

**Facing Year-Long Fire Seasons:
Are We Prepared?**

2018-2019 Nevada County Grand Jury

Facing Year-Long Fire Seasons, Are We Prepared?

Summary

The 2018-2019 Nevada County Grand Jury (Jury) conducted an investigation into Nevada County's fire preparedness. The Jury looked at both fire prevention efforts and the state of ingress and egress viability of roads within the County in cases of fire. The Jury reviewed pertinent documents and conducted interviews with personnel within County government and other fire-related organizations.

During its investigation into fire preparedness, the Jury found a number of problems to support its overall conclusion that the County's fire preparedness practices are not consistent with generally recognized best fire preparedness practices.

Nevada County should do everything in its power to support residents in complying with their fire preparedness responsibilities. Non-profits should continue to expand their public outreach efforts.

Glossary

BoS	Nevada County Board of Supervisors
CodeRED	Emergency Notification and Alerting System
County	County of Nevada
Firewise USA	A certification by the National Fire Protection Association
FSC	Fire Safe Council of Nevada County
NCC	Nevada County Consolidated Fire District
OES	Nevada County Office of Emergency Services
PRC 4291	California Public Resource Code Section 4291

Background

It seems apparent, anecdotally and in the hard data as well, that the landscape of the California fire season has changed in recent years. Factors such as drought, bark beetle infestations, and warming trends have heightened our vulnerability period to nearly year-round. For example, the recent Camp Fire in Butte County, the deadliest in California history, occurred during the month of November. It consumed over 153,000 acres, destroyed nearly 18,000 structures (including almost 14,000 residences), and claimed 86 lives.

The past few years have included a variety of fires that have locally affected Nevada County (County) as well. The Lobo Fire of October 2017 burned over 800 acres and destroyed 47 structures. The McCourtney Fire of the same month burned 76 acres and destroyed 13 structures. The Lowell Fire of July 2015 burned over 2,300 acres, destroyed two structures, and threatened 54 others.

Our collective memory recalls the infamous 49er fire in September 1988. This fire destroyed 312 structures, 89 vehicles, 17 boats, and 33,700 acres of our community. That is 52 square miles. The cost of suppression was assessed at \$7.5M and the estimated property loss was \$22.7M.

California Public Resource Code 4291 (PRC 4291) describes the requirements for maintaining defensible space around structures in forest, brush, or grass-covered lands in California. Of the 148 homes destroyed in the 49er fire, 80% were not in compliance with PRC 4291.

It appears that there is a tendency by some of the public to believe that our local fire services will respond and deal with any wildfire that might occur in our neighborhoods. Yet the lessons learned from recent conflagrations have demonstrated that fire trucks cannot always respond in time and can be easily overwhelmed by fast-moving firestorms. Some locations cannot be reached by fire trucks at all. It is clear that the primary responsibility for maintaining our safety lies within each of us.

A random spark, combined with dry conditions and high winds, can quickly evolve into a fast-moving fire front that can rapidly destroy surrounding neighborhoods. Some fire experts believe that Nevada County is just as vulnerable as Butte County for such a disaster. Others say it is not a matter of “if” but “when” the next big fire will occur. This sense of inevitability has brought fire prevention to the foreground, where it must remain.

Maintaining defensible space around our properties and being prepared to quickly evacuate the areas in danger offer the best chance for survival. These are responsibilities for each of us, responsibilities we must embrace in order to live in such a beautiful part of California.

County government also plays an important role in fire prevention. Though the focus of the County’s Fire Districts has necessarily been on fire suppression in recent years, County-based prevention efforts will become increasingly vital to augment the personal efforts undertaken by each resident. Just as firefighting is best accomplished by professionals, trained personnel should also oversee fire prevention.

Approach

Prompted by concerns stemming from recent fires, the Jury began an investigation into the preparedness level of the County regarding rural area ingress and egress routes for citizens and responders. The scope of the investigation expanded to include defensible space requirements and homeowner responsibilities. The Jury developed a plan of action that included interviews, reviews of published materials, and Internet research. The Jury interviewed current and former elected officials and staff from the Nevada County Board of Supervisors (BoS), the California Department of Forestry and Fire Protection (more commonly known as Cal Fire), the Nevada County Office of Emergency Services (OES), the Fire Safe Council (FSC), the Nevada County Consolidated Fire District (NCC), and the Grass Valley Fire Department. The Jury reviewed documents from various County departments and non-profit organizations. Jury members have

also attended fire-related public presentations, which are growing in frequency and increasing in attendance.

