UCLA Luskin Center for Innovation

Informing effective and equitable environmental policy

Rethinking Managed Retreat for Wildfire: Key Insights and Research Priorities

WORKSHOP SYNTHESIS REPORT

BY LIZ KOSLOV AND KATHRYN MCCONNELL

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UCLA Luskin Center for Innovation

Informing effective and equitable environmental policy

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We acknowledge the Gabrielino/Tongva peoples as the traditional land caretakers of Tovaangar (the Los Angeles basin and So. Channel Islands). As a land grant institution, UCLA pays respects to the Honuukvetam (Ancestors), ‘Ahiihirom (Elders), and ‘eyoohiinkem (our relatives/relations) past, present, and emerging. We further recognize that the historical and ongoing dispossession of the Gabrielino/Tongva peoples and other Indigenous peoples underpins the workshop’s core issues of concern, given the multiple ways that settler-colonial systems and policies have exacerbated wildfire risk.

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ABSTRACT

Wildfires are destroying homes, displacing communities, and driving escalating costs, prompting new interest in “managed retreat” as a potential response. This report examines whether managed retreat—the process of relocating homes and infrastructure away from high-risk areas, typically those prone to flooding—can be effective, equitable, and feasible in wildfire contexts. Drawing on a 2024 UCLA workshop with researchers, practitioners, and community leaders, we synthesize key themes, tensions, and knowledge gaps. Findings highlight the importance of land management, coordinated—not piecemeal—approaches, and the social, cultural, and political complexity of relocation. The report underscores that retreat is not a universal solution and calls for targeted research and community-informed local planning to guide future policy and practice.

1. ABOUT THE WORKSHOP

In October 2024, UCLA convened scholars, practitioners, and leaders from wildfire- and flood-affected communities to discuss the intersection of wildfire and "managed retreat"—the process of relocating homes and infrastructure away from areas at high hazard risk. Managed retreat is typically studied and implemented in response to flooding, sea-level rise, frequent storm impacts, and coastal erosion, but some recent proposals suggest retreat as a possible response to wildfire. We organized this workshop to assess the feasibility of managed retreat in the wildfire context and to identify key areas for future research.

1.1. Workshop Organizing Committee:

- Jola Ajibade, Department of Environmental Sciences, Emory University
- Megan Cattau, Human-Environment Systems, Boise State University
- Laura Durgerian, Mithun
- Miyuki Hino, Department of City and Regional Planning, UNC Chapel Hill
- Liz Koslov, Department of Urban Planning and Institute of the Environment and Sustainability, UCLA
- Kristin Marcell, Climigration Network
- Kathryn McConnell, Department of Sociology, The University of British Columbia
- Megan Mullin, Department of Public Policy and Luskin Center for Innovation, UCLA
- Katie Oran, Climate Resilience Fund
- Katie Stege Neal, Reach Studio
- Nick Tinoco, Department of Sociology, UCLA
- Marty Walters, Recovery Risk

1.2. Workshop Participants:

- Garrett Bradford, Milliman
- Will Callan, Department of Urban Planning, UCLA
- Jim Durglo, Intertribal Timber Council
- Dan Efseaff, Paradise Recreation and Park District
- June Farmer, Marin City People's Plan
- David Flores, U.S. Forest Service
- Emma French, Department of Urban Planning, UCLA
- Miriam Greenberg, Department of Sociology, UC Santa Cruz
- Sophie Katz, Sustainable LA Grand Challenge, UCLA

- Crystal Kolden, School of Engineering, UC Merced
- Andrew Malmuth, Department of Sociology, UCLA
- Fawn McGee, New Jersey Department of Environmental Protection
- AnMarie Mendoza, Department of Urban Planning, UCLA
- Molly Mowery, Community Wildfire Planning Center
- Hannah Myint, Institute of the Environment and Sustainability, UCLA
- Nancy Presser, Dixie Fire Collaborative
- Elizabeth Rudd, U.S. Department of Housing and Urban Development
- Walter White, Sparks Fire Department, City of Sparks, Nevada

2. INTRODUCTION

In recent years, wildfires have destroyed an unprecedented number of buildings, displaced people from their homes, and imposed high costs on individuals, communities, governments, and the private sector. The human toll has been profound, with far-reaching impacts on people's lives, physical and mental health, livelihoods, and financial security. In response, some researchers and policymakers have suggested funding the relocation of people and infrastructure away from high-risk areas, a strategy known as **managed retreat**. Retreat is primarily studied and implemented in response to flooding and sea-level rise. **Little research examines whether retreat would be effective or equitable in the context of wildfire**.

In October 2024, less than three months before catastrophic fires across Los Angeles underscored the urgency of these questions, wildfire researchers, scholars of flood-based managed retreat, leaders and members from communities at risk of fire and flood, and practitioners gathered at UCLA to co-create a research agenda focused on retreat's costs, benefits, and feasibility with respect to wildfire. **The workshop approached retreat from a critical, neutral standpoint,** with the intention of investigating its intersection with wildfire, rather than advocating or opposing its use as a strategy. We intentionally included participants with a range of views on managed retreat's viability and desirability. Participants drew on diverse scholarly expertise, lived experience, and cultural knowledge to discuss and evaluate concrete examples of forms that managed retreat from wildfire might take.

This report documents the discussions held at the workshop, including key themes and knowledge gaps. It aims to reflect the complexities—and potential problems—of wildfire managed retreat, as well as the potential benefits and opportunities that retreat may offer. **The workshop did not ask participants to come to a consensus; rather, workshop organizers selected a group of participants who were expected to hold diverging perspectives.** The range of perspectives in the room revealed important points of tension, as well as agreement. Here, we highlight these points and identify productive areas for future investigation.

In addition to laying out takeaways and research priorities, we briefly describe the collaborative planning process that contributed to the workshop's ability to meet its goals: building trust among a diverse group of participants; fostering substantive discussion; and collectively producing a deeper understanding of the meaning and implications of retreat in wildfire contexts.

