



AN INNOVATIVE GRASSROOTS APPROACH TO
COMMUNITY WILDFIRE PREVENTION

THE FOXFIRE PRESS

ISSUE 001
August 15th, 2024



**How Finding Our Community Roots
Can Save Rural Areas from the
Devastation of Wildfire.**

How Finding Our Community Roots Can Save Rural Areas from the Devastation of Wildfire

August 15th, 2024

All across the globe, communities are being impacted by the increasing threat of wildland and vegetation fires. With every passing year, geographic areas prone to burning are experiencing unprecedented and unpredictable wildfire behavior that can only be classified as “historical.” From 2017-2022, California, alone, experienced a devastating siege that burned 7.215 million acres (11,273 sq. miles), destroyed over 35,922 structures, released an estimated 112 million metric tons of carbon dioxide into the atmosphere, killed 138 people between the North Complex, Tubbs and Camp Fires, and cost billions of dollars. As of August 10th, 2024, 5,211,246 acres have already burned across the United States, with California claiming 818,570. That is 573,494 acres more than the 5- Year Average, with the Santa Ana and Diablo Winds still on their way. These numbers are a snapshot of one state known for its wildfires. Yet, it behooves other states to begin paying attention. As annual temperatures continue to increase, winds become stronger and less moisture falls, the threat of wildland and/or vegetation fires will become an eventual threat across all landscapes and geographies. With the elevated risk comes the need for a robust wildland fire industry and workforce, with enough funding and capacity to mitigate it. Unfortunately, the wildland workforce is facing a dire crisis.

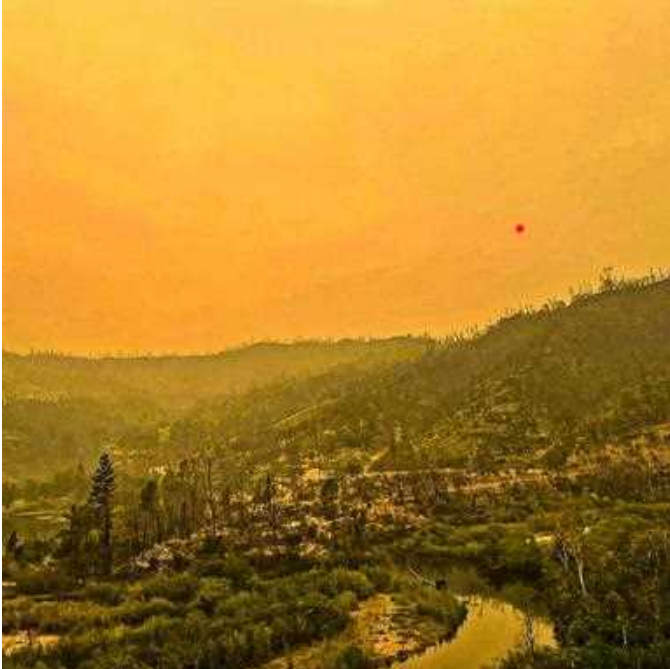


Image of a burn scar from the 2018 Carr Fire (2018), in Whiskeytown National Recreation Area. Taken August 30th, 2021 along Highway 299, on the way home from the Monument Fire that burned close to Hayfork, California.

According to the ProPublica Article, “It Feels Impossible to Stay,” by Abe Streeb, “In 1993, the federal government fought wildfires on 1,797,574 acres; by 2021, that figure had more than quadrupled. Each spring brings a game of geographic roulette. In 2017, Montana set a state record for wildfires. The next year, California followed suit, with nearly 2 million burned acres, a figure that stood briefly before it was topped twice in the next three years.” While the need has risen significantly, funding for the workforce has been slow to catch up. Extreme pay disparities are one of the biggest reasons cited by wildland firefighters for leaving the field. An increase in policy activity from such groups as the Wildland Firefighters Foundation and Grassroots Wildland Firefighters is resulting in increased wages for the industry, but it still is not enough and the effort may be too little too late.

