

## Hazard Mitigation Grant Program

### Activity Costs

- **Federal Requested Share:** \$4,399,326
- **Applicant Cost Share:** \$1,466,442
- **Total Activity Cost:** \$5,865,768

**Have the Cost Sharing Funds been secured?** Yes

**Activity Title/Name:** Ponderosa and South County Fuel Breaks

### Problem Statement:

#### Describe the problem to be mitigated:

The threat of catastrophic wildfire is real for the 90,000 residents of Nevada County, 92% of whom live within the high to very high fire severity zones. Prior to European settlement in California, low intensity fires took place regularly. In fact, much of the California ecosystem adapted to fire. However, more than a century of fire suppression policy has resulted in an unnaturally high level of accumulated fuels. A warming climate is exacerbating the threat of wildfire, putting communities at risk of larger, more destructive, and deadlier wildfires which wreak havoc not only on residents personally, but on economies and the environment. The secondary and tertiary impacts of wildfire are devastating such as job loss, unhealthy air quality, as well as impacts to water quality and wildlife. Nevada County, like California and the West, are vulnerable to more sustained major wildfires. Mitigation and planning are imperative to address this urgent threat. The Alta Sierra Community and the City of Grass Valley are listed as the first and fourth highest priority target areas for fuel breaks in the CAL FIRE Nevada-Yuba-Placer Unit Plan.

#### Describe Problem, Hazards, Risk:

California is recognized as one of the most fire-prone and consequently fire-adapted landscapes in the world. The combination of complex terrain, Mediterranean climate, and productive natural plant communities, along with ample natural ignition sources, has created conditions for extensive wildfires. Wildland fire is an ongoing concern for the Nevada County Planning Area. Generally, the fire season extends from early spring through late fall of each year during the hotter, dryer months. Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, an accumulation of vegetation, and high winds.

Potential losses from wildfire include human life, structures and other improvements, natural and cultural resources, quality and quantity of water supplies, cropland, timber, and recreational opportunities. Significant economic losses can also result. Smoke and air pollution from wildfires can be a severe health hazard. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.

Historically, Nevada County's ecosystems have been kept healthy and in balance by a variety of natural disturbances, including fire, insects, pathogens, wind throw, floods, weather variations, landslides, avalanches and earthquakes. Over the last few centuries, this balance has been affected by human introduced disturbances of fire exclusion/suppression, livestock grazing, roads and development,

logging, and introduced plants, animals and pathogens. Lightning and human-caused fire ignitions occur frequently in the area. Due to changes in ecosystem disturbance patterns, fire behavior now deviates considerably from historic fire conditions. More importantly, altered fire regimes potentially destabilize ecosystems and landscapes, thus creating conditions that may promote unprecedented catastrophic disturbance events. In turn, they may seriously reduce ecosystem resiliency, the ability to return to prior levels of productivity. Century old policies of fire exclusion and aggressive suppression have given way to better understanding of the importance fire plays in the natural cycle of certain forest types.

Wildland fire is the most significant natural hazard Nevada County faces. Wildfires are an annual occurrence in Nevada County and typically appear toward the end of the long, dry summers.

Factors contributing to the wildfire risk in Nevada County include:

- Overstocked forests, severely overgrown vegetation, and lack of defensible space around structures;
- Excessive vegetation along roadsides and hanging over roads, fire engine access, and evacuation routes;
- Drought and overstocked forests with increased beetle infestation or kill in weakened and stressed trees;
- Narrow and often one-lane and/or dead-end roads complicating evacuation and emergency response as well as the many subdivisions that have only one means of ingress/egress;
- Nature and frequency of lightning ignitions; and
- Increasing population density leading to more ignitions.

### **What are the mitigating actions?**

The Ponderosa and South County Fuel Breaks seek to mitigate the factors contributing to wildfire risk by thinning overgrown forests and by removing excessive vegetation along and overhanging roadways near dense population centers. Modification of existing fuel levels will reduce hazardous vegetation so that a wildfire can more readily be manipulated or controlled. A fuel break will not stop a fire entirely, but it is designed to help slow the spread and decrease the intensity of fire to increase the chances a wildfire may successfully be suppressed, and infrastructure may be defended.

