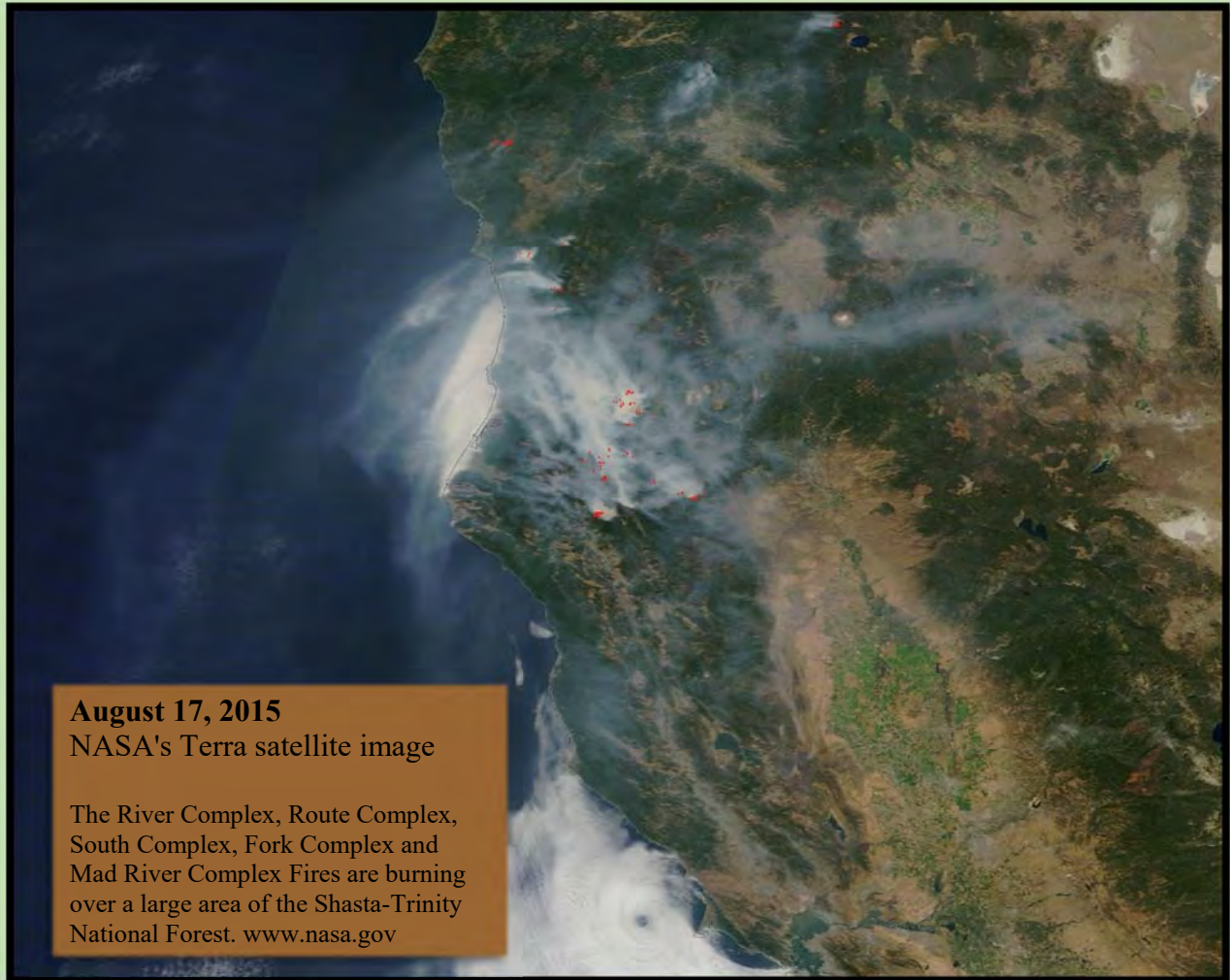


# Trinity County Community Wildfire Protection Plan Update 2015



**August 17, 2015**  
NASA's Terra satellite image

The River Complex, Route Complex, South Complex, Fork Complex and Mad River Complex Fires are burning over a large area of the Shasta-Trinity National Forest. [www.nasa.gov](http://www.nasa.gov)

**Report to the Trinity County Fire Safe Council from  
Trinity County Resource Conservation District and  
the Watershed Research and Training Center**



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## Executive Summary

Wildfire continues to be the number one hazardous threat to Trinity County. Respondents to a survey conducted for the *2015 Trinity County Hazard Mitigation Plan* ranked the threat of Wildfire 3.89 out of a maximum score of 4, the highest perceived threat, and outranking other threats such as drought, major road closures and floods. When analyzed, wildfire ranked first in vulnerability to the county with potentially large economic, social, infrastructure and development impacts (2015 Trinity County Hazard Mitigation Plan).

The Trinity County Fire Safe Council (FSC) developed the first comprehensive Trinity County Community Wildfire Protection Plan (CWPP) between 1999 and 2005. This effort began with a countywide process that resulted in the *Recommendations on Trinity County Values at Risk from Fire and Pre-Fire Fuels Treatment Opportunities drawn from Community Meetings 1999/2000* (February, 2001). These recommendations were used to develop the first complete Trinity County CWPP, which was accepted by the Trinity County Fire Chiefs' Association, Trinity County Board of Supervisors and the California Department of Forestry and Fire Protection (CAL FIRE) in September 2005. The CWPP was updated in 2010 and became the primary document to guide the FSC, its member organizations and partners, in the selection and implementation of strategic fuels reduction projects and public outreach as they have sought to improve cooperation and coordination in all aspects of wildfire management in Trinity County. FSC members include representatives from local, state and federal land management agencies, non-governmental organizations including the local Volunteer Fire Departments (VFDs) and citizens. The *CWPP Update 2015* follows the same model as the *CWPP Update 2010*.

The FSC identified the need for a spatially explicit countywide fire management plan in 1999 to assist in prioritizing and coordinating, at a landscape level, activity such as pre-fire fuels reduction treatments, and has maintained this over-arching need as fundamental to its success ever since. The *CWPP Update 2015* continues to build upon and improve the spatial information gathered from the previous CWPP versions.

Historically, county or regional scale wildfire management planning efforts often failed to involve or even acknowledge local residents' knowledge and expertise. FSC members felt very strongly that community input should drive the Trinity County Fire Management Plan development process with advice from local and regional expertise in fire management; in 1999 with funding support from the USFS Pacific Southwest Research Station and the CA Department of Water Resources, a team from the FSC began a process to capture community recommendations for the original planning effort. A series of community meetings and public workshops were held at Volunteer Fire Department halls and community centers across Trinity County. Residents were asked to help identify and map features relevant to emergency response. Data noted included locked gates, bridges too weak to carry a fire truck and water sources. Community members also worked with the team to locate and specify values at risk from fire in and around their communities. They made recommendations about pre-fire treatments such as clearing defensible space around residences and constructing shaded fuelbreaks along roadsides that could help to protect these values. Finally, they jointly developed a ranking system and a prioritized list of recommended projects. Data from these meetings was captured and entered

into a Geographic Information System (GIS). The methods used to capture community input and recommendations from these meetings were presented in the original report. The same strategy was repeated for the updates in 2010 and 2015, with 12 to 15 community meetings, most hosted by the Volunteer Fire Departments or Fire Safe Councils.

The update in 2010 added the following elements to the CWPP:

- Interface with the concurrent Humboldt County CWPP update.
- Development of Wildland Urban Interface (WUI) boundaries as defined in the Healthy Forest Restoration Act.
- Attention to treatments associated with large-scale fires that have occurred since 1999.
- Community meetings used to capture a variety of information, including the following:
  - Status of project implementation of recommended treatments from the 2005 CWPP.
  - Identification of projects to be implemented and their relative priorities for each community.
  - Project maintenance needs.
- Updating the Defensible Space requirements from 30 feet around structures to 100 feet<sup>1</sup>.
- Developing a spatially explicit definition of the Wildland Urban Interface for each community at risk.