3. BACKGROUND

3.1. Why Wildfire and Managed Retreat?

The motivation to hold a convening like this began several years before the workshop. Co-organizers Liz Koslov and Kathryn McConnell noticed the language of managed retreat appearing in discussions of wildfire, with growing calls in public discourse for retreat from fire-prone places (e.g., Schlickman, Milligan, & Wheeler, 2022; Chabria & Smith, 2022; Next 10 & UC Berkeley Center for Community Innovation, 2021; Moore et al., 2025). We found this discourse troubling, given complex and often-conflicting findings about whether retreat is effective, equitable, feasible, or desired in flood contexts, and the scant empirical research on retreat in relation to wildfire (McConnell & Koslov, 2024; Oran, 2021). We envisioned the workshop as a way to bring people together to think critically, and from a variety of vantage points, about these questions.

In 2023, we were awarded a planning grant from the National Science Foundation's Fire Science Innovations through Research and Education (FIRE) Program (Award #2332142) to support the wildfire and managed retreat workshop. The grant also funded a collaborative planning process, designed to lay the foundation for interdisciplinary research on wildfire-induced building destruction, displacement, and possible planned relocation.

3.2. What Do We Mean When We Talk About "Managed Retreat"?

Some participants entered the process familiar with the idea of retreat, while for others, it was not a concept that they engaged with day to day. For the purposes of the workshop, we defined managed retreat, very broadly, as the intentional withdrawal of homes, buildings, and/or infrastructure from areas at high hazard risk and the subsequent repurposing of land.

The language of retreat emerged from coastal management. Coastlines are dynamic spaces that naturally shift, accrete, and retreat. Instead of seeking to prevent coastal retreat, for instance, by armoring the shore with hard structures such as seawalls, one option is to facilitate the relocation of structures and residents, allowing for the coast to move inland. Managed retreat, in this context, might entail removing hard structures to make room for water and migrating wetland habitats. As a response to flooding, most often in riverine rather than coastal settings, retreat is generally operationalized in two ways: individual property acquisitions by governments ("home buyouts") and planned, community-wide relocations.

In some contexts, people have moved away from using the phrase "managed retreat," instead adopting alternative terms such as "planned resettlement," "supported relocation," or "strategic transition." This is, in part, a response to critiques of the language of "retreat" (Maldonado et al., 2020; Jerolleman et al., 2024). The term raises questions of which actors are "managing" and which are "being managed," for some residents recalling experiences of forced relocation (Koslov, 2016). "Retreat" can also imply a separation between humans and nature. It risks

framing floods and wildfires solely as threats rather than as vital parts of the landscape that are integral to ecosystem flourishing, cultural practices, and social relations.

At the same time, retreat in coastal and riverine contexts may explicitly seek to restore floodplains and wetlands, facilitating water's flow. In the fire context, many conversations around how to address the risks of very large fires emphasize the importance of actively (re)introducing fire onto landscapes, including those where it has been suppressed in favor of certain forms of development, raising the questions of whether and how certain retreat-like approaches may facilitate this.

We opted to intentionally use the term "managed retreat" in the workshop for several reasons:

- First, managed retreat is the term we see emerging frequently in public debates, and we wanted the workshop to directly respond to this conversation.
- Second, managed retreat is an established term in academic literature.
- Third, managed retreat specifically captures the intentional relocation of infrastructure and the accompanying transformation of land use that we wanted the workshop to address, which is narrower in focus than the broader range of ongoing wildfire-related changes to the built environment and residential migration.

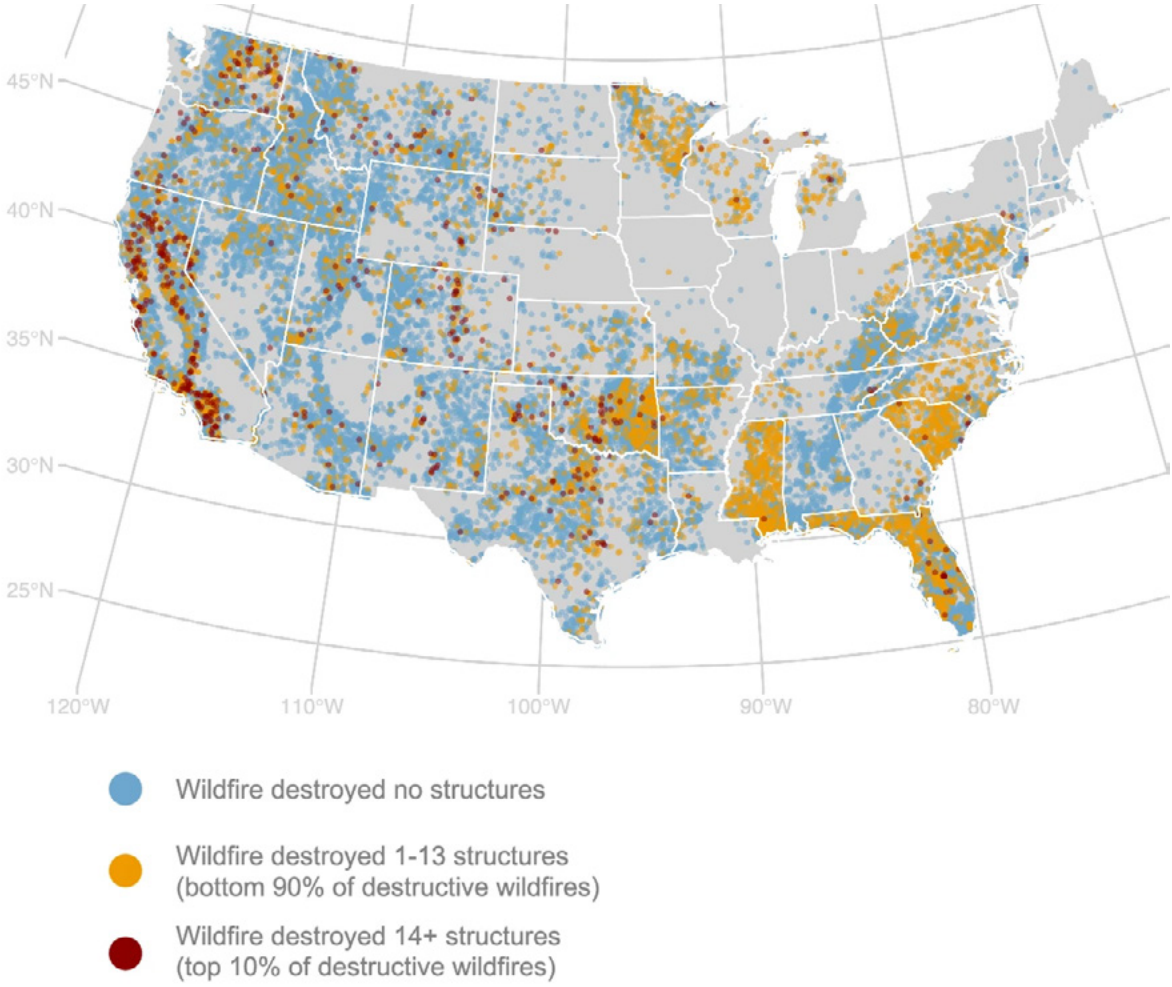
While the workshop focused on managed retreat specifically, we also recognized the other changes that are happening in the built environment and in migration dynamics related to wildfire. For instance, there are places where wildfire destruction to housing has caused displacement (McConnell et al., 2024). There are regions where insurers are withdrawing home insurance coverage due to rising fire risk (Flavelle, 2020; Hemmati et al., 2025). These dynamics were part of the conversation, but we also consider them distinct processes from managed retreat, in that they do not involve active *investment* into the withdrawal of built infrastructure and repurposing of land. In other words, we distinguish displacement and disinvestment from managed, supported retreat.

