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Before the Fire

Protecting Vulnerable Communities from Wildfire

By Ryan Richards July 2019

Center for American Progress



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Introduction and summary

Wildfire has always been a natural feature of the U.S. landscape, especially in the West. But it has become clear in recent years that the combination of a changing climate and more people moving into wilder areas is putting more lives and communities at risk.¹ Since 2017, catastrophic wildfires have devastated cities and towns—such as Paradise, Santa Rosa, and Redding in California—as well as many smaller communities in the United States.

This increase in the number of fires that affect communities has sparked uneven policy responses, including reforms to federal wildfire funding and state legislation to manage community preparedness and the liability of utilities. But it is unclear whether these policies will be applied where they are needed most—in places where the risk of wildfires are greatest or where communities and their members have fewer resources to prepare.

Recent research finds that 12 million Americans who live in areas where wildfires are common would be unable to prepare for or recover from a wildfire; their homes and livelihoods are at risk.² And communities of color—particularly African American, Latino, and Native American communities—are disproportionately more likely to be affected.

New policies to support wildfire preparedness should be commensurate with the scale of the threat and cannot leave behind the United States' most vulnerable communities. As the climate changes, the United States needs to prepare for future fires by investing in sound, science-based management of lands near these communities. Policymakers must also ensure that resources are available to all communities—regardless of socio-economic status—so that they can plan and make investments in properties to reduce the threat of wildfires.

This report considers the costs of protecting U.S. communities that are vulnerable to wildfires. It then highlights current efforts to help these communities, as well as how these efforts can be strengthened. The final sections of the report outline specific state and federal policy recommendations that would help ensure that the most vulnerable communities and populations receive the support they need to prepare for catastrophic wildfires.

The costs of protecting communities that are vulnerable to wildfires

While forests receive most of the attention when it comes to wildfires, protecting communities in or near wildlands is far more important for reducing the potential catastrophic effects of fire. This is especially true given the movement of people into wild areas over the past 30 years. As of 2010, nearly 98 million people lived in the wildland-urban interface (WUI), a term for places where homes and businesses have been built in close proximity to forests and other natural areas. (see Figure 1) This interface is expanding faster than all other land uses—such as agriculture, urban areas, and unoccupied natural vegetation—in the country. Since 1990, 60 percent of new homes have been built in the WUI.³ This growth is driven by large-scale movement of people from cities to suburbs and rural areas, in part due to the high cost of urban housing.⁴ All told, the WUI now covers more than 190 million acres across the United States—an area larger than the state of Texas.⁵

As the number of people living in the WUI has increased, the costs of fighting wildfires have risen dramatically.⁶ This is due in large part to the protection of private property. In 2006, the U.S. Department of Agriculture’s Office of the Inspector General estimated that 50 percent to 90 percent of fire suppression costs were attributable to protecting properties rather than saving forests.⁷ Studies by Headwaters Economics have also found increases in suppression costs to be correlated with areas that had higher home densities.⁸ The bottom line is that the United States spends billions of dollars every year trying to protect homes and communities—and that number will continue to rise as the climate changes.

While living near wildlands does not necessarily put someone at risk of being threatened by wildfire, new research shows that it is a real threat for tens of millions of people. Approximately 30 million people live in census tracts across the country where wildfires are likely to occur, placing their homes and lives at risk. Of this subset of the population, roughly 12 million are especially vulnerable to the effects of wildfires; they lack the resources to invest in preparedness and the economic security to recover if they are affected by a fire.⁹ These are disproportionately communities of color—African American, Hispanic, and Native American communities are roughly 50 percent more likely to be vulnerable to wildfire than other groups.¹⁰

TABLE 1

U.S. population shifts and housing development have increased the human footprint in wildlands since 1990

Increase in U.S. population, number of housing units, and area of the wildland-urban interface (WUI), 1990, 2000, and 2010

	1990	2000	2010
Population	72,636,475	86,252,862	97,774,215
Housing units	30,782,682	36,946,860	43,434,112
WUI area (sq. km.)	580,831	688,529	770,301

Source: Sebastián Martinuzzi and others, "The 2010 Wildland-Urban Interface of the Conterminous United States" (Madison, WI: U.S. Forest Service, 2010), available at https://www.fs.fed.us/nrs/pubs/rmap/rmap_nrs8.pdf.