The projects resulting from the update in 2010 were blended with the 2005 CWPP projects and are presented for each of five divisions of the county: Down River, Middle-Trinity, North Lake, South County and South Fork.

Overall project ideas and planning recommendations from the 2010 CWPP update included the following:

- Work to integrate fire management planning explicitly into the National Forest Management Act mandated planning process on the national forests and across jurisdictional boundaries to allow for landscape-scale prioritization and implementation of pre-fire treatments. Immediate opportunities for coordination include:
  - Linking the Six Rivers and Shasta-Trinity National Forests' Road Management Plans to ensure that roads critical for access in case of fire are being maintained. Further, encourage cooperation among all jurisdictions (Caltrans, Trinity County, USFS, etc.) to manage and reduce roadside fuels.
- Identify and publicize safety zones for each community in case of catastrophic fire.
- Review the economic value of plantations (*e.g.*, through cost-benefit analysis). Participants noted that considerable expense has already gone into planting the trees and

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<sup>1</sup> California Public Resources Code (PRC 4291) requires property owners and/or occupants to create and maintain 100 feet of defensible space around buildings and structures.

whether one wishes to pursue this type of silviculture in the future or not, the existing plantations are both important resources and, if untended, fire hazards.

- Understanding the concern of the increasing amount of fuel on the landscape as a result of fires, windfalls, insect, and disease outbreaks and other events. These areas are given priority in ranking of projects due to the risk they pose to adjacent values at risk including communities, associated infrastructure and adjacent forest resources. Resistance to control of fire in these areas is extreme and will tax limited firefighting resources.
- Develop methods for managing vegetation occurring next to or around forest demonstrating unique or valued characteristics to better protect it from stand replacing fires. It was suggested that there are examples of this type of management working well on South Fork Mountain.

Building upon the 2005 and 2010 CWPP recommendations, the following planning and project recommendations are made for 2015:

- **Prescribed Fire-** controlled burning has become an important tool in Trinity County over the last 5 years. Fuel accumulations, species composition changes and loss of important wildlife habitat resulting from over 100 years of fire suppression have left much of Trinity County at a higher risk of loss from catastrophic wildfire. Prescribed burning addresses and minimizes the impacts of fire exclusion. When professionally planned and implemented during appropriate weather conditions, prescribed burns are an effective and appropriate fuels reduction/restoration treatment for many areas of Trinity County. Bringing fire back into the landscape by implementing multi-landowner, landscape scale cooperative prescribed burns will help to protect and preserve Trinity County residences, infrastructure, and natural resources for future generations.
- **General Plan-** In November 2014, Trinity County adopted an update to the Safety Element of the General Plan. This CWPP update reinforces the wildfire safety goals addressed in the Safety Element, including the following recommendations:
  - Fire hazard planning reviewed and conducted by the Trinity County Fire Safe Council and Trinity County Fire Chief's Association.
  - Coordinating with CAL FIRE in the development of policies regarding wildfire and review of the CWPP.
  - Using of Local Area Advisors as a resource during fire incidents.
  - Protecting and maintaining the transportation network is critical to public safety.
- **Hazard Mitigation Plan-** Mitigation Actions, as outlined in Table 4.2 of the Trinity County Hazard Mitigation Plan, need to be implemented. Wildfire specific actions include the following:

- Centralized GIS mapping of water sources for firefighting, structure location, bridges and all county infrastructure and services necessary for emergency response.
  - Improve watershed and forest health through actions to reduce illegal water diversions, fire hazards and unsustainable agricultural practices.
  - Identify, develop and secure funding to bring existing repeater sites up to current standards.
- **Fire Borrowing-** With more than 8.5 million acres burned nationwide during the 2015 fire season it proved to be disastrous in terms of the loss of firefighter lives, homes and structures and natural resources. Unfortunately, it also was disastrous with regards to the budgets of the U.S. Departments of Agriculture and Interior. The U.S. Department of Agriculture's (USDA) Forest Service (Forest Service) transferred an additional \$250 million of funding from non-fire accounts to pay for firefighting through the end of the Fiscal Year. The \$250 million is in addition to the \$450 million the agency had been forced to transfer since August 2015 to fund firefighting. The Forest Service released a report (August 2015) showing that over one-half of its budget is now spent on firefighting and other fire-related activities, up from one-sixth in 1995. By 2025, the agency conservatively forecasts that it will spend two-thirds of its budget on wildfires. This shift in resources from non-fire programs to firefighting has enormous implications on all agency activities, including recreation, research, watershed protection, rangeland management, and, importantly, fuels reduction. Similarly, in the U.S. Department of the Interior (Interior), the growing costs of wildfire preparedness and suppression now account for 76 percent of the wildfire management program budget, and are reducing the amounts available for fuels management and restoration activities by the Bureau of Indian Affairs, Bureau of Land Management (BLM), National Park Service, and U.S. Fish and Wildlife Service. For our rural, forested county, BLM is an integral partner and these treatments are essential for reducing risks of catastrophic fires, for increasing the resiliency of lands to recover from fire, and protecting communities and infrastructure.

To solve the fire budget problem in the long term, Congress should take two actions. First, Congress must allow the firefighting spending to be scored as an adjustment to discretionary spending caps in bad fire seasons, in keeping with the treatment of other federal disaster response activities, instead of transferring resources from non-fire programs, including timber sale and fuels reduction projects, research and monitoring efforts, recreation and wildlife activities, and trail and visitor facility maintenance. Second, Congress must do this in a way that does not harm the agencies' ability to invest in fuels management and forest and rangeland restoration to make these lands less vulnerable and more resilient to catastrophic wildfire. Both of these actions are consistent with how the Nation treats other natural disasters (June 7, 2016 Trinity County Board of Supervisors' letter to U.S. Senator Maria Cantwell).



- **Build Local Capacity-** There is a need to increase local capacity for integrated forest and wildfire management. Federal and state agencies can assist by working with local organizations to increase the capacity to reduce hazardous fuels. Examples could include:
  - Long-term service contracts with federal and state agencies for fuels reduction that supports the development of a skilled workforce.
  - Contracting rules that allow for the local agencies to participate in wildfire suppression activities without penalizing project work.
  
- **Trinity County Collaborative Group-** Support the Trinity County Collaborative Group's (TCCG's) efforts to serve as an inclusive and successful natural resources, land management and economic development advisory group that supports safe and vibrant communities, thriving economies and ecological resilience, through sustainable resource use and stewardship practices. TCCG projects include the Roads and Plantations Pilot Project and the Joint Chiefs Program, a 3-year program of work with special funding. Joint Chiefs' projects include post-fire hazard reduction and several "Fire-Resilient Community" projects that blend community protection, ecological restoration and "All-Lands" strategies.

The Trinity County Board of Supervisors has been a strong voice advocating for landscape-scale treatments that will help protect Trinity County's communities at risk. The previous CWPP updates and this update, will prove valuable as articulations of the county's perspective on landscape-scale treatments and fire management issues. Federal land management agencies have used the CWPP to inform their pre-fire management planning, and this *CWPP Update 2015* is intended to be similarly useful to those agencies as they gather community input for their fire planning processes.

The Trinity County Resource Advisory Committee (RAC) is a Federal Advisory Committee Act (FACA) chartered citizen-based committee appointed by the US Secretary of Agriculture under Title II of the Secure Rural Schools and Community Self-Determination Act. The RAC has used the CWPP to prioritize recommendations for forest health/fuels reduction projects and will likely use the 2015 update to allocate funds for high priority projects on lands managed by the USFS once the Act is reauthorized. The TCCG and Trinity County Fire Safe Council, including the Trinity County Resource Conservation District and the Watershed Research and Training Center, will continue fire management coordination efforts using the results of this update to systematically promote implementation of the projects recommended by the community participants. Further, the 2015 update will encourage public land management agencies to carry out the necessary pre-work, such as National Environmental Protection Act (NEPA), required before many recommended activities can be carried out. Trinity County VFDs, through the Fire Chiefs' Association and the FSC, may also find the information helpful in the next phases of county level emergency response coordination *e.g.* sharing equipment to implement projects.