3.3. California as a Focal Point of Wildfire Managed Retreat Discussions

Before the 2025 fires in Los Angeles, we recognized California as an important site to hold a workshop on this topic, and more broadly on the intersection of wildfire and the built environment. Over the two decades leading up to the 2025 Los Angeles fires, California had already experienced the most wildfire-related building destruction of any state in the country by far (McConnell et al., 2024).

FIGURE 1

Geographic Distribution of Wildfires With Destruction Levels and Points of Origin Reported in the ICS Dataset From 1999 to 2020 in the Contiguous U.S.



Note: Reprinted from "Rare and highly destructive wildfires drive human migration in the US," by K. McConnell, E. Fussell, J. DeWaard, S. Whitaker, K. J. Curtis, L. St. Denis, J. Balch, & K. Price, 2024, *Nature Communications, 15*(1), 6631.

Many states have experienced highly destructive wildfires, including parts of the Southeast, the Great Plains, and most of the Western U.S. However, California has the highest concentration of these highly destructive fires, many of which have taken place in Southern California specifically. This is likely one reason why emerging narratives of retreat from wildfire in news media and op-eds have ended up focusing on cases in California.

The idea of retreat from wildfire is, by no means, exclusive to California. Indeed, many workshop participants joined from outside the state, and we can imagine that retreat may play out differently in distinct social, political, and ecological contexts. But, given the severity of impacts occurring locally, we had an outsized number of California-based participants, and many of the workshop's materials focused on California.

4. WORKSHOP ORGANIZING PROCESS AND OBJECTIVES

We considered collective planning and design of the workshop as critical for building a substantive, inclusive dialogue in a relatively short meeting time among a diverse group of participants. We planned the workshop beginning a year in advance via quarterly meetings with a 10-member Organizing Committee drawn from a range of sectors, geographies, and career stages.

Together, we agreed early on that our goal for the workshop was not to advocate for retreat or even develop focused policy recommendations. Rather, our intention was:

- to critically evaluate the forms wildfire retreat might realistically take on the ground.
- to discuss both potential benefits and potential harms and inequalities of retreat approaches.
- to identify knowledge gaps where further research could help us better evaluate retreat from wildfire.

From the first Organizing Committee meeting, we explicitly welcomed critical responses to the idea of retreat, making clear that we aimed to elicit areas of tension to develop a more nuanced understanding of retreat's stakes in practice and in different contexts.

We had three guiding objectives to develop this workshop:

1. **Bring together participants from different backgrounds, geographies, and practice areas to discuss the question of wildfire retreat.** Questions surrounding retreat from wildfire touch on many areas: community autonomy, environmental and land-use planning, forest and resource management, housing insurance and affordability, socioeconomic equity, law and policy, to name a few. Furthermore, there is an entire world of retreat research and practice in the flooding context that we hoped to learn from, so the gathering included not only participants with wildfire experience, but also those who have done extensive work related to flooding.
2. **Begin laying the foundation for future collaborative research focused broadly around wildfire, the built environment, and mobility.** We planned the workshop as a way for participants to meet in person and connect around shared interests, even if those interests did not end up being focused exclusively around retreat. We envisioned potential future collaborations that were both academic and non-academic in focus, and we intentionally set aside time for participants to discuss their ideas for future directions and forms this work could take.
3. **Support early-career wildfire researchers and practitioners.** A range of different career stages was represented both on the Organizing Committee and among workshop participants. Through the collective planning process and by gathering together in person at the workshop, we aimed to help embed more junior researchers into communities of practice and research.

5. WILDFIRE RETREAT SCENARIOS

We focused the workshop's morning breakout sessions around particular case studies of retreat, described in full below, to ground us all more collectively in concrete examples of how managed retreat can and does play out in practice. We preassigned participants to breakout groups based on what we knew about their backgrounds and areas of interest and expertise. The groups each focused on one assigned case representing a particular approach to retreat, but had access to materials for other cases and were welcome to consider them, too. We provided a worksheet to guide the discussion. The worksheet asked groups to consider the potential strengths and weaknesses of their assigned approach, as well as identify any knowledge gaps related to that approach. Worksheets also included the following discussion questions:

1. Imagine that this retreat approach was proposed in your community or a community you are familiar with. What do you expect the conversation would look like? For those of you coming from a flood context, how have you seen similar retreat approaches play out in flood-affected communities?
2. Consider the potential strengths/harms of this approach from different perspectives. For example, you might consider the standpoints of:
    a. Residents who remain living in the area, and residents who move away from the area
    b. Residents with different demographic backgrounds (age, gender, indigeneity, race, ethnicity)
    c. Homeowners, second homeowners, renters
    d. Municipal, tribal, county, state, and federal governments
    e. Residents and local governments and districts in rural, suburban, or urban areas
    f. Firefighters
    g. Homeowner's insurance providers
    h. Others not listed
3. How does this approach to addressing wildfire risk compare to alternative approaches? For example, you might consider the alternatives of:
    a. The way things are right now
    b. Substantial investment into adaptation projects that would facilitate residents remaining in place more safely (e.g., home hardening, establishing defensible space, etc.)
    c. Other alternatives

4. What additional information would you want to know to further evaluate this retreat approach? For example, you might consider:
    a. Perspectives of affected residents
    b. Other perspectives; perspectives not reflected in this workshop
    c. Knowledge about landscapes, such as cultural, historical, and ecological knowledge
    d. Information about laws and policies
5. Imagine a world in which rising insurance costs make it increasingly expensive for residents to remain living in place and/or difficult to sell their home and move away. How would you evaluate this approach to retreat under these conditions?