Streep later goes on to explain that “at exactly the time when the country needs wildland firefighters more than ever, the federal government is losing them. In the past three years, according to the Forest Service’s own assessments, it has suffered an attrition rate of 45% among its permanent employees. Many people inside and outside the fire service believe this represents one of the worst crises in its history.” The Federal Administratively Determined (AD) rates for private contractors have been increased for the 2024 season and remain competitive. Still, lacking opportunities for a year-round income is causing public and private workers to leave the industry in droves. For the past several seasons, Wildland Contractor social media groups are full of post from private contract companies trying to seek their business. The shortage doesn’t just affect suppression operations, but it also greatly impacts prevention initiatives. An increase in grant funding for communities has helped on the budget side. Yet, if a community is able to secure very competitive funding for mitigation, including private lot defensible space treatments, they still have to contract the work out at an alarming rate of anywhere from \$3,000-\$6,000/acre, depending on the state. Reducing the cost per acre will help open up budgets and funding for additional wildfire prevention activities.

In all the available research pertaining to the most deadly and devastating wildfires in California, multiple startling commonalities are prevalent. One being that the most devastating impacts often occur in rural communities. This makes sense because there is a significantly higher amount of funding and resources available to metropolitan areas that have more values, assets, and residents at risk. Second, a former supposition that a fire would be slowed down or stopped by an area that can’t burn has been disproven time and time again. It was a trend personally first observed in Lucy Walker’s 2021 documentary, “Bring Your Own Brigade,” which follows the communities of Paradise and Malibu for a year after the Camp and Woolsey Fires, respectively. The correlation became even more apparent while preparing grant proposals for wildfire prevention projects for California communities.

Ultimately, while wildland and vegetation fires can devastate a variety of land types, the biggest losses and most intense fires tend to occur in rural communities, with a heavily timbered Wildland Urban Interface (WUI). If the timber has a high moisture content, or is not considered highly flammable, a certain false sense of safety can befall a community. The threat, however, lies in the understory and on the forest floor. Consequently, it can be significantly increased by logging activities. The Camp Fire that devastated Paradise, California on November 18th, 2018 saw a rate of spread (RoS) of eighty football fields per minute. Scientists later revealed a young Sierra Pacific tree plantation played a big role in that RoS.



Image of a Faller sizing up a tree on the Windy Fire (2021). Image captured on August 31st, 2024.

Rural communities are often equipped with fire protection districts, and/or volunteer fire departments. While there has been a significant increase in strategic planning for implementing wildland divisions within those entities, there are many logistical, operational and bureaucratic challenges that prevent them from success. First, they still don't have the budget to employ a full-time crew that is trained and capable of responding to some of the harshest terrain, nor proper equipment to suppress the fire. Relying on volunteers or responders paid on a stipend that do not have the proper training can greatly increase safety risks and compromise an early opportunity to contain a fire before it can grow. Fortunately, state agencies such as the California Department of Forestry and Fire Prevention or the Colorado Department of Fire Prevention and Control, have supplemental battalions located in rural counties to help offset these staffing shortages, along with the US Forest Service and US Bureau of Land Management (BLM). Federal and state agency crews are available to assist rural departments and districts with regional incidents, but only if they are fully staffed, in season and not already on a wildfire assignment. Therefore, communities remain at the biggest risk during the most vulnerable time. Second, recruitment and retention is one of the biggest challenges all in the world of wildland firefighting is currently facing.



With all of the conversations surrounding recruitment and retention initiatives, Foxfire WUI proposes one very obvious and foundational approach that is not being explored enough- high schools. After spending countless hours diving into the wildfire crisis from every possible angle, the best way to help make a dent in the workforce shortage crisis was to revisit education. Through an eclectic professional background and qualitative observations, a large volume of high school students are being underserved by not having access to multiple options for career pathways and readiness. Emerging research supports this hypothesis. The National Center for Education Statistics (NCES) found that while college rates increased at a rate of 2.2% from 1985-2010, they have been decreasing at a rate of 1.5% annually since 2011. Enrollment for 2-year for-profit private colleges has seen an overall decline of 59%, and 4-year for-profit private colleges enrollment decreased by 54%. While college is still a strong recommendation, the reality is that financial obstacles associated with obtaining a bachelor's degree can prevent students from seeking additional education credentials, amongst many other things. Hypothetically, a better understanding of mental health diagnoses such as Attention Hyper Deficit Disorder and Autism Spectrum Disorder has also contributed to the need for non-traditional approaches and pathways in education. For students who struggle the most with the "Hyperactivity" part of ADHD, having career options that demand physical exertion can help them thrive as professionals. Wildland firefighting is an excellent example.

[Left] Wildland Firefighter Type 1/Engine Boss Trainee, Joshua (Joshy) Dean on a Montana complex burning close to White Sulfer Springs in July of 2021. This was Josh's second year as a wildland firefighter.