## Declaration of Agreement

The *Community Wildfire Protection Plan Update 2015* developed for Trinity County by the Trinity County Fire Safe Council:

- Was collaboratively developed. Interested parties and federal land management agencies managing land throughout Trinity County, included the communities in the vicinity of Big Bar/Big Flat, Burnt Ranch, Coffee Creek, Covington Mill, Douglas City, Hayfork, Hawkins Bar, Hyampom, Junction City, Kettenpom Valley, Lewiston, Mad River, Post Mountain, Ruth, Salyer, Trinity Center, Weaverville, Wildwood and Zenia have been consulted;
- Identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect land throughout Trinity County, including the communities in the vicinity of Big Bar/Big Flat, Burnt Ranch, Coffee Creek, Covington Mill, Denny, Douglas City, Hayfork, Hawkins Bar, Hyampom, Junction City, Kettenpom Valley, Lewiston, Mad River, Post Mountain, Ruth, Salyer, Trinity Center, Weaverville, Wildwood and Zenia; and
- Recommends measures to reduce the ignitability of structures throughout the area addressed by the plan.

The following entities mutually agree with the contents of this Community Wildfire Protection Plan:

\_\_\_\_\_  
John Fenley, Chairman of the Board  
Board of Supervisors, Trinity County

Date: \_\_\_\_\_

\_\_\_\_\_  
Tim Spiersch, President  
Trinity County Fire Chiefs' Association

Date: \_\_\_\_\_

\_\_\_\_\_  
Mike Hebrard, Shasta-Trinity Unit Chief  
California Department of Forestry and Fire Protection

Date: \_\_\_\_\_

\_\_\_\_\_  
Jesse Cox, Chairman  
Trinity County Fire Safe Council

Date: \_\_\_\_\_

\_\_\_\_\_  
Barbara Darst, Chairman  
Willow Creek Fire Safe Council

Date: \_\_\_\_\_

## Acknowledgements

### Planning Team Participants

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Donna Rupp, Trinity County Resource Conservation District  
Kelly Sheen, Trinity County Resource Conservation District

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#### **Trinity County:**

- Board of Supervisors
  - Barbara “Bobbi” Chadwick
  - Judy Morris
  - Keith Groves
  - John Fenley
  - Bill Burton

#### **Willow Creek Fire Safe Council:**

- Barbara Darst

#### **Shasta-Trinity CAL FIRE Unit:**

- Andy Reiling
- Shane Larsen

#### **US Forest Service**

**Shasta-Trinity National Forest  
Six Rivers National Forest**

#### **Bureau of Land Management Redding Field Office**

#### **Local Fire Departments:**

- Coffee Creek Fire- Tony Valls
- Douglas City Fire- John Holland
- Down River Fire- Gloria Reynolds
- Hawkins Bar Fire- Todd Wright
- Hayfork Fire- Roman Rubalcava
- Hyampom Fire- Joe Watkins
- Junction City Fire- Justin Kerwick
- Lewiston Fire- Mel Deardorff
- Post Mountain Fire- Tim Spiersch
- Salyer Fire- David Murphy
- South Trinity Fire- Bill German
- Trinity Center Fire- Steve Renten
- Weaverville Fire- Todd Corbett
- Zenia-Kettenpom Fire- Brian Craig

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- CAL FIRE State Responsibility Area Fire Protection Fund grant.
- The Trinity County Board of Supervisors, through Title III Secure Rural Schools Act funding.

#### PLEASE COMMENT ON THIS DOCUMENT

Although a large number of people were involved in the community input process, we will continue to seek comments on the Trinity County Community Wildfire Protection Plan. It is, by necessity, a living document and there will always be suggestions for next steps in community involvement in fire management planning.

## I. Introduction

### Objectives

The intention of the Trinity County CWPP update is to collate new information and present the updated CWPP in a form useful to county planners, USFS land management staff, CAL FIRE, Volunteer Fire Departments and others who may use the data to promote fire management activities and fire safety in Trinity County. The following objectives guided the update process:

- Update and prioritize fire and fuels related projects;
- Create an online database where Geographical Information System (GIS) layers can be accessed by agencies or the public;
- Record project accomplishments;
- Update new policies and laws;
- Facilitate federal agency consideration of community priorities;
- Improve ability to protect lives and property from wildfire damage;
- Increase public awareness of consequences of living in a wildfire prone environment;
- Provide the public with clear steps they can take to reduce the risks associated with living in the Wildland Urban Interface/Intermix (WUI);
- Merge the goals and objectives of landowners with the needs and expectations of the community regarding wildfire risk reduction;
- Coordinate fire protection strategies across property boundaries; and
- Provide a tool to help coordinate grant funding and federal program budgets to achieve the most effective results with limited funding.

### Plan Context

#### **Healthy Forest Restoration Act Criteria for Certification as a Community Wildfire Protection Plan**

The National Fire Plan directed federal agencies to "work directly with communities to ensure adequate protection from wildfires, and to develop a collaborative effort to attain the desired future condition of the land."<sup>2</sup> The key wildland fire management agencies in California have chosen to accomplish this effort through the California Fire Alliance (The Alliance). To this end the Alliance, on its website<sup>3</sup>, encourages the development of Community Wildfire Protection Plans (CWPP), as defined by the Healthy Forests Restoration Act (HFRA). A community wildfire protection plan, as defined by the HFRA, means a plan for an at risk community that fulfills the following criteria.

##### Collaboration

*A) The plan is developed within the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the*

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<sup>2</sup> [www.preventwildfireca.org/Organization-History/](http://www.preventwildfireca.org/Organization-History/)

<sup>3</sup> <http://www.preventwildfireca.org/Community-Wildfire-Protection-Plans/>

*applicable local government, local fire department, and state agency responsible for forest management, in consultation with interested parties and the federal land management agencies managing land in the vicinity of the at-risk community.*

This plan was collaboratively developed. Significant efforts were made throughout the planning process to collaborate with local, state, and federal land and fire management agencies. Leadership and guidance was provided by the Trinity County Resource Conservation District and Watershed Research and Training Center. CAL FIRE, USFS, Trinity County Volunteer Fire departments, and BLM managers were represented and provided presentations at the community meetings. Officials from both the Six Rivers and Shasta-Trinity National Forests were engaged in the collaboration. In addition, special efforts were made to gain experience and insight from professional foresters, both active and retired. Meetings were designed and conducted to maximize community input into the planning process.

#### Prioritized Fuel Reduction

*B) The plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment on federal and non-federal land that will protect one or more at-risk communities and essential infrastructure.*

This plan identifies areas for hazardous fuel reduction treatments and prioritizes them using a ranking system. This plan also recommends the types and methods of treatment to reduce the risk of wildfire to communities and resources within the planning area.

## **New Policies**

### **California Board of Forestry and Fire Protection SRA Fire Safe Regulations (Title 14)**

The California state legislature enacted California Code of Regulations Title 14 Natural Resources, Division 1.5 Department of Forestry, Chapter 7 – Fire Protection. Title 14 regulations were prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction and development in State Responsibility Area (SRA). A local jurisdiction may petition the California Board of Forestry for certification pursuant to section 1270.03. Where Board certification had not been granted, the regulations became effective September 1, 1991. The future design and construction of structures, subdivisions and developments in SRA will provide for basic emergency access and perimeter wildfire protection measures as specified in the regulation. The measures provide for emergency access; signing and building numbering; private water supply reserves for emergency fire use; and vegetation modification. The fire protection standards in the regulation specify the minimums for such measures. The latest updates to Title 14 went into effect January 1, 2016.

### **Safety Element of the Trinity County General Plan (2014)**

The Safety Element of the General Plan was updated and adopted by the Trinity County Board of Supervisors in November 2014. The Section titled “Wildfire and Structures Goals/Objectives/Policies” (S5-S5.5), is adopted by reference in this update to the CWPP.