5.1. Case Study 1: Home Buyouts

Government-funded home buyouts are one of the most common tools for managed retreat in the United States, though they are almost exclusively a response to flooding rather than wildfire. Usually, buyouts are voluntary and occur after a disaster, offering homeowners the pre-disaster value of their property in order to permanently return the land to some form of open space. Several buyout programs have sought to proactively acquire high-risk properties before a disaster occurs. While less common, preemptive buyouts can involve leasebacks that allow the original owner or another occupant to remain living in the property for an agreed-upon time as a renter.

By contrast to community-scale resettlement planning (Case Study 2), buyouts are an individual-level approach. They are not designed to enable a whole group to retreat to a common destination, and they facilitate land acquisition on a parcel-by-parcel, often piecemeal, basis. Some buyout programs, however, involve more collective planning and coordination, allowing larger areas of land to be assembled, restored, or converted to another use, should a sufficient number of individuals agree to move, though ongoing land stewardship is not typically funded.

One of the very few examples of buyouts in the wildfire context is the home buyback program created after the 2009 Black Saturday bushfires in Victoria, Australia. A Royal Commission to investigate the bushfires included a recommendation for the state to "develop and implement a retreat and resettlement strategy for existing developments in areas of unacceptably high bushfire risk, including a scheme for non-compulsory acquisition by the State of land in these areas" (Parliament of Victoria, 2010, p. 33, as cited in O'Neill & Handmer, 2012, p. 5). Three years after the fire, Victoria launched a voluntary buyback program, which was limited to highly damaged properties in heavily forested areas. The program received 198 applications and purchased 116 homes at a total cost of A$25.6 million (Henriques-Gomes, 2020; Bond & Mercer, 2014).

FIGURE 2

Images Depicting the Buyout of an Individual House, With the Land Converted to Open Space

Credit: Abby Yang

5.2. Case Study 2: Community-Based Planning for Relocation

This case study approach envisions a process by which groups of residents, or entire communities, might seek support to collectively relocate and transform local land use. In this scenario, community-based planning is the catalyst for managed retreat. As far as we know, this approach is yet to emerge in response to wildfire (though there are important community-based wildfire planning efforts that are not focused on collective relocation), making it the most speculative of our five case studies. It is, however, an increasingly prominent approach in the context of flooding. Examples include community relocations out of river floodplains in the U.S. Midwest and coastal resettlement planning by the Quinault Indian Nation in Washington state, the Jean Charles Choctaw Nation in Louisiana, and a number of Alaska Native Villages.

Imagine a community in a high fire-risk area decided to seek government support to collectively relocate; consider what this process might look like and what the community might need. Groups planning resettlement away from flood-prone areas have found that existing policy makes it challenging to retreat in a way that maintains the integrity of a community, including aspects such as culture, livelihoods, and connection to place. A new location for the community needs to be selected and acquired. New housing and infrastructure may need to be constructed. There may also be debates over what happens to the former site, who has access, and how it is stewarded and maintained, particularly if it does not remain under community ownership or control.

Community-based planning for relocation raises questions around how "community" is defined, and who is included and excluded in the process of planning and implementation. Compared to home buyouts (Case Study 1), in which individual property owners sell to the government and relocate, community-based resettlement requires more holistic, longer-term engagement. What this looks like will depend on a community's history, relationship to place, location in a more urban or more rural setting, and its infrastructure for organizing and making decisions.

FIGURE 3

Images Depicting the Collective Relocation of a Cluster of Homes and Buildings

Credit: Abby Yang

5.3. Case Study 3: Infrastructural and Land-Use Retreat

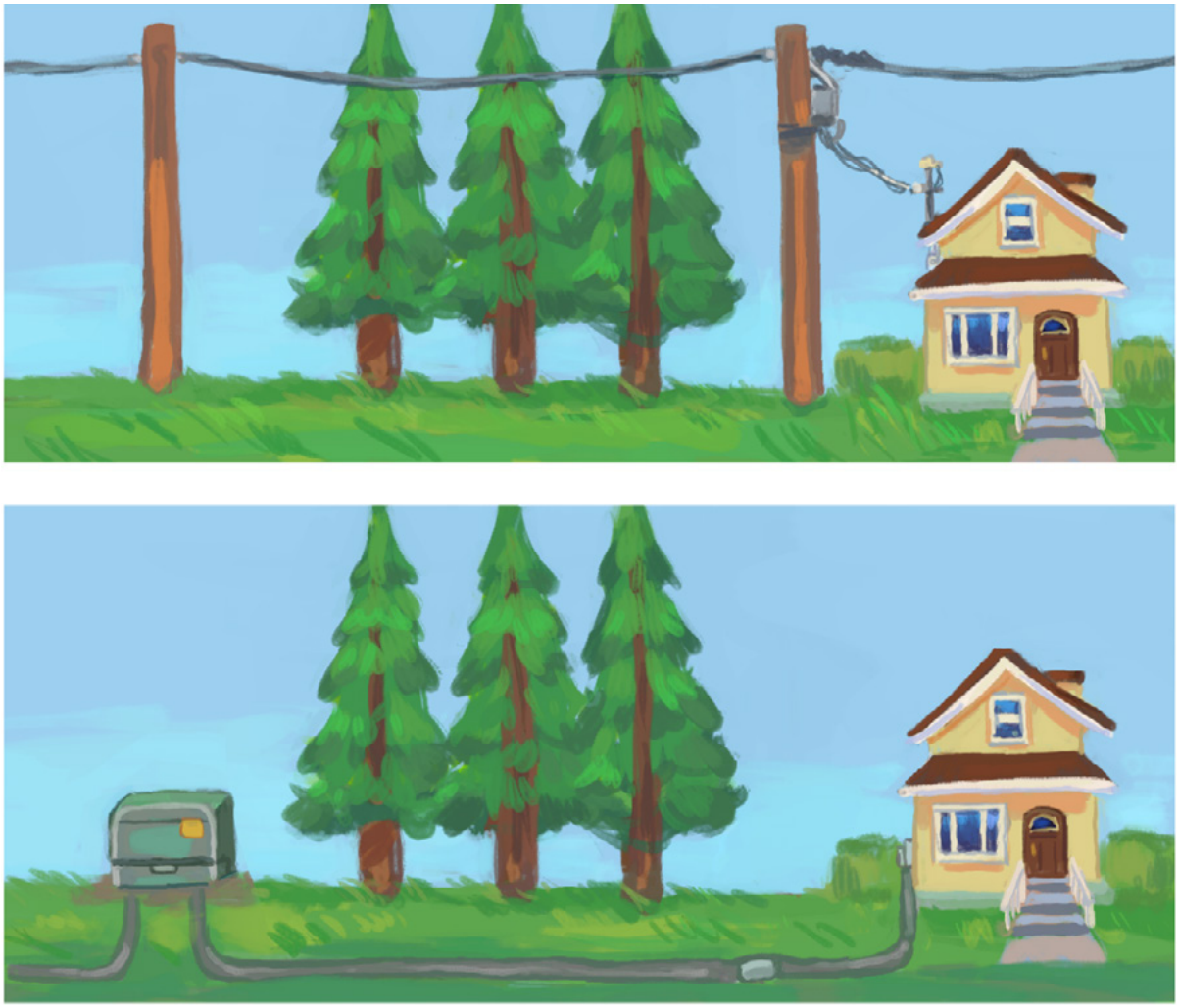
Wildfire retreat broadly describes the removal or relocation of built infrastructure away from areas of high fire risk. This can refer not only to housing (as is often the focus), but to other forms of infrastructure as well, such as railroads and roads in the flood context. In this case study, consider an approach to retreat from wildfire that would remove or relocate not housing, but rather hazard-prone infrastructures or land-use types that heighten wildfire risk.