The Foxfire Jr. WUI Workforce Readiness Program is a two-year career pathway program designed to give students all certifications required to be a red-carded, Wildland Firefighter Type II. Upon graduation, they can enter the workforce through federal, state or local agencies, along with the private contractors, without having to incur debt or spend additional money on training. The program was designed with three primary objectives in mind-

1. Giving high school students additional post-secondary readiness options through alternative career pathways.
2. Build the current and future wildland firefighter workforce to address the current and projected shortage.
3. To provide local rural volunteer fire departments and fire protection districts additional staffing support options.



[Left] One of the first classes for the Jr. Cadet Mentorship, hosted by the Baca Grande Fire Department for the Crestone Charter School. Image captured October 12th, 2020.

However, digging into the additional benefits that can arise from this project, we found several different ways this can provide communities with a holistic approach to wildland fire prevention and suppression. First and foremost, new and emerging high school programs provide the opportunity for a paradigm shift by providing a safe and familial environment to begin fostering the tough conversations surrounding wildfire mitigation. Beginning at the very foundation that drives human curiosity, education, should be at the forefront of these conversations. Based on prior experience as an educator, many parents cite getting their teenagers to communicate with them as being one of the biggest struggles in raising older children. The exception to this is often correlated with the teenager's level of interest in the topic being discussed. If students are excited about the program and what they are learning, they are more likely to share that knowledge with their parents, siblings, friends, and whomever else will listen. Thus, creating a non-threatening avenue for beginning the conversations everyone involved with wildfire have been trying to have.

Residential resistance to fuels management treatments is an extremely common obstacle for all communities with an increased vulnerability to wildland and vegetation fire. As a result, high volumes of structures remain at risk of being destroyed or damaged, as well as contributing to the fuel load that will thus increase the intensity of the fire. Not to mention an increased safety risk for first responders, residents and visitors trying to evacuate. As priorly stated, over 35,000 structures were destroyed in the 2017-2021 California wildfire siege. Still, there is no better example than the Camp Fire. Despite evacuation planning and training completed by the town of Paradise after the 2008 Moon Fire, the Camp Fire hit the town so fast it caused all of the residents to evacuate at once, resulting in gridlocked traffic. At that point, all first responders could do was focus on evacuation and life protection. Incident Commander, Retired Cal Fire Chief John Messina, later said he was haunted by how close the Camp Fire was to being a 3,700 mass-casualty incident. By the time it was all said and done, the fire destroyed over 18,000 structures, killed 85 people, and reduced the population of Paradise from 26,000+ to under 9,000. Of the people killed, 75% of them were elderly and/or medically vulnerable. This population is a huge concern for planners trying to navigate wildfire safety and prevention within the WUI. Lack of access to modern technology, accompanied by fewer available familial connections has led to many wildfire-related deaths. Having consistent defensible spaces within the community could have widened the evacuation routes and given residents more room away from the fire's edge, and allowed for more time for evacuations. Still, leaning into the theme of community-based solutions and collaborations, there is a need for Community Emergency Response Teams (C.E.R.T.'s) that delegated the task of further ensuring these vulnerable residents are aware and prepared to evacuate. To further demonstrate the benefit of private residential defensible spaces, it is important to compare the damage of the Camp Fire to the 2017 LaTuna Fire that burned Los Angeles County. That fire had a 99% structural survival rating because the county enforces defensible space codes so stringently. With everything being said, steps are actively being taken as the topic is often debated.

Second, the program was designed to be implemented in a way that could help increase staffing and response capacity for local fire protection districts and volunteer fire departments. Through this program, there is an opportunity for the schools, fire departments/districts, and county governments to collaborate to help staff underserved communities. For example, the student can enter into a multi-year agreement with the county to receive additional training and work experience with the local fire districts/departments. Additionally, light-handed methods and animal vegetation management could be added to the curriculum, resulting in active fuels management opportunities for residents and/or open spaces that would also be environmentally-friendly than heavy equipment management strategies. The most important benefit to localized wildfire divisions, however, is having a trained and efficient wildland crew to respond to the most rural and rugged areas that can help suppress a fire quickly and safely. Personal experience has the benefit of this model. On July 31st, 2020, while working on the fuels management crew with the Baca Grande Fire Department, a grass fire started south of the edge of the community WUI. Winds can be heavy and sporadic in the San Luis Valley, but the predominant one is out of the southwest. The fuels crew was able to respond to the fire quickly and begin building a line to protect values and assets at risk. The fire, known as Stupa II, ended up being 70 acres. No structures were threatened, and no evacuations were ever required. The crew's ability to respond quickly and use our training to begin engaging the fire immediately made a big difference in the way that fire played out. Community wildland divisions may truly be one of the biggest assets a municipality has to protect itself and its residence by being able to get ahead of the fire before it blows up.