Nevada County understands the value in reducing risks to people and property from natural hazards through thoughtful planning and project implementation. Mitigation planning has the potential to produce long-term and recurring benefits by breaking the repetitive cycle of disaster loss. County of Nevada operates with a knowledge that current dollars invested in mitigation practices will significantly reduce the demand for future dollars by lessening the amount needed for emergency recovery, repair and reconstruction. In fact, FEMA states that a dollar spent on mitigation saves society an average of six dollars, with positive benefit cost ratios for all hazard types studied.

Implementation of the South County Fuel Break and the Ponderosa West Grass Valley Defense Zone Extension will mitigate the risk of catastrophic wildfire along critical egress routes that are amongst a high concentration of homes and businesses. These projects will provide direct protection to critical infrastructure including power, hydroelectric, water, communications, sewer, and waste utilities. Nevada County's only animal shelter Sammie's Friends, and McCourtney Road Transfer Station are also located nearby the Ponderosa West Grass Valley Defense Zone Extension. Highway 20, which cuts

through the middle of the defense zone is considered by the Circulation Element of the Nevada County General Plan to be a principal artery for evacuation. In rural Nevada County, Highway 20 serves as a main transportation route for goods and services as well as emergency equipment and first responders.

### **Protection from Future Natural Hazards**

The purpose of these fuel breaks is to protect life and property by mitigating the potential for catastrophic wildfire and the negative impacts that accompany it such as loss of life, property destruction, job loss, water contamination, greenhouse gas emissions, and toxic air quality.

The fuel breaks' hazardous fuel reduction efforts serve to harden vital ingress and egress infrastructure by decreasing continuity of fuels and diminishing the intensity of a potential fire. Maintaining clear roadways will ensure that people will be able to safely evacuate, while fire suppression equipment and personnel will have access to safely combat wildfire.

#### **Project Goals and Objectives:**

- Safeguard life and property
- Thin fuel loads to reduce wildfire intensity
- Develop defense zone for fire suppression personnel to safely combat fire
- Increase partnership across jurisdictions and agencies to facilitate landscape level collaboration
- Reduce potential exposure of the community to toxic air quality as a result of unmitigated wildfire

#### **Expected Project Outcomes:**

- Safer evacuation routes
- Strategically disrupt contiguous fuel arrangements and remove ladder fuels on 1,585 acres
- Develop defense zone for fire suppression personnel to safely combat fire

### **Implementation Plan for Mitigation:**

Upon receipt of the award, County staff will bring the grant agreement to the Board of Supervisors for acceptance. County staff will then develop and enter into contract with our project partners the Fire Safe Council of Nevada County. County of Nevada will host a kick-off meeting for each of the fuel break projects to determine tasks and review the project timeline. Participants will include appropriate project partners such as Fire Safe Council of Nevada County, Bureau of Land Management, CAL FIRE, and the Buck Mountain Road Association. The Fire Safe Council, who will be the County's primary project partner will manage the projects, draft requests for proposals, and launch the competitive bid process. They will seek the following vendors: Registered Professional Forester, environmental firm to complete CEQA/NEPA, and hazardous vegetation removal contractors. A Registered Professional Forester will prescribe treatment for the fuels thinning/hazardous tree removal. Hazardous vegetation sub-contractors will schedule traffic control crews, secure required permitting, and conduct treatment. To ensure safe operations, weather forecasts will be monitored to avoid operating in Red Flag weather conditions. Fire Safe Council and County of Nevada will complete quarterly grant reporting and communicate project milestones to the public. Fire Safe Council will be responsible for managing necessary subcontractors.

### **Activity Cost**

## **Local Hazard Mitigation Plan Information**

**Does your entity have an active LHMP?** Yes

**LHMP Development Status** Adopted

**LHMP Approval Date** 8/22/2017

**Activity in Mitigation Plan** Yes

### **ALTERNATIVE #1 – NO ACTION:**

Describe the No Action alternative below. The No Action alternative evaluates the consequences of taking no action and leaving conditions as they currently exist.

The Local Hazard Mitigation Plan has identified wildfire as Nevada County's highest risk. Overstocked forests and severely overgrown, excessive vegetation along roadsides have been highlighted as a couple of the leading contributors to the grave risk of wildfire the County faces.