Discussion

The Jury's investigation looked at County-wide ingress and egress viability of roads in cases of fire, as well as a variety of fire prevention activities, including evacuation planning, defensible space inspections, defensible space ordinances, public responsibility, and public engagement.

The communal and individual responsibilities pertaining to fire remain immense. Wildfire knows no artificial boundaries. Residents in one fire district are not protected from fire because their home is down the road from a fire that started in an adjacent fire district.

Local fire districts recognized this reality when they worked together to form a joint operating agreement that sends the nearest staffed fire engine to the scene of a fire regardless of where the fire started. The goal, of course, is to remove the danger and to keep the fire from spreading. Local fire districts also share a common dispatch center, again recognizing that it makes sense to cooperate rather than duplicate efforts and services. Perhaps someday the firefighting efforts for the County will be consolidated even more.

This report will focus more on fire prevention than emergency response. In the wake of recent, incredibly destructive fires, residents often are told that it is not a matter of "if" but "when" the next fire will occur. Given limited time constraints and budgets, the Jury believes that a coordinated, County-led fire prevention program is the best way to achieve positive results.

Many private and public lands pose significant wildfire hazards. The reasons for these deficiencies are numerous and the responsibility for fixing them diffuse, making it a difficult issue to address effectively. The awe-inspiring natural spaces abundant in the Sierra foothills make the County an inherently desirable place to live but they also put the County at great fire risk. The desire to live amongst the trees can be hard to reconcile with mandatory setbacks and foliage density limitations. People are sometimes reluctant to remove, at their own expense, parts of what they love about their property. And yet, the data on the efficacy of prevention measures is clear: the more they are implemented by responsible landowners, the safer every resident of this county will be.

Fire Prevention

Current County fire prevention activities are patchworked. Some local fire districts staff and fund prevention efforts, others do not. Not all fire districts have dedicated fire prevention staffing. The County funds four part-time defensible space inspectors reporting to the OES; the Public Works Department maintains ingress and egress viability on public roads. OES writes grant applications to fund prevention activities. Local non-profit agencies such as FSC deal with public education, chipping programs, Firewise USA certifications from the National Fire Protection Association, etc.

Nevada County fire districts have done a great job with fire suppression by cooperating with each other through joint operating agreements and a shared dispatch center. Today, we have a coordinated effort that allows an available fire truck closest to a fire to respond regardless of in which district the fire is burning.

Fire prevention deserves this same kind of coordination. It is possible for each of the eight fire districts to develop their own fire prevention activities with the expectation that they will align and coordinate with each other appropriately. The Jury believes that a far better approach is for the County to employ a fire prevention leader with the responsibility and funding to manage the County's fire prevention activities in a proactive, coordinated manner.

Defensible Space

Landowners are ultimately responsible for ensuring that their properties are in compliance with all applicable defensible space ordinances and statutes.

PRC 4291 governs the defensible space requirements applicable to all properties which pose a potential fire risk. It mandates that a person who "owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining" a potentially hazardous property must maintain a defensible space of vegetation management of 100 feet extending from structures. The zone within 30 feet of the structure is subject to even further scrutiny.

Though not officially mandated in PRC 4291, the zone from 100-200 feet is subject to additional defensible space guidelines. Homeowners must also take into account the degree of slope on their property as steeper areas have additional requirements. While some of the mandated specifics depend on various characteristics of the property and structure(s), all property owners must at all times:

- remove vegetation within 10 feet of the outlet of a chimney or stovepipe,
- prevent any vegetation overhanging a building from containing dead or dying wood, and
- keep roofs of structures free of vegetative materials.

The *Wildland Fire Action Guide*, prepared by officials from international and national fire organizations, includes as best practices measures beyond those mandated by law. These include different preparatory actions for each of three zones of defensible space on a property. The first zone, comprising areas within 0-30 feet of a home (or to the property line), are subject to the strictest guidelines, including the following.

- Use hard, noncombustible surfaces in areas immediately adjacent to the home (0-5 feet).
- Use non-wood, low-growing vegetation, succulent plants in particular.
- Do not store firewood or other combustible materials within this initial zone, or within 30 feet of any other structures such as garages, decks, etc.
- Trim all branches at least 10 feet back from all roofs.

Recommendations for the second zone, comprising the areas between 30-100 feet from a home, include the following.