When it comes to wildfires and homes, an ounce of prevention is worth a pound of cure. There is a growing body of best practices that have been proven to protect homes and businesses—if the appropriate policies and resources are in place.¹¹ These include thoughtful planning and smart building practices such as installing fire-resistant building materials and conducting property maintenance. They also include the use of prescribed fire—the burning of brush piles and small forest patches to reduce fuel in a controlled manner—and other land management tools in and around communities to reduce the likelihood that wildfires will reach buildings.

As the cost of fighting wildfires grows, the financial case for proactive community planning and preparedness is becoming clear. Studies suggest that every dollar spent on disaster preparedness can save \$4 in disaster response and recovery costs.¹² For wildfires, the cost-benefit ratio may be even higher. For example, in Colorado, a few million dollars spent on fire breaks and prescribed fires over the course of a decade near the mountain town of Silverthorne protected 1,400 homes—almost \$1 billion in property—when a wildfire burned through the region in 2018.¹³ And in Rancho Santa Fe, a community near San Diego, California, fire-safe building practices and enforcement of defensible-space regulations helped save homes when fires spread through the region.¹⁴ However, both of these efforts required financial resources from cities and counties to implement—resources not available to every community.

Given the scale of the problem, it is critically important to consider how all communities—not just those with large tax bases or high property values—can access the necessary resources to invest in such preventative measures.

Support for communities at risk of wildfire

Over the past 20 years, the federal government has established several programs to support community-led efforts to plan for wildfire and protect property. They include:

- The **Community Planning Assistance for Wildfire** (C-PAW) program,¹⁵ which provides technical assistance to communities to incorporate wildfire risks into land use plans that manage development, building codes, and natural resources such as drinking water sources
- Support for communities to create **Community Wildfire Protection Plans**, which fire agencies and other stakeholders can use to assess communities' vulnerabilities to wildfire and plan for risk reduction and fire response activities
- Incentives associated with **Firewise USA**—a program supported by the U.S. Forest Service (USFS), the U.S. Department of the Interior, and the National Association of State Foresters—to encourage communities and homeowners to conduct risk assessments and planning activities
- The Federal Emergency Management Agency's (FEMA) **pre-disaster mitigation assistance grants**, which provide communities with greater resources to implement adaptation plans

However, current support for planning and preparedness does not come close to meeting existing needs; thousands of communities need to prepare for fire. But only 30 U.S. communities are enrolled in C-PAW, and in recent years, only about 20 percent of interested communities that have applied to the program have received funding.¹⁶ Moreover, while FEMA's predisaster grants are valuable, they represent only 6 percent of the overall funds appropriated to the agency.¹⁷ Congress needs to expand proactive programs, including FEMA's predisaster mitigation assistance grants, to represent a greater share of the agency's budget. Congress must also find ways to use other federal grant programs—such as rural housing block grants from the U.S. Department of Housing and Urban Development—to scale up the pace of home retrofits in vulnerable communities.

Congress should also support other positive incentives—such as adjustments to FEMA’s cost-sharing agreements with states—to encourage proactive preparedness measures at the state and local levels.

Expanding efforts to retrofit homes

Preparedness is not something that only happens at the community level: All households in fire-prone areas need to pursue it. Again, there are best practices that are proven to work. A 2019 *Sacramento Bee* analysis of building losses in Paradise, California, found that 51 percent of homes that were built after 2008—when stronger building codes took effect for buildings in wildfire-prone areas—remained standing after the 2018 Camp Fire.¹⁸ Older homes did not fare nearly as well; more than 80 percent were damaged or destroyed, and unfortunately, only 6 percent of California’s housing stock was built after the guidelines went into effect.¹⁹ Updating older homes to modern building codes is critically important, especially as fire behavior research has revealed that once fires reach homes, it is actually buildings, rather than trees, that fuel the spread of fires to other structures.

But retrofitting homes requires resources that many people do not have. Studies show that lower-income households and shorter-term residents—including renters or seasonal occupants—are less likely to invest in fire mitigation activities on properties.²⁰ Renters in particular rely on landlords to make capital investments—such as new roofs and screens over air vents—that reduce the likelihood that a house will ignite. For many people, paying to replace a roof with the latest fire-resistant material is not financially feasible; even tree trimming or brush removal—smaller actions that can keep a low-severity fire from growing when it reaches homes—may be unaffordable. In addition, knowledge gaps may keep some people from taking the necessary steps to protect their properties. Home ownership is one of the most important aspects of building wealth. Thus, these barriers to making retrofit investments not only threaten public safety but also contribute to widening wealth gaps.²¹