### **Senate Bill 1241**

The State Board of Forestry and Fire Protection (BOF) is required to review and make recommendations to the fire safety element of general plan updates in accordance with

Government Code (GC) §65302.5. The review and recommendations apply to those general plans with State Responsibility Area (SRA) (Public Resources Code 4125) or Very High Fire Hazard Severity Zones (VHFHSZ) (GC 51175).

The statutory requirements for the BOF review and recommendations pursuant to GC 65302.5 (a)(1) and (2), and (b) are as follows:

- *“The draft elements...to the fire safety element of a county’s or a city’s general plan...shall be submitted to the Board at least 90 days prior to... the adoption or amendment to the safety element of its general plan [for each county or city with SRA or VHFHSZ].”*
- *“The Board shall... review the draft or an existing safety element and report its written recommendations to the planning agency within 60 days of its receipt of the draft or existing safety element....”*
- *“Prior to adoption of the draft element..., the Board of Supervisors... shall consider the recommendations made by the Board... If the Board of Supervisors...determines not to accept all or some of the recommendations...,” the Board of Supervisors... shall communicate in writing to the Board its reasons for not accepting the recommendations.”*

The Trinity County Board of Supervisors complied with these provisions when the BOF adopted an update to the Safety Element of the General Plan (November 2014).

### **Strategic Fire Plan for California (2010)**

The California Department of Forestry and Fire Protection (CAL FIRE) and the State Board of Forestry and Fire Protection (BOF) adopted a Strategic Fire Plan for California in 2010. The 2010 Strategic Fire Plan is a strikingly different fire plan than those developed in the past. The Plan recognizes that fire will occur in California and works to answer the question of “how do we utilize and live with that risk of wildfire?” It is useful to frame the 2015 CWPP update with CAL FIRE’s vision, goals and objectives to guide the county in answering that question. This, in combination and through implementation of the Trinity County General Plan – Safety Element (November 2014), will help Trinity County become more resistant and resilient to the damaging effects of catastrophic wildfire while recognizing fire’s beneficial aspects.

### **National Cohesive Strategy**

In response to requirements of the Federal Land Assistance, Management, and Enhancement (FLAME) Act of 2009, the Wildland Fire Leadership Council (WFLC) directed the development of the National Cohesive Wildland Fire Management Strategy (Cohesive Strategy). An emerging trend, known as the “All Lands” approach, is identified in the Cohesive Strategy and has been used by the FSC to promote landscape-scale pilot projects that envision work across all ownerships.

### **Fire Hazard Planning – Governor’s Office of Planning and Research**

This update of the CWPP, in referencing the 2014 Safety Element, was reviewed in the context of the 2003 edition of Fire Hazard Planning, General Plan Technical Advice Series prepared by The Governor’s Office of Planning and Research (OPR), as directed in Senate Bill 1241 (see

section above). The OPR encourages using local fire safe councils as a resource “...in the development of the fire protection and prevention policies and implementation measures in the General Plan. OPR encourages the use of the Councils for both their expertise and as a means for expanding public participation in the General Plan Process.”

Trinity County has always turned to the expertise of the Trinity County Fire Safe Council, and also its partner, the Trinity County Fire Chiefs’ Association to review the background data and in the development of locally important objectives, goals and policies in the Safety Element as well as this update of the Trinity County CWPP.

## II. Fire in Trinity County

Trinity County is located in a fire adapted area. The vegetation types, combined with a pronounced annual drought, result in conditions that favor fire. Frequent fire has influenced the rich ecosystem diversity here. From the ecological communities of the valleys, oak woodlands, and riparian areas, to the mixed conifer forests, hills and mountains, this diversity blankets the Trinity County landscape. Within this richness lies a deep relationship, between all of the ecosystem types found here and fire (“pyrodiversity”). The natural fire regime found here is represented by frequent mixed-severity fires (approximately every 5 to 15 years). These frequencies of fires are also known as the “fire return interval.” In some areas, in particular grasslands and oak woodlands, fire may have occurred on a much more frequent basis. The range of fire return intervals and intensities has been a major environmental driver, helping to shape the flora and fauna since the end of the last ice age. Fire, like rain, floods and drought, is one of the most important environmental processes that governs the ecological diversity of Trinity County.

It is widely understood that for the last 10,000 plus years, prior to European settlement (nearly 170 years ago in Trinity County), Native Americans used fire for a variety of different resource objectives. Fire was an essential tool used to help create an abundant landscape that sustained generations of native people. Fire was used to generate basket weaving materials and for many other cultural uses. Fire was also used to increase foraging habitat for deer and elk and to manage insects and disease. As described by M.K. Anderson in *Tending the Wild: Native American Knowledge and the Management of California’s Natural Resources*:

*“The majority of plant species that local California Indians relied on for food and medicine and for making cordage, basketry, and tools thrive only in full sun or partial shade. The areas where the favored plants occurred frequently were burned so as to keep them open and decrease competition from weeds. Ecologically, fire was used to maintain earlier successional stages that these species require”.*

*“...traditional management systems have influenced the size, extent, pattern, structure, and composition of the flora and fauna within a multitude of vegetation types throughout the state. When the first Europeans visited California therefore, they did not find in many places a*



*pristine virtually uninhabited wilderness but rather a carefully tended “garden” that was the result of thousands of years of selective harvesting, tilling, burning, pruning, sowing, weeding, and transplanting.”*

*“...deliberate burning increased the abundance and density of edible tubers, greens, fruits, seeds, and mushrooms; enhanced feed for wildlife; controlled the insects and diseases that could damage wild foods and basketry material; increased the quantity and quality of material used for basketry and cordage; and encouraged the spouts used for making household items, granaries, fish weirs, clothing, games, hunting and fishing traps, and weapons. It also removed dead material and promoted growth through the recycling of nutrients, decreased plant competition, and maintained specific plant community types such as montane meadows.”*  
(Anderson, 2005, p. 136).

This extensive use of fire has led to a broad range of ecosystem processes, plant adaptations, and symbiotic relationships. For example, frequent fire helps with rapid nutrient recycling, reduces fuel loading, increases browse for some wildlife, thins small trees, and creates conditions for regrowth. Many of the plants found in Trinity County are fire followers, becoming established in recent fire footprints, and/or have specific adaptations that help the plants cope with, and flourish in, a frequent fire environment. These plant adaptations include, but are certainly not limited to, the thick bark of conifers such as mature Ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*) that can withstand the heat of low-moderate intensity fire. Other trees, such as canyon live oak (*Quercus chrysolepis*) and Oregon white oak (*Quercus garryana*) sprout following fire, while many species of plants like western redbud (*Cercis occidentalis*) and knobcone pine (*Pinus attenuata*) require fire to aid in reproduction.

### **Wildfire in California and Trinity County**

“The acreage that was burned by California’s earliest humans may have been significant; fire scientists Robert Martin and David Sapsis estimate that between 5.6 million and 13 million acres of California burned annually under both lightning and indigenous people’s fire regime (Anderson, 2005, p.136). In addition to Native American burning, early settlers, ranchers, and timber companies continued the practice on a large scale. For example, “*among the strong advocates of light burning were members of the Walker family and the Red River Lumber Company. From 1909 to 1913 they made a thorough test of light burning on nearly 1 million acres of pine lands under their management. Thirty-five men from Redding, CA were hired to do light burning when conditions were suitable. This group became known as the “needle scratchers.” When they could not burn, they piled rocks in the cavities of fire scared trees and threw in dirt to keep those trees from catching fire. They also removed logs from near the trunks of trees and used other tactics to lessen the damaging effects of light fires. The cost of burning was, then reported, about 30 cents per acre (inflated to \$7.30 in 2016)*” (Biswell, 1989, p. 95-96). This amount of fire on the landscape resulted in ecosystems that were resilient and generally void of large scale and destructive wildfires.