- Create vegetation groups ('islands') to break up continuous fuels around structures.
- Remove ladder fuels to create separation between low-level vegetation and tree branches.
- Keep yards free of leaf and needle debris.
- Keep grass and wildflowers under 8 inches in height.

Recommendations for the third zone, comprising the areas between 100-200 feet from a home, include the following.

- Create and maintain a minimum of 10 feet between the tops of trees.
- Remove ladder fuels to create separation between low-level vegetation and tree branches.
- Remove dead trees and shrubs.

The County has contracted with NCC to manage four part time OES defensible space inspectors. County defensible space inspectors performed only about 600 inspections last year, a small fraction of the properties in the County subject to inspection.

Some property owners in recent years have had trouble finding contractors to clear their properties during peak clearing months.

The County has no enforcement mechanism for defensible space violations occurring on unoccupied properties. The County has not budgeted for abatement at present, putting the cost burden of compliance fully upon the landowner.

In 1975, the County employed six full-time defensible space inspectors. At present, the County employs only four part-time defensible space inspectors. Inspectors' hours are capped at 1,000 per year by current County employment practices and inspectors generally work between April and November.

County job postings for defensible space inspectors available at the time of this report list a salary range of \$18.50 to \$21 per hour. Competitive positions at other fire districts have a starting salary of \$25 per hour.

Some elements of ordinances passed by the BoS must be adopted by local fire districts to be enforced. The County adopted Hazardous Vegetation Ordinance No. 2411, an update to Article 7 of Chapter IV of the Nevada County General Code, on March 26, 2019. Previously, responsibility for issuing notices and citations was limited to Fire Officials. Now, the ordinance allows OES staff, Code Enforcement Officers, and Public Officials to issue Notices to Abate to property owners for defensible space violations. If noncompliance is still in evidence after three inspections, a citation may be issued. A fine structure accompanies this ordinance as well, with fines not to exceed \$130 for the first violation, \$700 for the second within one year of the first, and \$1,300 for the third within one year of the first.

The County has no authority to force adoption of this ordinance by local fire districts. The ordinance does not provide additional funding for staffing or other resources necessary for its enforcement.

Public Education and Outreach

The trend on public engagement has been positive. Recent County outreach efforts, such as more town halls and the recently published *Ready Nevada County* OES fire handbook, have increased.

Volunteer and non-profit organizations such as the FSC have also been increasingly active on a variety of prevention fronts, public fire-safety-related meetings have seen increased attendance, more communities each year are moving towards and achieving Firewise USA certification, and the emergency notification system CodeRED has seen growth in participation.

The FSC and other organizations are consistently leading important efforts within the community to promote preparedness. Nearly half of the County's residents live in a Firewise USA compliant community though not all of these communities are currently certified as such. Cost is often a barrier to certification. The waiting list for certification is 25 communities long, including 10 communities that have been fast-tracked by the County.

The FSC periodically offers a wildland fire class, which teaches homeowners to view their properties as a firefighter would in order to increase awareness and implementation of best fire prevention practices. The class takes between 32 and 64 hours to complete.

Evacuation Planning

Legal responsibility for mandated evacuations ultimately rests with the Nevada County Sheriff's Office. Comprehensive evacuation planning for fires is rendered extremely difficult by the inherently random, complex, and unique conditions surrounding each fire, including wind speed and direction, humidity, and other meteorological factors. Evacuation planning is therefore more effectively understood as a combination of preparation activities undertaken by individuals and the County which, collectively, best prepare the populace for all potential fire eventualities.

The growing population drawn by the area's natural beauty also exacerbates evacuation contingency planning. Many communities in the county were simply not built with evacuations of a scale commensurate with their current populations in mind. This problem deepens as communities continue to grow.

OES and fire officials recommend that residents become familiar with as many different potential evacuation routes out of their neighborhoods as possible and not to rely upon any single evacuation route or plan. These additional evacuation routes may include anything traversable by vehicles in case of emergency (dirt roads, trails, pastures, drainage ditches, etc.).

In 2018, only \$442 was spent on zoned evacuation planning, in which areas are evacuated in a staggered fashion. There is no comprehensive County fire evacuation plan.

Ingress and Egress

The Jury found deficiencies in the ingress and egress viability of roads within the County in cases of fire as well as in road clearing practices.