Nevada County may not be able to control drought, wind, or lightning, but it can implement fuel reduction programs which help reduce the amount of hazardous fuel. The No Action alternative ignores mitigation measures, goals, and actions outlined in multi-jurisdictional planning documents which outline strategic steps all management entities must take to collectively reduce threats to public safety in Nevada County.

Providing no action is unacceptable in our present condition pertaining to wildfire threats. Last year our County suffered through a Presidential Disaster due to wildfire and was very fortunate that the wildfire did not create more damage due to the large amount of homes in the WUI; mostly in high fire severity zones. Due to the uptick in recent wildfire events in the past five years, it is highly unlikely the County of Nevada would escape the next three years without a major catastrophe unless corrective action is taken. The County has identified 300 miles needing roadside vegetation maintenance, where on red flag days; the smallest spark could ignite communities living within these high-risk areas. Additionally, public assistance programs have been identified in order to increase defensible space to better protect homes if a catastrophic event occurs. Moreover, no action would result in the County of Nevada becoming insubordinate to FEMA, Statewide, and Community Plans by not addressing its identified highest risk, wildfires.

### **ALTERNATIVE #2: PROPOSED ACTION:**

The Ponderosa West Grass Valley Defense Zone Extension and South County Fuel Breaks (Project) covers a total area of approximately 1539 acres and is on U. S. Department of the Interior, Bureau of Land Management (BLM) land under the management of the Mother Lode Field Office, as well as private land. Phase I of the Ponderosa West Grass Valley Defense Zone was identified by California Department of Forestry and Fire Protection (CAL FIRE) and California Governor Newsom as one of the State's highest priority fuel reduction projects. The South County Fuel Break has been identified by CAL FIRE's Nevada-Yuba-Placer Unit as a priority project in the Unit's Ignition Plan. The Project would require joint efforts and resources from the BLM, County of Nevada (County), CAL FIRE, and the Fire Safe Council of Nevada County.

The both the Ponderosa West Grass Valley Defense Zone Extension and the South County Fuel Breaks are located within high-fire severity wildland urban interfaces. The Extension will be located adjacent to the existing 1200-acre Ponderosa West Grass Valley Defense Zone Project (original defense zone project) currently underway. The original defense zone project falls predominantly within County Lands, with the exception of two small BLM parcels. The Grass Valley Defense Zone Extension Project proposes to increase the fuel treatment area in proximity to the original defense zone project. The proposed project would expand the treatment area by an additional 1200-acres and is intended to anchor the original defense zone project. The South County Fuel Break is located within the community of Alta Sierra and proposes to develop a 150 ft wide shaded fuel break along 9 miles of roadway, treating a total of 339 acres. Both projects propose to use a shaded fuel break which consists of modifying vegetation within strips of land to increase resistance to catastrophic wildfire.

The purpose of a shaded fuel break is to reduce the amount of contiguous combustible material so that when a fire burns to the boundary of the shaded fuel break, the fire has less fuel and will decrease in intensity, cool, and drop from the canopy to the ground. This provides safer egress for the public during evacuation, as well as safer ingress for firefighters to slow or stop the spread of wildfire. A shaded fuel break typically is designed to maximize tree spacing so the crowns no longer touch; lower branches are pruned; and shrubs and dead and down material are removed to reduce surface and ladder fuels. Thinning is conducted in stands with small-diameter trees (pre-commercial thinning), or in stands with larger trees (potential commercial thinning), when stands are above desired density. In both cases the purpose is to reduce the density of trees and shrubs, leaving a healthier, more vigorous stand in which larger trees have much less competition for sunlight, water, and nutrients and increase fire resilience (CAL FIRE, 2021).

Use of the shaded fuel break for the Project would further goals outlined by the State to mitigate the threat of catastrophic wildfire by decreasing the continuity of fuels and diminishing the intensity of a potential fire by creation of a shaded fuel break. The Project would reduce greenhouse gas emissions, sequester carbon, enhance the natural resources of the Sierra Nevada, help restore the watershed, as well as protect lives and property.