Beginning in the early 1900's, negative attitudes of fire on the landscape led to federal policies that required immediate suppression of all fire on the landscape. These attitudes and policies began to eliminate the frequent fires that once rejuvenated and created resiliency in the ecosystems of Trinity County. For example, the use of fire by the "needle scratchers" "...was given up in 1913, because of outside pressure prompted by the Weeks Act of 1911, which provided for federal and state sharing of the cost of fire control – a provision that the Clark-McNary Act later extended" (Biswell, 1989, p. 95). In addition, the forced removal of most of the local Native Americans resulted in the elimination of the human caused fire that helped to sustain the native cultures.

In Trinity County, the results of fire suppression, eliminating intentional fire use, and past practices such as logging, planting mono-culture tree plantations and failure to adequately manage such plantations, have resulted in unnaturally high accumulation of fuels and increasingly high intensity wildfires. Fire is now under-represented on the landscape, and every year we increase our fire deficit (the number of acres that should be subjected to fire, but are not). In fact, many places in Trinity County have not had a fire in over 100 years, resulting in an increased wildfire risk. It can be estimated, based on historic fire regimes, that most of the county has missed at least 5 to 10 fires in the last 100 years. Some areas, in particular around grasslands that were intentionally burned by Native Americans and then ranchers, may have missed upward of 100 fires. This overall lack of fire on the landscape has contributed to conditions that threaten our communities and ecosystems. Today, wildfires are now often of a scale and intensity beyond the range of historic variability (Skinner, Taylor and Agee, 2006). The regional and landscape scale impacts of these fires include changes in vegetation patterns, loss of remaining old growth forest, adverse impacts to air quality, economic losses and danger to human life.

### **Increasing Costs of Catastrophic Wildfires**

Trinity County has been no exception to large-scale destructive wildfires. "After highly effective fire suppression through much of the 20<sup>th</sup> century, large lightning complexes began escaping initial attack and expanding into long-burning widespread events beginning with the "siege of '87". Additional large lightning complexes have occurred in 1999, 2008, and 2015" (Smith, Joshua et al., 2016, p. 13).

The high costs of catastrophic wildfires are particularly evident in the Wildland Urban Interface (WUI). All of the developed areas within Trinity County are located within the WUI. The September 2015 Boles Fire in Weed, CA is a recent example of the risk that WUI residents face. The Boles Fire, although only 516 acres, burned 157 houses and 8 commercial structures. In addition, long-term economic impacts to the community resulted from the fire. Further, the September 2015 Valley Fire in southern Lake County, CA burned approximately 76,100 acres, resulting in catastrophic losses to life, property, and natural resources. These losses include 1,955 destroyed structures, timber resources, 4 injured firefighters, and the death of 4 civilian residents. These regional examples help to explain some of the risks that Trinity County residents face during the ever-expanding wildfire season.

Closer to home, fire has threatened several Trinity County communities in the last 5 years. In particular, the 2015 fire season, started by a series of lightning storms, resulted in approximately

186,970 acres burned in Trinity County, albeit, mostly low severity. Nearly 119,000 acres of the WUI were affected by these fires, causing widespread evacuations and panic. For example, the 2015 Fork Complex burned adjacent to Hayfork, Wildwood, Peanut, and Trinity Pines (Post Mountain), resulting in mandatory evacuations and the loss of 8 residences and 64 structures. During this time, most of the county experienced very poor air quality, a significant public health concern. In addition to smoke, fire suppression impacts, such as dozer lines and backfires, contributed to the environmental impact of the fires. Nearly 415 miles of dozer line were created in order to help catch oncoming fires before they contacted the communities at risk. The 2014 Oregon Fire, from Oregon Summit on Highway 299 west of Weaverville to the edges of the town, is another example of wildfire that was not large in size (461 acres), but had huge impacts to the community – threatening critical public infrastructure (the only hospital in the county, the sheriff’s office and county jail, etc.) and several neighborhoods. In addition, it cost approximately \$3,400,360 (\$7,376/acre) to suppress the Oregon Fire.

According to CAL FIRE and the USFS, approximately 61 fires occurred in Trinity County from 2010 to 2015. These fire threatened communities and burned through approximately 202,337 acres of the county. Several fires left a definite impact on natural resources and communities. In particular, the 2012 Stafford Fire (4,407 acres) ripped through the south edge of Hayfork, resulting in catastrophic losses of timber resources and serious threats to the community. The 2015 Democrat Fire threatened the community of Weaverville as well as critical infrastructure, (including the communication towers used by emergency services) that supports the county. This fire, although only 128 acres, burned at a very high intensity. Further, the 2015 Browns Fire (28 acres) threatened the community of Weaverville, including an area with limited ingress/egress, and cost approximately \$379,209 (\$13,543/acre).

These fires are damaging and very expensive, as USDA has reported:

- *“In 2014 the USFS alone spent 1.2 billion dollars fighting fires throughout the country. This is an increase of 60% in the last decade. In 10 of the last 13 years, the USFS alone has exceeded its budget for firefighting... In 1995, fire made up 16% of the USFS annual appropriated budget. In 2015, for the first time ever, more than 50% of the USFS annual budget will be dedicated to wildfire.” In fact, in 2015 federal firefighting cost were over 2 billion dollars. This increase in fire spending has led to a nearly 40% reduction of non-fire personnel”.*
- *“Much of this 40% personnel reduction (a.k.a “fire transfer” or “fire borrowing”) are positions that are responsible for completing work that reduces fire risks, further leading to an increase threat to communities, critical infrastructure, and natural resources. Left unchecked, the share of the budget devoted to fire in 2025 could exceed 67%, equating to a reduction of nearly 700 million dollars from non-fire programs compared to today’s funding levels. That means that in just 10 years, two out of every three dollars the USFS gets from congress as part of its appropriated budget will be spent of fire programs” (United States Department of Agriculture, 2015).*

- The increase in fire spending is also reflected in the ever expanding “fire season”. Fire seasons are now an average of 78 days longer than in 1970, adding to the increase of fire spending. These expansions in fire season are expected to increase as more people move into high fire-threat areas. In addition, warming trends associated with climate change will lead to more days where fire can spread throughout the landscape.

### **Influencing Wildfire with Pre-Fire Treatments**

Fuels, weather, and topography influence fire behavior. Since people cannot control climate, and topography, reducing fuel loading through pre-fire treatments is the most promising area in which people may influence wildland fire behavior (Agee et al., 2000). This idea has had a significant influence on the pre-fire work accomplishments in Trinity County since 2010, nearly 6.5 million dollars has been leveraged to complete fuels treatments and educational programs throughout the county. Trinity County RAC alone has dedicated approximately \$2,342,501 since 2001 (\$1,066,984 from 2010 to 2015) on fuels reduction projects on USFS lands in Trinity County.

A range of fuels reduction methods have been implemented throughout the county to create safe conditions for firefighting and to protect communities, natural resources, and critical infrastructure. These methods include individual and combined practices that focus on strategically reducing fuel loading on the landscape. These methods include; pre-commercial thinning, shaded fuelbreak construction, prescribed burning, strategic mechanical thinning, roadside hazard tree removal, and fuel reduction within the “Home Ignition Zone”.

- Pre-commercial thinning (PCT) is a thinning method, generally within homogenous tree plantations and/or fire excluded areas, conducted before trees reach a merchantable size. PCT is used to release over-crowded stands to prevent stagnation, decrease the risk of insects, disease, and fire, and increase the growth of residual trees. Follow-up slash disposal is recommended as part of any PCT in order to reduce the risks of wildfire. Activity fuels are generally piled and burned and/or lopped and scattered within the project area.
- A shaded fuelbreak is a forest management strategy used for mitigating the threat of wildfire in areas where natural fire regimes have been suppressed. “A shaded fuelbreak is created by altering surface fuels, increasing the height to the base of the live crown and opening the canopy by removing trees... These combined practices should result in (a) lower fire intensity, (b) less probability of torching, and (c) lower probability of independent crown fire.” (Agee, et al., 2000). Surface fuels are generally treated by pile burning, chipping, and/or broadcast burning. Shaded fuelbreaks require a regular treatment interval (variable depending on site conditions) to ensure the qualities of the initial investment are maintained over time.
- Prescribed fire, or controlled burning, is a restoration technique that addresses fire deficits in fire-dependent landscapes through the deliberate application of fire, helping to restore healthy ecosystems and reduce the risk of large-scale wildfire. Prescribed burns are implemented to meet many objectives, including, but not limited to, reducing surface and ladder fuels, reducing conifer encroachment, and to improve wildlife habitat. Prior to ignitions, control lines (areas where the fire will not spread such as roads and dozer lines) are identified and/or created in order to fully surround the intended burn unit. Units are ignited during favorable weather conditions

that are appropriate to achieve burn objectives while reducing smoke impacts and the threat of escape.