Lastly, and most important, if done strategically and with enough management, communities can use the program as a starting point for creating a whole new industry surrounding wildland fire prevention and suppression. Theoretically, leading to additional employment opportunities for youth and residents. Financially speaking, and going back to the cost of hiring contract crews, municipalities can absorb some of that cost by making it an additional job for the local fire departments and/or districts. While this could plausibly cause competition for contract fuels management crews and organizations, it could lead to training services they could provide and would allow them to focus on government bids for projects that require a higher volume of acres to be removed quickly. Keeping fuels management localized to communities may further help solve the current shortage problem. If you have ever worked a season as a wildland firefighter, or talked to someone who has, they will tell you one of the biggest reasons people leave the industry is because there is no year-round job security. Further impacted by the effects of Post-Traumatic Stress Disorder associated with job, substance and alcohol abuse is an extremely relevant and concerning problem for wildland firefighters. Having financial stability and year-round job security that doesn't require them to travel or work several side gigs would be a monumental step in the right direction for saving the current wildland workforce we do have. With a reduction in travel, firefighters are able to be with their family more. Missing out on vital family moments is another factor that leads to high attrition rates. Turning rural volunteer fire departments into fully-functional wildland fire resources that can complete objectives and projects outlined in local Community Wildfire Protection Plan (CWPP) can help reduce a rural community's threat to wildfire intensity and burn probability are a viable option that many places should be considering. Logistically, and theoretically, if the division has a large enough crew and a large enough fleet, they can generate program income to be more self-sufficient by listing as resources for national incidents. This is especially true if budgeting is supplemented with grant funding for fuels management during the offseason, which can cover the cost of wages for the projects. It also allows the firefighters to continue training, physically and technically, before the next season.



Image of a complete fuels break after a fuels management project. Strategic initiatives for hazardous fuels removal can result in an increased probability that first responders will be able to engage and/or capture the fire safely. Most importantly, they also result in a decreased chance of burn intensity.

Expanding Wildland divisions within rural communities is a viable pathway for prevention, preparedness and protection against the new normal; and beginning recruitment in high schools may be one of the best defenses underserved areas can invest in to help combat the current and/or future threat. The opportunity for collaboration further allows communities to take additional measures to ensure the safety of their most vulnerable residents. The increase in global temperatures, combined with extended periods of drought will only continue to increase frequency and intensity of these fires. The threat will continue to extend to areas that were previously thought safe. The current resources and capacities are not enough to meet the demand, let alone the future need. However, the problem with the workforce shortage cannot even begin to be fixed until we continue to inspire curiosity surrounding the industry beginning at an early age.

Works Cited

PAGE 1

- Red Books. California Department of Forestry and Fire Prevention (Cal Fire).
- [1] Cal Fire Statistics. 2017-2022. Access: <<https://www.fire.ca.gov/ourimpact/statistics>>.
- Cart, Julie. "California's 2020 Fire Siege: Wildfires by the Numbers" Cal Matters. Published 29 July 2021. Updated 30 July, 2021. Access: <<https://calmatters.org/environment/2021/07/california-fires-2020/>>.
- [3] Streep, Abe. "It Feels Impossible to Stay": The U.S. Needs Wildland Firefighters More Than Ever, but the Federal Government is Losing Them." ProPublica. 16 March, 2024. Access: <<https://www.propublica.org/article/wildland-firefighters>>.

PAGE 2

- Streep, Abe. "It Feels Impossible to Stay": The U.S. Needs Wildland Firefighters More Than Ever, but the Federal Government is Losing Them." ProPublica. 16 March, 2024. Access: <<https://www.propublica.org/article/wildland-firefighters>>.
- [4] "Bring Your Own Brigade." Walker, Lucy, Director. Paramount Pictures. Released 29 January, 2021.

PAGE 3

- Conley, Jennifer. "US College Enrollment Decline – 2024 Facts & Figures." College Transition. <https://www.collegetransitions.com/blog/college-enrollment-decline-2024>.
- [5]