One example of infrastructural retreat involves undergrounding aboveground power lines. Power lines can ignite wildfires when they come into contact with vegetation during periods of high winds. In California, debates around whether and how best to underground power lines have become increasingly common in recent years following a number of utility-ignited, highly destructive wildfires (including the Tubbs, Thomas, and Camp fires, which, together, destroyed more than 25,000 structures). The California Public Utilities Commission (n.d.) currently estimates that around 33% of power lines in the state are underground. Community organizing efforts following utility-ignited fires have argued for the undergrounding of power lines; for example, following the Woolsey fire, local political leaders and community groups in Malibu advocated for this approach. However, utility-led undergrounding has also proven controversial in practice, with affected communities expressing concerns such as poor planning, rushed work, damage to trees, and costs being passed off to residents (Petersen, 2026).

An example of land-use retreat would focus on separating lands managed for commercial forestry or plantation agriculture from areas with substantial residential development. Several recent, highly destructive wildfires spread rapidly through commercial timberlands and into adjacent housing developments. For example, wildfire-caused housing loss has been linked to rapid fire spread through nearby eucalyptus and pine forestry plantations in regions of Portugal, Chile, and South Africa (Gómez-González et al., 2018; Kraaij et al., 2018). In Hawaii, the 2023 Maui wildfires spread rapidly through invasive grasses that had grown on former sugar cane plantations (Tanigawa Lum & Lu'uwai, 2024). Infrastructural retreat focused on land use would consider reconfiguring or dismantling risk-producing land-use types to restore more fire-resistant and fire-adapted ecosystems.

FIGURE 4

Images Depicting the Undergrounding of Power Infrastructure



Credit: Abby Yang

5.4. Case Study 4: Targeted Land Purchases for Collective Management

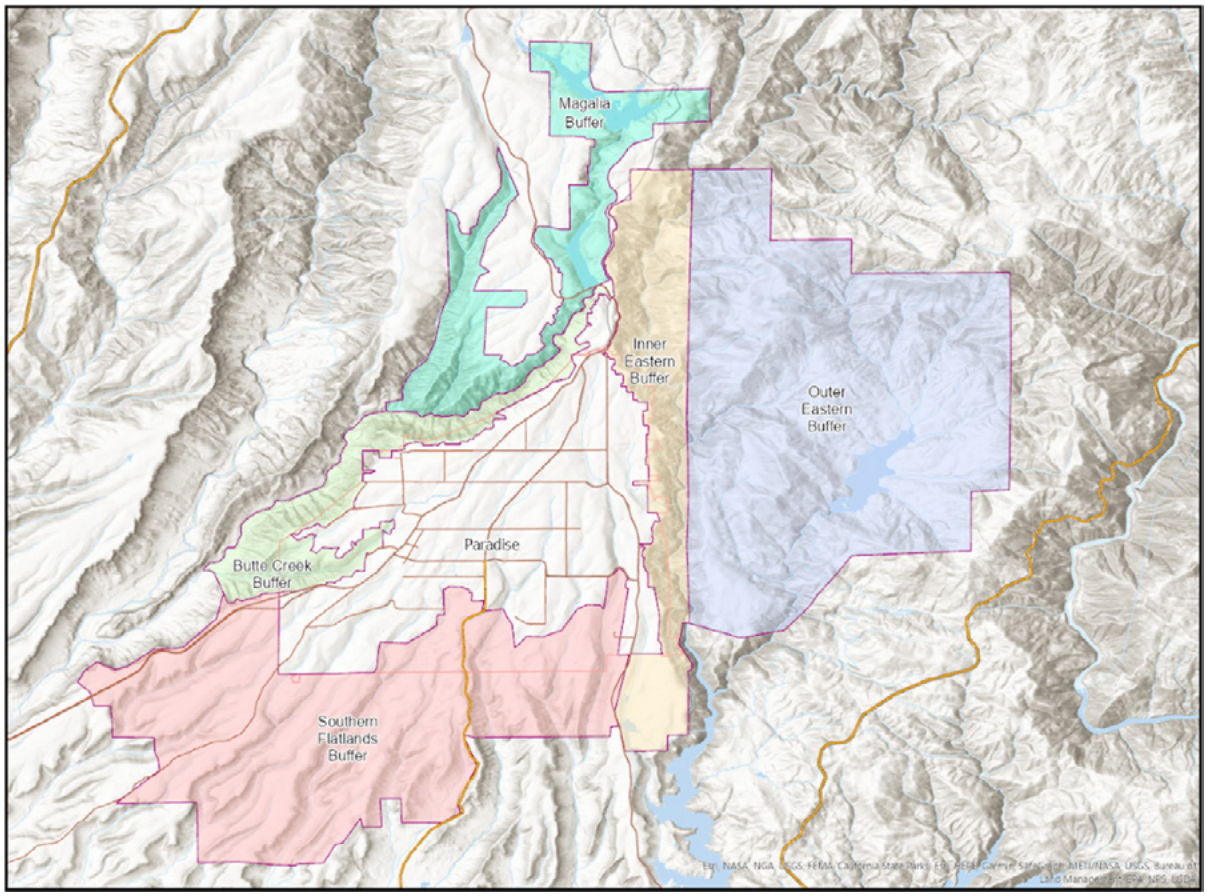
Consider a form of wildfire retreat in which governments or other organizations, such as land trusts, selectively purchase properties to support collective land management strategies. While this approach may draw on home buyouts as a tool (Case Study 1), the emphasis of this case study is on the spatial configuration of purchased properties and strategies for long-term land management.