- Strategic mechanical thinning is an approach to fuels reduction that combines commercial timber harvesting with service work that reduces the threat of wildfire. This practice takes advantage of revenues associated with forest thinning to help pay for strategic fuels reduction work that reduces the threat of wildfire to communities and critical infrastructure.
- Roadside hazard tree removal is accomplished to increase the safety, both for firefighters and the public, along major road corridors. Hazard trees are trees that are dead, have defects in roots, trunk, or branches that make them likely to fall, potentially causing injury, property damage, and/or access issues. Hazard tree removal, prior to wildfire events, creates safer conditions for firefighters, while also reducing the risk of spotting should one be ignited by a fire.
- The Home Ignition Zone (HIZ) is composed of a house and its immediate surrounding, up to 200 feet away. The HIZ can be broken up into four sub-zones; Fire Free Zone, Structural Protection Zone, Defensible Space Zone, and Wildland Fuel-Reduction Zone. The ignition potential of the HIZ largely influences the effectiveness of protection during a wildfire. Within these zones, fuels reduction (by means of several different methods including, but not limited to, raking, PCT, pruning, prescribed fire, chipping, mastication, etc.) is meant to minimize fire intensities and rates of spread. Collaboration between several partners within Trinity County have helped complete fuels reduction projects within the HIZ of many neighborhoods.

Fuels reduction activities can be one, or a combination of several, practices mentioned in this section. Still, pre-fire treatments are expensive and a relatively small percentage of the landscape can and will be treated each year. Influencing wildfire by collaborating on pre-fire treatments has taken a major foothold since the completion of the 2010 CWPP update. Today, it is common for several organizations to collaborate on projects, helping to increase the number and size of project areas, building local capacity to complete work, and making more funding available to partners. For example, funding for the Weaver Basin Community Protection Project was made available through a collaboration by WRTC, TCRCDC, and the USFS. CAL FIRE, Sierra Pacific Industries, Weaverville VFD, and potentially additional VFD's will likely participate in implementing this multi-landowner, multi-jurisdictional project. Within Trinity County there are many more examples of collaboration. These examples include, but certainly are not limited to; cooperating agreements, interagency and inter-organizational training, grant writing, cooperative burning, and interagency / inter-organizational field crews. This cooperation and resource sharing is helping to get more done with limited funding than could have otherwise been accomplished.

In addition to the pre-fire treatments previously mentioned, fire, in particular wildfire, is a tool that can effectively reduce fuels (treat) throughout much of the landscape of Trinity County. Managing fire for resources benefit, a concept introduced in 1968 in Sequoia and Kings County National Parks, is a method of allowing wildfire to play its natural role in the ecosystem, when it meets the management objectives of the landowner or land management agency. *“When a naturally-caused wildfire starts, fire managers make an assessment to determine if conditions are favorable for managing the wildfire and allowing it to burn. Weather forecasts, soil and*

*vegetation moisture, the landscape surrounding the wildfire, and potential risks are all considered in this assessment. If conditions are good to manage the wildfire, fire managers determine a perimeter for the fire, and identify areas that must be protected. Fire crews perform burnout operations in strategic areas to manage how and where the fire moves through the forest, allowing the fire to take its course while protecting property and wildfire” (United States Department of Agriculture, n.d., para. 7).*

Managing fires for resource benefits takes place only when natural ignitions occur. This type of management should only take place when threats to communities can be avoided. All fires threatening and/or within the WUI should be managed under current fire suppression policies.

It is important to note that fire management policies differ across land managers and agencies, and not all agencies are currently using fire to manage for resource benefits. For example, CAL FIRE’s fire protection objective states that a system of basic fire protection will be provided so that damages to life, property and natural resources will be held at or below a level acceptable within social, political and economic constraints. Board of Forestry and Fire Protection designates in the Fire Plan that CAL FIRE will strive to contain 95% of all unwanted fires at 10 acres or less.

### **The Trinity County Fire Safe Council**

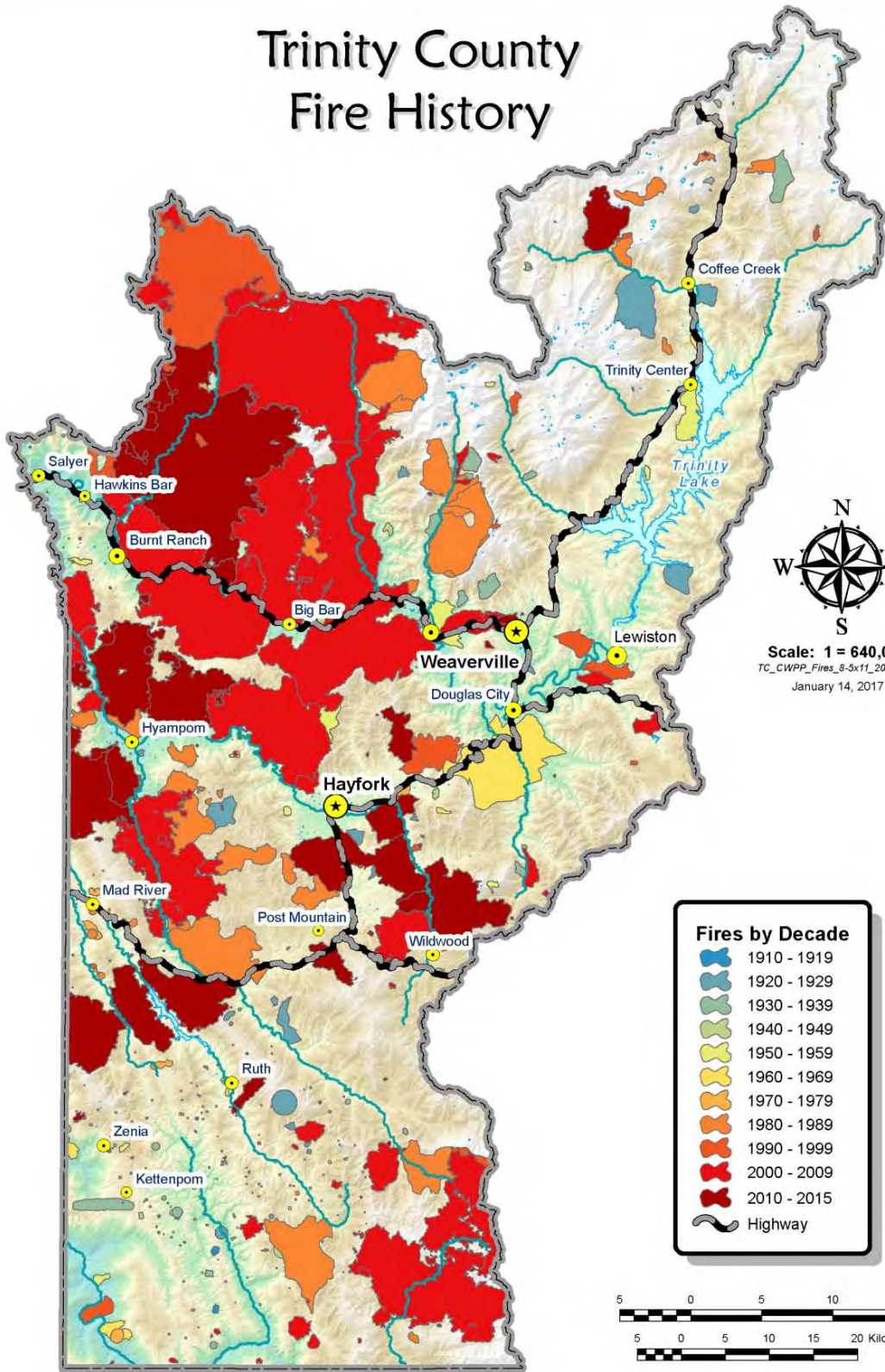
In mid-1998, the County Board of Supervisors’ Natural Resources Advisory Council appointed a sub-committee to address the issue of fire. This initiated the Trinity County Fire Safe Council (FSC) that has met on average monthly since then. The FSC includes representatives, who have all signed a Memorandum of Understanding (MOU) to cooperate on fire management planning, including local Volunteer Fire Departments (VFDs), Trinity County Resource Conservation District (TCRCD), Watershed Research and Training Center (WRTC), United States Forest Service (USFS), United States Bureau of Land Management (BLM), California Department of Forestry and Fire Protection (CAL FIRE), Safe Alternatives for the Environment (SAFE), Trinity County and others. This MOU has been renewed twice.