Helping individuals understand how to protect their homes will go a long way toward reducing the risks that wildfires present to communities. States should commit resources to implement fire-safe property codes, including auditing properties to educate residents and, if necessary, conducting on-site work and levying fines to property owners to pay for landscaping work that improves public safety. States such as California have committed to inspecting all properties in high-risk areas every three years, but records suggest that inspections are more likely to occur in wealthier areas—even though the state’s under-inspected regions also face the greatest risk of wildfire.²²

Some state-level homeowner support programs exist for certain types of disasters—such as California’s Residential Mitigation Program for earthquake retrofits—but more is needed to help homeowners retrofit housing stock that lacks the latest fire-resistant technologies.²³ Federal and state policymakers need to find better ways to encourage owners—including landlords who are renting their homes—to make the necessary investments. Some workable ideas have emerged in the West, including legislation that would create a Fire Hardened Homes Revolving Loan and Rebate Fund to provide low- or no-interest loans to homeowners so that they could retrofit their homes with the latest building materials.²⁴ Lawmakers in Washington state have proposed an increase in taxes collected on premiums for homeowners’ insurance policies in order to increase funding for forest restoration.²⁵ Similar approaches could be used to raise funds for home retrofits within vulnerable communities, drawing on existing energy-efficiency provider networks—such as state-level organizations like the Energy Trust of Oregon—to conduct home audits and organize retrofits. If these types of programs are appropriately targeted at homeowners who have limited financial resources, they could help protect millions of vulnerable Americans.

Indeed, these programs should be designed with the explicit goal of reaching the most vulnerable communities. Too often, program designs treat this consideration as an afterthought, despite the fact that it is important for both public safety and the economic well-being of individuals and communities. Strategies to target vulnerable communities could include providing funding for additional program staff dedicated to identifying and conducting community outreach and walking residents through the too often opaque and confusing bureaucratic process to receive assistance. Such staff could also ensure that education or application materials are available in appropriate languages.

Incentivizing effective land use and land management practices

In addition to government-funded programs, other groups should contribute to wildfire preparation, including utilities and insurance companies. The insurance industry rewards some preparedness activities through premium discounts but, otherwise, has not made significant proactive investments. Instead, insurance companies have often opted to enter and exit homeowners’ insurance markets as risk profiles change.²⁶ Industry regulators should adopt policies that encourage insurance companies to partner in restoration, either by requiring them to offer affordable policies in high-risk fire areas or by instituting higher payout floors for designated wildfire disasters. States could also develop public insurance programs for these areas to provide options for landowners and direct funding for preparedness. Each of these approaches would create an incentive to consider land use, particularly by limiting

the expansion of development into natural areas, and land management—the use of defensible spaces and landscape restoration—as cost-effective practices in places where wildfire is common. Policymakers can also work with utilities, communities, and insurance companies to apply conservation finance tools that would help scale up forest restoration near homes and important infrastructure. One such tool, the forest resilience bond, has recently been used to protect water supplies from catastrophic wildfires in the Sierra Nevada mountains.²⁷

It is worth noting here that poorly designed policies can miss the mark on improving access to resources for vulnerable communities. The Opportunity Zone tax incentive is one such example. The incentive, which was created by the Tax Cuts and Jobs Act of 2017, provides tax deferrals for capital that is invested in special funds for projects in state-designated “opportunity zones.” Opportunity Zones are low-income census tracts that the state believes would benefit from additional investment.²⁸ While the program’s goals are admirable, in practice, the funds have been used for developments that provide little societal benefit, and many zones have been designated in a way that allows the incentives to be used for projects in gentrifying or wealthy census tracts.²⁹ This missed opportunity is especially relevant to investments in wildfire preparedness: Center for American Progress research shows that more than 5.8 million people live in census tracts that are both designated as opportunity zones and at high risk of wildfire.³⁰ Had the program been well-designed, the incentives it provides would have helped spur partnerships and private investment in projects such as home retrofits or forest restoration to protect communities.