According to the County's website, there are approximately 600 miles of County-maintained road, and 2,200 miles of private road in the County. The County has a stated goal of clearing 100 miles of county-maintained road per year in cooperation with the FSC. Prior to 2018, the pace of County road clearing averaged between 50 and 100 miles per year. The County has identified a list of the 50 highest-priority roads for clearing. Best practices dictate clearing each County road every three to five years at a minimum. Even if the County meets their goals and maintains current levels, up to 75% of the roads in the county may not be maintained in accordance with best practices. The responsibility for the maintenance and clearing of private roads belongs to property owners.

Funding for road clearing by the County was cut during the 2007-2009 recession. Funding is inconsistent year-to-year due to its grant-based nature. As of April 9, 2019, \$465,000 in ingress and egress grants and matching funds had been awarded and approximately \$8.1M in grants and matching funds were pending. The County is currently seeking grants to fund additional road clearing and other ingress and egress improvements and maintenance activities.

Many of the most dangerous ingress and egress situations in the County occur on privately owned roads. Some private roads are simply considered "no go zones" for fire engines and other emergency response vehicles if a fire occurs.

The data shows that the majority of property owners want to comply with all relevant ordinances. The County must interact in a coordinated, proactive way with property owners.

The County is not authorized to clear private roads without expressed written permission from the owner or a Notice to Abate. At present, PG&E is the only entity legally authorized to clear private property without such permission.

CodeRED and Nixle

CodeRED and Nixle are emergency mass notification systems. CodeRED was implemented by the County in 2014. Landlines in western Nevada County are automatically enrolled in CodeRED. Residents are encouraged to also add their cell phone numbers to the CodeRED notification database as mobile devices are not automatically enrolled and instead must opt-in. Residents who live in Nevada County east of Donner Summit should register for Nixle emergency alert notifications. The Truckee Police Department and Truckee Fire Protection District routinely provide public messaging and emergency notifications via Nixle.

Additional preparation activities include, but are not limited to:

- keeping all egress routes clear,
- keeping all gates on egress routes unlocked,

- maintaining 10 feet of mandated clearance around all driveways,
- having a “neighborhood buddy” or burner phone that uses a different service provider than your primary phone in case your cell service goes out,
- signing up for CodeRED or Nixle with all phones,
- having a “go bag” prepared and placed in a vehicle, and
- getting involved with the Firewise USA certification efforts in your community.

Findings

- F1.** The majority of the responsibility for both fire prevention and evacuation route knowledge falls upon the public.
- F2.** OES is in the process of hiring four part-time defensible space employees for 2019, each limited to 1,000 hours per year. This staffing level affords the County far less fire protection compared to 1975, when six full-time inspectors were employed.
- F3.** There is no fire prevention coordinator accountable for comprehensive fire prevention efforts between fire districts, the County, non-profits, homeowners’ associations, and residents.
- F4.** The County does not allocate sufficient budgetary resources for its abatement ordinance or fire prevention efforts.
- F5.** Fire season has extended over time, especially recently, to the point that many officials now consider it as “year-round.”
- F6.** There is no comprehensive County fire evacuation plan.
- F7.** Due to the unpredictable nature of fires, a variety of evacuation routes are necessary.
- F8.** County residents have taken an increasingly proactive role in fire prevention.

Recommendations

The Nevada County Grand Jury recommends the following:

- R1.** The County should establish a dedicated fire prevention coordinator reporting directly to the County Executive Officer with regular reports to the Board of Supervisors.
- R2.** The defensible space inspection program should be expanded into a year-round program staffed by a minimum of two full-time employees in addition to the four current, part-time positions.

- R3.** The County should ensure that all County-maintained roads are cleared at least every five years to comply with best practices.
- R4.** The County should fund additional programs to aid homeowners in vegetation management and removal.
- R5.** County residents should have multiple evacuation routes and contingency plans in place.
- R6.** County residents should have a “go bag” prepared and accessible with everything they need in case of evacuation.
- R7.** Non-profits should continue to expand their public outreach efforts.

Request for Responses

Pursuant to Penal Code section 933.05, the Nevada County Grand Jury requests responses from the following:

- Nevada County Board of Supervisors for:
 - Findings F2 and F4
 - Recommendations R1, R2, R3, and R4
 - Due by 10 August 2019
- Nevada County Chief Executive Officer for:
 - Recommendation R1
 - Due by 9 September 2019
- Nevada County Office of Emergency Services for:
 - Recommendation R2
 - Due by 9 September 2019
- Nevada County Department of Public Works for:
 - Recommendation R3
 - Due by 9 September 2019