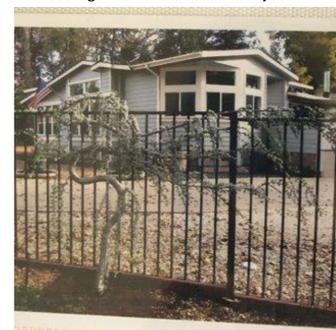
come up with. That really doesn't get you into a house to live. **Plumas County**

...[Itemize everything]...That was hell. That was just hell because I had to visualize it, you know. I had to walk through my home visually in my mind and think of every single item. And that was probably one of the cruelest processes of post fire was having to visualize it. And it was incredibly... Yeah, that was depressing. It was horrible. So, I mean, I've foot dragged, and foot dragged because I just couldn't emotionally take it. So yeah. But I had to do it otherwise we were not going to, we weren't going to receive any money for replacing these items without... yeah. It was awful. **Butte County**



### Theme: Reasons to Stay

...there were tax benefits as well. If we had bought anywhere else because of Prop 13... When you buy property, it starts your tax rate... and then they can only increase it like 1% a year. Because we had bought thirty something years ago, we had a pretty decent property tax. If we had bought we were going to triple it, you know, simply because of the cost of housing now, compared to when we bought thirty-something years ago. You know, we've had our tax bill adjusted because we did add a little square footage, but it's still lower than it would have been if we had bought somewhere else. So, you know, we're old, been on a fixed income, we have to think about things like that. **Butte County**



I think if I'd had an understanding of how stressful and difficult everything would be I think I, you know, I would more likely have considered options of, of buying something else. And then of course, you know, you sort of faced the question, well if, where would I go? Would I stay here? There weren't too many places that appeared to be really fire safe in the area. So, to select a, a place to live was a little bit difficult in and of itself. Um, it didn't seem to make sense for me to think about moving. **Sonoma County**

### Theme: Reasons to Leave

Costs increased dramatically. And so that was an issue. And then just the fact of building another house in a wildfire zone. That was the part that said, you know, I thought it was crazy to do this again. Uh, and everybody just, you know, built the stick houses again, you know, two by fours. two by sixes. OK, they put a little bit of Hardie planking on the sides, but my house had



Hardie plank. It didn't do anything, you know. So, it's like it just felt to me like repeating a lesson I had already learned, and even to this day I don't necessarily want to be a homeowner in this area anymore. It's just too much of a burden to carry over summer and too much work and too much cost to keep the house protected. **Lake County**



Well, we had already been planning to make an exit from the partnership. But we didn't have anything figured out yet. We'd been sort of in the process for about a year and a half of trying to figure it out, but it was such an all-encompassing lifestyle up there. Like I just couldn't translate, like, there was nothing in a regular neighborhood like this that seemed interesting to me. I just didn't feel myself into it. So, we had been traveling around looking at places and the community knew that we were planning to leave. And in a way it kind of felt like an active responsibility since we were aging to sort of like, make room for the next generation coming in. But we didn't - yeah so it got very complicated after the fire. Because like, as all of these big decisions were starting to be explored for the community going forward, I felt like some pushback from some, a couple of the people. Like our voice wasn't really that useful or helpful since we kind of were on our way out. **Sonoma County**

### Next Steps

- To finish conducting interviews in Hawaii, analyze the Lahaina Fire interview data, and host a town hall for dissemination and member-checking.
- To conduct Qualitative Comparative Analysis (QCA) to explore the three household adjustment pathways and to document the similarities and differences across the participating counties.
- To develop a white paper including policy recommendations and share with FEMA, HUD, the state, and other key stakeholders.
- To disseminate the research findings through publications in peer-reviewed journals, conferences, and workshops.
- To publish all the results from this research on the research website.

(\*\*Scan the QR code to check the website)



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