Investing in lands near vulnerable communities

Preparing homes and communities should be the top priority when it comes to wildfires. It is also critically important that policymakers at all levels invest in stewardship of U.S. forests and grasslands—especially near communities. The USFS estimates that there are 65 million to 82 million acres of forestland in need of restoration—management actions that would help the forest reflect its historical ecological structure.³¹ Decades of widespread logging, as well as a blanket commitment to fire suppression that ignored natural fire patterns, have made many forests prone to uncharacteristically severe wildfires.³²

At present, the federal government restores approximately 2 million acres of forest per year.³³ Restoring these ecosystems often requires using fire as a tool in order to reflect the burn patterns that naturally occurred in an area and to clear brush and small trees. Given the scale of restoration needed, the USFS, the U.S. Department

of the Interior, and dozens of state and local agencies that are responsible for public lands and public safety need to devote much greater resources to restoration—and they must target these resources to focus on projects that protect communities and lives as effectively as possible.

In the March 2018 omnibus spending bill, Congress passed a “wildfire funding fix,” which provides a big boost to scale restoration efforts by ending the common practice of “fire borrowing.” Under this practice, federal agencies had to stop spending on nonfire accounts in order to redirect the funds to pay for firefighting costs during very active fire seasons.³⁴ This new policy should give federal agencies the capacity to accelerate their work and to prioritize forest restoration efforts based on their contributions to public safety. It would also give agencies resources to address the backlog of projects that have already completed environmental review, including 1.6 million acres of forest restoration work in Washington state and Oregon alone.³⁵ Instead of undercutting environmental laws to favor the timber industry, as has too often been the case,³⁶ Congress should allow agencies to use sound, science-based forest management on public lands in a manner that accounts for historical fire ecology, climate change, and potential improvements to community health and safety.

State lands also play a major role in wildfire management, and policymakers need to work with firefighters and land managers to identify potential barriers to implementing preparedness activities. For example, prescribed fire is a critical tool for forest restoration. However, these fires—which are typically planned for winter months when it is safest to burn—are frequently canceled out of concern for air quality standards. Given the public safety benefits of prescribed fires, states should consult with land managers and public health agencies to develop smoke management plans that effectively balance these benefits with air quality concerns to make it easier for land managers to use prescribed fires to protect communities.

CAP recently developed policy recommendations that would help policymakers capitalize on the wildfire funding fix, which is due to take effect in October 2019.³⁷ Most importantly, Congress should allocate funds to allow the USFS and the U.S. Department of the Interior’s land management agencies to build sufficient staffing capacity to support meaningful forest restoration and public safety commitments. Over the past 20 years, the balance of work for these agencies has shifted toward firefighting, and the number of contracting officers, environmental review officials, and other positions that would help proactively manage forests and prevent the damage from catastrophic wildfires has declined sharply.³⁸ Over the next several years, policymakers should aim to restore balance to how these agencies manage lands so that their staffs have the means to pursue proactive work rather than focusing on reacting to the latest wildfire.

Policy recommendations

Policymakers should take the steps detailed below to help prepare communities and manage lands for future wildfires.

Actions to prepare communities for wildfire

To help communities prepare for wildfire, both federal and state policymakers need to take action. This section details specific steps they should consider.

Federal-level actions

- **Bolster support for community preparedness efforts through the USFS, FEMA, and other agencies.** Publicly-funded initiatives such as C-PAW and the FEMA Pre-Disaster Mitigation Assistance Grant Program help municipal and county-level officials plan and implement projects to protect their communities.³⁹ Congress should increase funding for programs through the USFS, the U.S. Department of Housing and Urban Development, and FEMA to help communities prepare for wildfires and stipulate that funding should be allocated based on vulnerability measures that account for socio-economic and demographic factors as well as wildfire risk. The plans themselves should account for vulnerable populations in the community and include meaningful and accountable steps to prepare them for wildfires. Plans should be shared with state and federal agencies to support preparedness and response across jurisdictional boundaries.
- **Reform cost-sharing and grant programs to incentivize development that does not contribute to sprawl or expand the built footprint within the WUI.** Initiatives such as FEMA’s proposed “disaster deductible” incentive program would give states and communities clear signals to adopt lower-risk development policies in exchange for increased federal cost sharing or support in the event that a wildfire occurs. However, the Trump administration withdrew the disaster deductible proposal in 2018.⁴⁰

- **Ensure that wildfire hazard mapping tools created in the wildfire funding fix are frequently updated and publicly available.** Homeowners and local governments need to plan for development and invest in preparedness. This is important beyond planning for firefighting, as homeowners, renters, and business owners should know their relative levels of risk. To have the greatest effect, these tools should be widely available online, public-facing, and compatible with existing popular mapping platforms.
- **Support policies to attract investment into communities, with rules that guarantee projects generate social benefits.** For example, the forest resilience bond has now been piloted in the Sierra Nevada mountains, and lessons from this first project could inform future projects with state and local partners to protect vulnerable communities. However, these projects need to be designed with a focus on delivery of public benefits. The Opportunity Zone tax break provides insights into potential pitfalls of poorly designed policy. Without strong guidelines, Opportunity Zones have become shelters for capital without providing the social benefits that were the stated purpose of the policy.