The Project would provide zones of protection for critical infrastructure including electrical, power lines, water, communication towers, roadways, and sewer. The fuel treatments proposed by the Project would occur in three main areas, one north of Highway 20 (Hwy-20) and one south of Hwy-20, as well as one east of HWY 49 approximately 9 miles south of the City of Grass Valley. Hwy-20 bisects the Ponderosa West Grass Valley Defense Zone area from east to west and in case of emergency would be a critical artery for evacuation from nearby communities including Grass Valley, Rough and Ready, Penn Valley, and Lake Wildwood. Within the 1.5 miles of the Project boundary there more than 3,000 improved parcels in these communities and surrounding areas. The South County Fuel Break would provide greater protection to the Alta Sierra and Higgins/Lake of the Pines Communities. The Project's hazardous fuel reduction efforts would help maintain access through these areas to and other vital ingress and egress infrastructure. Maintaining access to critical roadways in the vicinity would ensure that people would be able to safely evacuate, and that fire suppression equipment and personnel would have access to safely combat wildfire in the vicinity or other nearby regions.

The Project would build upon efforts to improve forest conditions within the wildland urban interface and modify fuel loads to create a defense zone near homes and along roads including essential egress

and ingress routes from nearby communities. The Project area has not been treated for fire management in decades and as a result of this and a changing climate the area is out of alignment with the historic intermittent fire regime. The landscape and vegetation have become more vulnerable to disease and pestilence, noxious weeds, and are more susceptible to catastrophic wildfire. Catastrophic wildfires can result in substantial impacts, such as: negative effects to community safety; release of carbon emissions; impacts to local and downstream water quality, reduction in water storage and recharge; reduced air quality; and loss of employment opportunities leading to negative economic impacts. The Project would ensure that the fuel reduction treatments would result in remaining vegetation that is diverse in age, species, and structure to ensure a defensible landscape for protection of the local communities.

Collaboration in planning and management between interested agencies would consist of fuel treatments similar to those occurring in other areas of California to reduce the potential for catastrophic wildfire and improve ecosystem health. The proposed fuel treatments have the specific objectives of a reduction of the potential for a catastrophic wildfire, maintenance of biodiversity, and protection of soils and soil productivity. Treatments would be tailored depending on the existing vegetative cover, species composition, and density of existing fuels, specifically around botanically sensitive areas where improper methods could cause invasion of noxious weeds which could reverse the benefits of a fuel treatment.

#### **ALTERNATIVE #3—SECOND ACTION ALTERNATIVE:**

An alternative to this project includes conducting an education campaign around best land stewardship practices to reduce hazardous fuels mitigation around homes, roadways, and on large parcels. Community education is vital to increasing awareness around how individuals can act to collectively reduce threats to Nevada County on a person by person basis. While education is an important component of hazard mitigation, this alternative was not chosen because it will not definitively reduce the threat of wildfire on a large scale. These fuel break projects, when conducted by multiple agencies coordinating together, will have an impact to entire communities on a larger scale.

#### **Include Relationship to LHMP:**

According to the Nevada County Local Hazard Mitigation Plan Update 2017, wildland fire is the most significant natural hazard (pg. iii). The plan indicates that the geographic extent of wildfire would be extensive, spanning 50-100% of the planning area. The probability of future occurrences is highly likely, near 100% in the next year. The magnitude and severity of the fire would likely be catastrophic meaning more than 50% of property would be severely damaged, shutdown of facilities for more than 30 days is possible and the disaster could result in multiple deaths. The significance of the wildfire threat is high with a widespread potential impact zone. The Ponderosa and South County Fuel Breaks will mitigate Nevada County's most significant natural hazard, wildfires (pgs. 4-129 to 4-145). The project will implement aspects of several goals presented in the Mitigation Strategy of the Nevada County Local Hazard Mitigation Plan Update 2017 (pp. iv-v).

1. Minimize risk and vulnerability of Nevada County to natural hazards and protect lives and prevent losses to property, public health, economy, and the environment.
2. Increase community outreach, education, and awareness of risk and vulnerability to hazards and promote participation and voluntary compliance to reduce hazard-related losses.

3. Improve communities' capabilities to prevent/mitigate hazard-related losses and to be prepared for, respond to, and recover from a disaster event
4. Reduce fire severity and intensity in Nevada County
5. Maintain FEMA eligibility for grant funding

**Citations:**

California Department of Forestry and Fire Protection (CAL FIRE), 2020. Available: <https://www.fire.ca.gov/programs/resource-management/resource-protection-improvement/landowner-assistance/forest-stewardship/fire-and-fuels-treatment/> Accessed: January 19, 2021.