The FSC, a model of collaborative community participation promoted by CAL FIRE, has benefited from several ongoing efforts in the past 15 plus years. These efforts align with the goals of the National Wildfire Cohesive Strategy (Cohesive Strategy) to create and maintain 1) Resilient Landscapes, 2) Fire Adapted Communities, and 3) Safe and Effective Wildfire Response. Interagency / inter-organizational coordination and community participation have played a key role in implementing these three goals by the FSC. Some of the early efforts of the FSC include coordinated fuels reduction and fuelbreak construction projects on private and public lands. Some of these projects include pioneering efforts to make thinning from below for fuels reduction pay for itself through utilization of small diameter wood in manufactured wood products (*CWPP Update 2010*). The 2010 CWPP update, through extensive coordination between partners and the public, helped to identify priority fuels reduction and community protection projects throughout the county. Through this effort coordinated, funding for and implementation of fuels reduction and forest demonstration projects have occurred on both private and public land. These projects utilize local crews from WRTC, TCRCD, CAL FIRE,

BLM, USFS, Volunteer Fire Departments, and landowners resulting in an increased capacity to complete this type of work.

In the past 10 years the FSC has worked locally, regionally, and nationally on community wildfire protection issues. The FSC has continued to coordinate and share resources for fundraising, training, project implementation, and more. In particular, the FSC has taken an “All-Lands” approach to our fire and fuels issue. Through this “All-Lands” approach, supported by the Cohesive Strategy, the FSC has developed and implemented projects that span multiple ownerships, both private and public at the landscape level. In addition, the FSC has supported and implemented thousands of acres of manual and mechanical fuels reduction and forest health projects. Further, in the last 5 years through coordination of several partners, including CAL FIRE, BLM, USFS, WRTC, TCRCD, and several VFD’s, prescribed fire projects have been implemented within the WUI. In addition, the FSC has built their capacity, through coordinated trainings and experiential learning, to implement complex prescribed burns and a variety of restoration projects at the landscape level.

# Trinity County Fire History





### **III. Resources**

#### **Natural Resources**

Natural resource assets include watersheds, forests and woodlands (both public and private), fisheries and wildlife resources and soils. Natural resources are highly valued by residents of the CWPP planning area for their contribution to the local economy, quality of life, and as an asset that attracts tourism-related economic activity. As described in Section II, fire is an integral part of the natural environment, but when it occurs under changed conditions (i.e. extreme weather, increase in stand density and/or unusually dense fuel loading) it can destroy natural assets. In a landscape where fire continues to be the dominant form of forest disturbance, the most effective way to minimize negative impacts of catastrophic fire on natural resources and ecosystems “is to protect the evolutionary capacity of these systems to respond to disturbance” (Gresswell, 1999), which means allowing fire to once again play its role in the ecosystem.

#### **Agricultural and Timber Resources**

Agricultural resources include rangelands, timberlands (both public and private), and cultivated farmlands. They are an important element of the planning area identity and economy. High-intensity wildland fire can remove timberland and rangeland from production and necessitate lengthy restoration programs. For example, in cattle ranches wildfire can quickly sweep through large areas of grassland, potentially damaging grazing habitat for the season. However, the same grasslands also benefit from wildfire as new growth and essential nutrient recycling resulting from a wildfire replenishes the burned-over area. Further, timber yield is improved by prudent use of prescribed fire (e.g. in site preparation, landing piles, slash disposal and broadcast burns). In addition to timber yields, other ecosystem services are also benefited.

Agricultural lands that are managed for food crops are not at great risk from wildfire because of the heavy management that takes place there. However, fruit and nut tree orchards could sustain damage from direct flame contact or even the heat of a wildfire. Although the understory vegetation tends to be eliminated in orchards, making it very difficult for a fire to move through, the heat of a fire could damage trees, plants and other critical infrastructure that is used in such agricultural operations.

#### **Air Resources**

Smoke generated by wildfire is comprised of visible and invisible emissions that contain particulate matter (soot, tar, water vapor, minerals), gases (carbon monoxide, carbon dioxide, nitrogen oxides) and toxics (formaldehyde, benzene). Emissions from wildfire depend on the type of fuel, moisture content of fuels, efficiency (or temperature) of combustion, and weather. Public health impacts associated with wildfire include difficulty in breathing, odor, and reduction in visibility.

Trinity County is located in the North Coast Air Basin. The North Coast Air Basin is comprised of three air districts, the North Coast Unified Air Quality Management District (AQMD), Mendocino County AQMD, and the Northern Sonoma County APCD (North Coast Unified Air Quality Management District, n.d.).

The North Coast Unified Air Quality District continuously monitors airborne particulates within Trinity County. The low population density and limited number of industrial and agricultural installations all contribute to Trinity County's generally good air quality. However, the entire North Coast Air Basin is currently designated as nonattainment for the State 24-hour PM<sub>10</sub> standard for particulate matter, which is the class of air pollution of primary concern. Prescribed fires and with "an ever-increasing level of concern, catastrophic wildfires" being primary sources for particulate matter (Trinity County Planning Department, 2014).

Air quality impacts due to fire emissions are effected more by weather patterns than by quantities of fuel consumed. The CWPP planning area is prone to temperature inversions, which occur when a layer of warm air traps cool air near the surface and creates a lid that inhibits the vertical dispersion of smoke and other pollutants. The Megram Fire (Big Bar Complex Fire) in 1999 resulted in the first air quality related state of emergency in California history, causing officials to close schools and encourage residents to leave the area. Those who remained in the affected area were encouraged to stay indoors. Since then, the 2008 and 2015 fires have smoked out parts of the county for weeks in the summer, resulting in the cancellation of the 2015 Trinity County Fair.

Climate change is affecting fire severity, frequency and behavior. In addition, climate change is leading to longer fire seasons due to warmer and more extreme fire regimes (Westerling et al., 2006, Whitlock, 2004, Scholze et al., 2006). The reduced moisture content of drought-stressed vegetation increases flammability over a longer period of the year, resulting in an active burning period that starts earlier and last longer (Trinity County Planning Department, 2014). The 2014 Safety Element of the Trinity County General Plan estimates the area burned by wildland fires in Northern California will increase by at least 100 percent. This has proven adverse effects on air quality especially during summer and fall. However, unlike prescribed burning, in which burn managers pay mitigation fees for emissions that may be produced, the smoke produced by wildfires, even under human-caused, altered fire regimes, are not managed (accounted for) by the AQMD. Green house gas (GHG) release associated with prescribed burning does not compare to, and in fact, may reduce GHG release during a catastrophic wildland fire, resulting in a cleaner and healthier air basin.

Alternative methods of non-combustible fuels reduction, like mastication and chipping as fuel-powered forms of treatment, have relatively minor releases of GHG from their engines. However, mastication and chipping are not feasible in the majority of the planning area. Research at the Teakettle Experimental Forest in the southern Sierra shows that thinning alone without fire produces more CO<sub>2</sub> from associated decomposition from fungi and bacteria (respiration) over time than CO<sub>2</sub> output from thinning followed by prescribed fire, or burning alone (Ma et al., 2004).