A primary example of this form of wildfire retreat is the acquisition of clustered, neighboring properties to establish publicly owned buffers or fire breaks. Once purchased, these lands may be planted with low-flammability vegetation to slow the spread of wildfire and protect at-risk communities. Researchers in the U.S. and Canada are studying the use of aspen groves as natural fire breaks, which could be used in this context.

In the years following the 2018 Camp fire in Northern California, the Paradise Recreation and Park District has led a Wildland Buffer Project, which aims to create a collective buffer around affected communities by purchasing residential and other properties. The buffers would focus on strategically located areas, supported by fire pathway modeling and local fire behavior, to provide the most benefit from investments in land management and long-term access on the most critical parcels. The acquisition of targeted lots would help unite existing parks and trails, as well as provide additional evacuation routes and avenues for fire services to access the area in the event of an emergency. Local officials have identified more than 32,000 acres of land that could be acquired for this purpose (Smith, 2022), although the modeling and local knowledge indicate that a fraction of this area—less than about 5,000 acres—can provide the most benefit with limited costs (D. Efseaff, personal communication, April 30, 2026). With most of this land privately held, the buffer project will require landowners of these parcels to agree to a buyout or long-term easements or agreements on their properties. It will also require substantial funding, with initial support coming from sources such as nonprofit grants, donations, and the Federal Emergency Management Agency's Building Resilient Infrastructure and Communities (BRIC) program (Smith, 2022; Siegler, 2021).

FIGURE 5

Wildfire Risk Reduction Buffer Map for the Paradise Recreation and Park District



Note: Courtesy of the Paradise Recreation and Park District. Retrieved from https://www.paradiseprpd.com/wildfire-risk-reduction.

5.5. Case Study 5: Limiting or Restricting Development in Fire-Prone Areas

This case study considers limitations or restrictions on new development or reconstruction in high fire-risk areas. Some would argue this is "avoidance" rather than retreat, as it does not involve the proactive removal or relocation of existing buildings and infrastructure. However, development restrictions are often discussed in the context of retreat, and we decided they would be worthwhile to include in our conversation.

Consider two approaches to development restrictions/limitations. First, such restrictions might be put into place preemptively in areas where there has not been recent wildfire destruction of housing. Through county or municipal zoning measures and existing land conservation tools, certain high-risk areas may have development restrictions placed on them. For example, the City of Santa Fe has established an Escarpment Overlay District that covers around 500 acres of forested foothills within the city. This zoning district is designed, in part, to limit development in an especially high fire-risk area (Headwaters Economics, 2016). These measures may also be inadvertent, for instance, in the case of greenbelt parks of protected open space that were not initially intended as a response to wildfire risk but that could offer risk-reduction benefits if properly managed (Shore, 2021; Eaton, 2022).

The second approach would limit reconstruction *after* a destructive wildfire occurs. For example, following substantial housing destruction caused by the 2017 wildfires in Sonoma County, California, a town council member from Santa Rosa suggested restricting reconstruction to support a gradual retreat from high-risk areas. The proposal did not move forward, largely due to concerns about housing access and costs (Government Accountability Office, 2020).

6. KEY THEMES AND PRIORITIES FOR FUTURE RESEARCH

Following the breakout discussions of different potential approaches to wildfire managed retreat, participants convened for a full group conversation of cross-cutting issues. Everyone then had an opportunity to write three sticky notes with topics they would like to talk more about in the remainder of the workshop. These notes formed the basis for afternoon "interest group" breakout discussions, organized around the following themes:

- Land
- Insurance and the politics of value
- Communities
- Governance
- Research/knowledge/methods

The remainder of this report summarizes themes that emerged from the full day of discussions, with a focus on issues raised by retreat in wildfire contexts specifically.

6.1. Importance of Land Management

In flood contexts, retreat reduces risk not only by moving people away from hazardous areas, but also by converting formerly developed land into more absorbent open space. Depending on restoration and management, that space can contribute varying amounts of additional water retention to reduce flood hazard to nearby areas, but even unmanaged land will not typically escalate hazard risk nearby. In wildfire contexts, however, open space that is not carefully managed can increase risk due to the growth of flammable vegetation. Individual home buyouts, the most common tool for flood-based retreat, often result in a patchwork of occupied and unoccupied land, and many buyout programs do not plan or budget for the longer-term land management. Adopting such programs as-is for wildfire-prone areas could prove maladaptive. Land abandonment, as existing examples show, can heighten risk for those who remain and contribute to worsened fire severity overall.

6.2. Community-Level Planning

Workshop participants stressed the importance of community-level, collective, and inclusive planning processes for managed retreat generally, and especially in wildfire contexts, where unplanned, uncoordinated retreat could worsen rather than reduce risk. Yet, the kind of initiatives needed to lay the groundwork for community-level planning and, potentially, retreat—e.g., projects to strengthen community ties, facilitate consensus-building, develop community leaders, and foster regional collaboration and wider networking and learning, including collecting and sharing stories—face a funding gap. While philanthropic funding may fill some of the gaps in government funding, such support is often not available in the long term, minimizing its utility. Community planning strategies can support broader fire resilience, for instance, through limiting development in particular areas and/or encouraging new development that has

protective design elements, as well as potentially offering voluntary relocation into more fire-protected parts of the community. Community planning may also adopt forms of infrastructural retreat or reconfiguration that preserve housing but alter land use by, say, undergrounding risk-producing infrastructure such as power lines. The best buyout plans, one participant noted, actually build community, helping people move in ways that support their needs, creating collective benefits and public spaces, and promoting healing.