State-level actions

- **Require all counties and cities to incorporate wildfire risk management into their development plans.** Communities need to better incorporate wildfire into their development planning. And because wildfires do not heed jurisdictional boundaries, communities need to connect with neighboring municipalities, counties, regional agencies, as well as federal agencies in order to establish cooperation strategies during the planning stage. Furthermore, states need to ensure that adequate planning and management resources are available for all communities, not just those with high incomes or large tax bases.
- **Require fire-safe construction and planning for new development in the WUI.** The rapid expansion of the WUI has made wildfires more costly and placed millions of people at risk. States should follow California's lead and lessen the threats to private property by requiring fire-resistant materials and structural designs for all new homes.
- **Provide financial support or incentives for fire-safe home retrofitting for both homeowners and renters.** California has implemented support programs for homeowners to secure their homes against earthquakes. So far, 7,000 homes across the state have been retrofitted.⁴¹ Similar support should be adopted for existing homes in the WUI to help homeowners protect their property, with funding secured through fees on insurance policies or utilities. Funding could also be secured through comprehensive climate change programs.

Actions to make smart investments in land management

This section highlights specific steps that federal and state policymakers need to take in order to manage and restore lands so that communities are prepared for wildfires.

Federal-level actions

- **Increase funding and staffing for land management agencies working near vulnerable communities.** There is a clear need to support work near at-risk communities and investing in forest restoration creates jobs for local businesses. In addition to hiring local businesses for forest restoration work, hiring more USFS contracting and planning staff is critical to scale up work to restore ecosystems and historical fire patterns.
- **Aggregate pending projects in an easily accessible public platform.** Projects that have completed environmental review should be easily available online, with geographic information, so that the public can be informed about the work of land management agencies and provide accountability as the wildfire funding fix takes effect.⁴² There are currently millions of acres of projects that have completed environmental review, negating any need to undercut environmental laws—such as the National Environmental Policy Act—to increase the pace of forest work.
- **Make it easier for land management agencies to use conservation finance instruments.** Tools such as the forest resilience bond have now been piloted, and Congress should consult with the USFS and other land management agencies to determine if any clarifying language or authorities are necessary to better facilitate the use of these public-private partnerships to address wildfires.
- **Collaborate with Native American tribes to use prescribed fire.** Fire is an important traditional land management tool for many tribes. Many of the 12.4 million people who were identified as vulnerable to wildfire are Native Americans, and federal land management agencies should work with tribes to find opportunities and funding for prescribed fire projects that achieve the shared goals of protecting communities and restoring cultural practices.⁴³

State-level actions

- **Remove policy barriers to the use of prescribed fire.** Catastrophic wildfires are unplanned and their effects on air quality have been evident across the West. Prescribed fires can help reduce the risk of catastrophic megafires, but public perception of smoke, as well as state air quality regulations, can affect the use of prescribed fire. States should determine which policy barriers limit this preventative land management tool and establish smoke management plans to engage communities and find workable solutions to proactively manage wildfire risk.
- **Work with small- and medium-sized utilities, especially those with limited financial resources, to protect drinking water supplies.** Across the United States, 5 million people rely on drinking water that is sourced from surface water bodies—such as springs, rivers, and reservoirs—and supplied by utilities with a limited customer base.⁴⁴ Despite their small user bases, these utilities have to maintain infrastructure and often lack the resources to use prescribed fire or other tools to protect the basins that supply their communities. Funding for planning and land management should be available so that all utilities can protect drinking water for all of their customers.

Conclusion

The devastating effects of wildfires over the past several years make a clear and urgent case for proactively preparing for fires. But the amount of work needed to effectively do so will take years to implement fully. Policymakers must act now to ensure that resources are delivered to the most at-risk communities, regardless of socio-economic status or demographics, and that incentives are in place to direct future development away from the areas that are most at risk of wildfire.

About the author

Ryan Richards is a senior policy analyst for Public Lands at the Center for American Progress.

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