6.3. Collective Versus Individual Approaches to Acquisition and Stewardship

Due to the importance of land management noted above, forms of retreat that help consolidate land may be especially important in wildfire contexts. For instance, property acquisition could be planned and coordinated to facilitate the creation of collective buffers or fuel breaks. Discussion also touched on the possibility of managed retreat facilitating Indigenous stewardship, cultural burning, and land rematriation. While individual buyouts could be valuable in limited circumstances to the extent they support broader land management aims, such as in places where privately owned parcels or private leases fragment public land and impede large-scale management or prescribed burns, piecemeal wildfire retreat poses higher relative risks than in the flood context. Meanwhile, participants noted that parcel-level land abandonment is already happening, and asked whether offering buyouts to people who want to move out of fire-prone areas might be a valuable form of support that is preferable to "unmanaged retreat." Other participants questioned why this support should be offered to residents living in fire-prone places, but not the many other places across the country that are affected by other types of environmental risk (including both hazards as well as pollutants). Participants also noted equity issues tied to who is able to access wildfire mitigation grant money, with wealthier communities, including second-home communities, possessing more resources to seek out and access funding compared to low- and moderate-income communities and some rural communities.

6.4. Challenges of Assessing Risk

Wildfires are highly dynamic, with factors such as wind, fuel load, and land-use change dramatically shaping ignition and spread patterns. The non-static nature of wildfire risk makes prediction challenging, raising questions about how to define risk boundaries for the purposes of managed retreat, as well as how to assess retreat's potential to reduce or increase risk. Some workshop participants indicated that floodplains are more clearly defined than wildfire-prone areas, and that flood modeling is more advanced than wildfire modeling, with flood modeling benefiting from a larger back catalog of data and generations of work focused on modeling and managing water for purposes of development. Participants generally saw flooding as having more predictable risk gradients, making it easier to target and assess the risk reduction benefits of buyouts at the individual or street-by-street scale. In addition to the dynamism of wildfire and unpredictability of wildfire spread is the challenge presented by the sheer spatial scale of wildfire risk (though certain places, such as ridgelines, may present sites of particular risk or difficulty in response and evacuation), as well as the temporality of fire risk compared to flooding. Once a catastrophic fire occurs, for instance, there may be a sense that future fire

risk is lower, at least for a time, versus the fear or experience of back-to-back floods that can drive demand for retreat. However, there was also recognition of the compounding dynamics of fire risk, and particularly the heightened post-fire risk of flooding and debris flows, which have factored into buyouts to expand debris basins after the deadly post-fire debris flow in Montecito, California (Cart & Bland, 2025; Cagle, in press), and proposed buyouts of properties at high risk of post-fire flooding in Ruidoso, New Mexico (A. Rosenthal, personal communication, March 18, 2026; Rosenthal, 2026; Lohmann, 2026). Moreover, there are also communities affected by wildfire smoke to consider, raising a related, but distinct, set of issues that may factor into discussions of retreat.

6.5. Funding Considerations, Insurance, and Liability

Given the need for long-term land management, wildfire retreat is likely to entail a different set of costs than retreat in flood contexts. It is also likely to require different funding mechanisms and rationales. In the case of flooding, retreat has primarily taken the form of federally funded buyouts through the Federal Emergency Management Agency. This agency administers the National Flood Insurance Program, which creates an incentive to buy out and demolish "repetitive loss properties" that impose high costs on the program and taxpayers at large through multiple flood insurance claims. The same incentive structure does not exist for wildfire, raising questions about potential sources of funding and how wildfire's specific and shifting insurance landscape might shape retreat's feasibility and desirability. A related question concerns prospects of a more market-driven approach, should landscape-scale management result in fewer catastrophic claims. There were also questions about the implications of wildfire managed retreat for insurance accessibility and affordability. The issues of legal liability that arise in the context of wildfire, such as lawsuits against utility companies, may also have a bearing on retreat, including the timeline and funding of retreat efforts. There are potential liability issues stemming from responsibility for fuel management on any land post-retreat as well. Ways to render retreat a safer, less speculative investment might include community agreements to maintain buffer zones, modeled on agreements to voluntarily flood farmland and collectively share the value generated (Moore, 2022). Participants pointed to the need for a full-cost accounting of managed retreat scenarios to understand the true cost of this type of investment for wildfire compared to other investments in risk reduction (e.g., home-hardening mitigation). This discussion also brought up concerns about who pays and who benefits, whether these could be aligned, and, as noted above, whether and how to compare the need for investments in risk reduction from wildfire with investments in other environmental hazard sites, including environmental justice efforts for disadvantaged groups living near polluted areas with exposure to air or water contaminants.

6.6. Causality and Responsibility

Wildfire risk raises particular issues of causality and responsibility that bear significantly on debates over retreat. Unlike flooding, a hazard that is generally perceived to lack an explicit responsible actor, many fires are considered "human-caused," in that wildfire ignitions can be directly tied to specific actors, including individuals and electric utilities. A human in a landscape can spark a fire, but not a flood, for example. Recent work reframes disastrous fires in the wildland urban interface (WUI) as a problem of housing encroachment on wildfires, rather than wildfire encroachment on homes (Calkin et al., 2023). Most WUI fires, a participant noted, do not begin in the wildlands and burn into the urban interface, but rather are human-caused and burn into the wildlands. Land-use and regional planning—or lack thereof—play a broader role in driving increased risk, including through WUI growth driven in part by a lack of affordable urban housing (Greenberg et al., 2024).

Wildfire also prompts debate over whether development is primarily a source of risk or a means to reduce it. Unlike the generally accepted rationale for retreat from flooding and sea-level rise—where development increases risk in these contexts by increasing exposure (placing more people and property in harm's way) and adding impermeable surfaces—some argue for further fire-hardened building in wildfire-exposed areas as a risk reduction strategy, an "attack" rather than "retreat" approach. The argument is that newer development not only carries a much lower risk profile than older development, but could reduce fire risk by changing land use even as it increases exposure. Fuel management, building materials, infrastructure, and community-level planning and design offer ways to mitigate wildfire risk that can obviate the need for retreat, which is viewed as more necessary in the face of, say, largely unstoppable inundation from sea-level rise. Moreover, to the extent that affordable housing makes up the structures destroyed in catastrophic fires, there is limited political will to sacrifice this housing via retreat given a broader affordability crisis. For existing communities, home and community hardening—while expensive—may be more cost-effective and less disruptive than retreat, one participant suggested, adding that such an approach, when combined with infrastructural retreat, zoning changes, and targeted fuel breaks, could still represent a departure from the business-as-usual of fire suppression and risk transfer.

6.7. Co-Benefits of Retreat

In wildfire contexts, workshop participants recognized that precisely specifying locations at risk is challenging, and the need for retreat versus other adaptive strategies is debatable. However, participants also saw retreat as offering potential co-benefits beyond reducing hazard exposure and risk. Some of the possible co-benefits of wildfire retreat included maintaining a robust forest; reducing land fragmentation for species habitat, restoration, and management; reintroducing native animal and plant species, as well as fire-resistant and fire-protective species, such as beavers; creating space to bring fire back to the landscape; flood management and reducing risk from post-fire debris flows; reducing risk for firefighters; tribal land back opportunities; establishing fuel breaks and buffers for everyday community use plus emergency uses such as equipment staging, evacuation, and shelter in place; and increasing access to parkland and opportunities for connected recreation.

6.8. Connecting Rural and Urban

Participants recognized that much current discourse around the possibility of wildfire managed retreat targets rural communities that have been sites of resource extraction for more urban areas and are already under threat from disinvestment and under-maintained infrastructure, which also plays a role in amplifying wildfire risk. Longstanding rural communities, participants noted, also face pressures of gentrification and displacement due to WUI growth and as second-home owners displace full-time residents. Participants noted that these communities are changing, diverse, and experiences vary, with more research needed. For example, in some cases, more recent WUI arrivals—including growing numbers of renters and people moving in search of affordability—may lack knowledge, experience, and networks, and be ill-equipped to contend with growing risks. They may also have different attitudes toward the idea of retreat than those who are more deeply rooted and who recognize the importance of their knowledge and presence to steward lands. In other cases, more recent "transplants" may show a greater concern for wildfire compared to longer-term residents who have experienced numerous years without fire. Compared to urbanized areas, rural areas may have less local government capacity and more limited access to fire mitigation and recovery resources, or they may have more access to fire mitigation resources due to a higher level of hazard but be limited by workforce capacity. People in these areas may have more challenges obtaining home insurance coverage, but may benefit from local landscape knowledge and capabilities to manage land and engage in fire mitigation strategies themselves.

Participants questioned the assumption that relocating from more rural to more urban places offers a solution to wildfire risk, not only because it overlooks the importance of rural livelihoods and the value of rural places, but also because the intensity of fire can be much greater in denser, more urbanized areas with structure-to-structure fire spread. One participant drew a distinction between types of urbanization, noting that building in WUI areas is generally riskier than moving to dense urban areas that are less vulnerable to wildfire. Participants recognized that framing more rural areas as inherently more risky sows mistrust and overlooks the role of urbanization and urban housing market dynamics in increasing wildfire risk in rural areas. It is important for managed retreat research to consider the relationship between rural and urban areas, as well as the specific perspectives, needs, capacities, and vulnerabilities of diverse rural communities, especially since the existing knowledge of flood-based managed retreat is primarily focused on urbanized areas and may emphasize urban perspectives.

6.9. Social, Political, and Cultural Contexts and Consequences

Workshop discussion touched on the social, political, and cultural contexts of fire-affected communities and places at high fire risk, which, particularly in rural parts of the Western U.S., can be characterized by a strong sense of individualism as well as mistrust of government. This may have implications for willingness to accept buyouts or engage the idea of managed retreat, if these initiatives are not understood to stem from communities themselves. Participants spoke to the importance of understanding different relationships to land, to paying homage to those relationships and to the past histories of these communities, and to trauma-informed approaches to research as well as retreat in practice. When these conversations take place in the aftermath of a wildfire, it is also important to recognize the extent to which disaster recovery can be a retraumatizing process, for example, in cases where policies and programs treat survivors seeking support as potential perpetrators of fraud, contributing to an atmosphere of distrust that can hinder collaborative planning, rebuilding, and retreat efforts. Attending to the distinct social contexts of different places and populations, including aging populations and renters, is also imperative, as retreat policies and programs can, and often do, prove inequitably available to different residents. Participants raised questions about who would bear the costs and who would benefit from different forms of retreat. Crucially, wildfire retreat conversations occur in the context of ongoing colonial settlement but often exclude the perspectives of Indigenous nations and communities with homelands in these areas. Participants noted that tribal communities, both recognized and unrecognized, have been on the lands in question since time immemorial, managing and coexisting with wildfire, though a number of communities are presently displaced and dispersed. Indigenous communities, workshop conversation stressed, bring a longer-term perspective that can and should inform ideas of managed retreat, including how and whether to implement it, as well as potentially reconceptualizing it.

6.10. Relationship Between Flooding and Wildfire

Participants reflected on the value of bringing together experts in both flood-based managed retreat and wildfire for the purposes of this workshop, speaking to the need for further dialogue, collaboration, and the sharing of expertise across hazard areas that are frequently siloed. Workshop discussion recognized the relationship between flooding and wildfire as interconnected and overlapping phenomena, including when it comes to retreat, which may be a tool to respond to the risks of post-fire flooding and debris flows. Thinking across flooding and wildfire contexts in conjunction with practitioners, community members, and leaders from fire- and flood-affected places also reveals salient differences between the two contexts, as noted across the key themes in this section. These differences should be better accounted for in research on managed retreat aimed at translating knowledge from flood to fire, as well as in retreat planning and policy, disaster recovery, and climate adaptation research and practice more generally.

7. CONCLUSION

Failing to address interconnected questions of housing, land use, and wildfire leaves communities and governments in an increasingly dangerous and costly status quo: continued waves of structure loss, displacement, reduced housing stock, enormous expenditures for the public and private sectors, and an incalculable human toll. Through a focus on the issues raised by managed retreat in wildfire contexts, our workshop aimed to lay the groundwork for further interdisciplinary collaboration at the intersection of wildfire and the built environment. It particularly sought to foster research that is co-developed with practitioners and community members directly affected by wildfire to ensure their needs are informing new frameworks, research questions, and policy and planning tools, including—but not limited to—managed retreat.

A group of participants at the Wildfire and Managed Retreat Workshop held October 17–18, 2024.

Photo: Liz Koslov

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