### **Invasive Species**

Another threat to community fire safety are invasive and exotic species (Dombeck et al., 2004). The introduction of exotic plants has altered plant communities, subsequent fuel types, and fire regimes (Brooks et al., 2004). Himalayan blackberries (*Rubus armeniacus*) and other non-native plants such as yellow starthistle (*Centaurea solstitialis*), Scotch broom (*Cytisus scoparius*), and

spotted knapweed (*Centaurea maculosa*) can establish and quickly colonize disturbed or severely burned areas. The young regrowth of Himalayan blackberry with higher fuel moisture content can retard fire spread, but old patches with dead canes and foliage may cause higher intensities. Exotic grasses cure earlier in the summer fire season and increase finer flashy fuels across the landscape. Star thistle and Scotch broom can increase flammability and dominate areas following fires. Season and frequency of burns can either increase or decrease presence and abundance of exotic invasive species. As a result of suppression efforts, the establishment, abundance and spread of invasive plants has been promoted in forest land, which due to limited travel routes and steep terrain, had no invasive plant occurrences prior to the fires. Exotic pathogens, such as *Phytophthora lateralis* (Port Orford-cedar root rot) and *Phytophthora ramorum* (sudden oak death) present the greatest threat to modifying vegetation community composition and structure possibly resulting in an increase in fuel load and wildland fire danger.

### **Cultural Resources**

Culturally sensitive areas are sites and regions of special importance to Native Americans. These areas can include, but are not limited to, burial sites, village sites, gathering areas, and travel routes. Many acres within the planning area are designated as culturally sensitive, with notable concentrations along the Trinity River and its many tributaries. Many artifacts and structures are at risk to incidents of high-intensity wildfire; which also poses a threat to oak woodlands that provide acorn-gathering sites. At the same time, low-intensity fire can clean an area of litter and ground fuel, reducing insect damage to mast crops, enhancing grassland sites for basket making materials, and ceremonial gathering places free from conifer encroachment. In addition, frequent low-intensity fire can improve yields and help with regeneration of oak trees, hazel, elderberry and huckleberry for nut and berry gathering.

Post-settlement assets (historical) are abundant within the county as well. The California Gold Rush of the late 1850's contributed greatly to the kind and number of historical assets that are found within the county. Water ditches, can dumps, homesteads, and other mining-era artifacts can be found throughout much of the county. High-intensity fire poses a threat to these assets as well as historic downtown areas and valued historical buildings (such as barns, schools, and churches).

## IV. The Update Process

The purpose of the original planning effort (1999 -2001) was to initiate a coordinated fire management planning process in which the residents of Trinity County were involved from the beginning. The 2015 CWPP update process has honored that original purpose. In order to address this purpose, all available spatial data pertinent to fire in Trinity County including maps, aerial photos and Geographic Information Systems data layers were collected into a local data library. Then, in cooperation with the FSC and the local Volunteer Fire Departments, residents throughout the county were invited to a series of public meetings. At the public meetings participants shared their experiences and knowledge regarding site-specific data for emergency response; identified primary values at risk from wildfire at the local level; made location-specific recommendations for pre-fire treatment projects and assisted in the development of Wildland Urban Interface boundaries for their communities.

### Fire Safe Council Evaluation

A Fire Safe Council 2010 CWPP evaluation meeting was held on January 28, 2016 at the Trinity County RCD. Fire Safe Council members evaluated the 2010 CWPP and ranked the success of the current CWPP update. The following evaluation criteria scored 4.5 out of a maximum score of 5.

<b>Evaluation Criteria</b>	<b>Rank</b>
Federal agency involvement in development of the CWPP	4.5
The CWPP is a multi-jurisdictional plan	4.5
Prescribed fire treatment method needs to be addressed better in 2015 CWPP	4.5
Public Understanding/Knowledge of the issues has increased	4.5
2015 update should follow previous CWPP plan for community input	4.5

### Agency Planning Meeting

A special CWPP agency planning meeting was held on July 28, 2016, at the Weaverville Fire Department. Various agencies representatives, local organizations that play an integral role in community wildfire protection, and groups participating in the Fire Safe Council such as the US Forest Service, CAL FIRE, Bureau of Land Management, Natural Resources Conservation Service, county planners, county officials, and volunteer fire chiefs participated in the process. Participation was crucial to insuring that the CWPP update process would be effective and result in a plan that would successfully encompass the full range of potential uses and ensure that the CWPP continues to be a useful planning tool. At this meeting feedback and information was gathered on how the CWPP has been used, what updates would be useful in future planning, and ways to improve the availability and access to the CWPP for community planning, USFS project planning, incident management teams, grant applications, and for CAL FIRE and private landowners.

## Data Collection

A data collection process began immediately to update as much information relevant to fire management in the Trinity County landscape as possible from all available sources including state and federal agencies. This involved collecting all the most current Geographical Information System (GIS) layers including updates to infrastructure, recent management activity on public lands and implemented projects on private lands. Among other sources, data were drawn from the USFS, USGS, CAL FIRE, WRTC and TCRCD archives. There has been a high degree of continued cooperation in data sharing throughout the process. Compiled data can be accessed and downloaded at [www.tcrd.net/fsc](http://www.tcrd.net/fsc) and are also available on CD ROM. For information on obtaining a CD ROM, contact the TCRCD.

## Community Input Meetings

Using the 2010 update process as a template for the 2015 community meetings, maps were produced from the collected GIS data layers to use as a basis for working with community members in a series of meetings beginning during the winter of 2015. Community meetings were hosted by the local Volunteer Fire Departments throughout the original 5 Trinity County Fire-Safe Divisions (Down River, Middle Trinity, North Lake, South Fork and South County). Project organizers sought to work with as many members of the Trinity County communities and agencies as possible to gather pertinent information. The process proceeded in several phases according to the type of information concerned.

Publicity to encourage broad participation was crucial. The meetings were publicized in the local newspaper, on social media and through several press releases about the fire planning process (TCRCD archives).

At the community meetings, organizers sought to accomplish the following goals:

1. Discuss the history and purpose of the CWPP and describe the update process to community members.
2. Raise local awareness about fire hazards and risks.
3. Identify values at risk:

Participants worked across maps of the local area as systematically as possible to gather information from residents about wildfire hazards, resources at risk, potential hazard reduction projects and infrastructure needs. Participants noted locations of such features as housing developments, favored campgrounds, creeks supplying drinking water, power supply lines, stands of old growth forest or endangered species habitat. Once an initial list of all values had been compiled, the values were consolidated into project areas to link them into the surrounding terrain and facilitate the process of recommending treatments. For example, there could be a whole series of values at risk in and around a particular housing development. The development and its immediate surroundings became one project area that might later have several recommended activities associated with it.

4. Identify and locate on the maps recommendations for landscape vegetation treatments to protect values at risk:

After project areas had been identified, recommendations for treatments to protect these values at risk were made for each area. Recommendations might include fuels reduction work (thinning from below, ladder fuels reduction, controlled burning) or shaded

fuelbreak construction. In some cases, as when an historic cabin is situated in a remote location, it was recognized that protection would not likely be feasible.

5. Raise awareness and knowledge about Wildland Urban Interfaces (WUI).

At each community meeting an overview of the Fire Safe effort was presented; then participants reviewed maps of the local terrain developed from the GIS. Participants added missing information by marking reference points on the maps and explaining issues of concern to organizers who recorded the information. Typical data gathered included water sources, inadequate bridges, road maintenance needs, and locked gates. After each meeting the new data was entered into the GIS database and maps were produced reflecting the new input.

# Trinity County CWPP Divisions



## Wildland Urban Interface (WUI)

The 2010 update developed a Wildland Urban Interface (WUI) base map that is still current for the 2015 update. Below, each agency used the following description to determine their WUI boundary:

### BLM

BLM defined their Wildland/Urban Interface (WUI) areas using housing density. The areas they developed are those falling within the Redding Field Office area of responsibility as follows:

- Primary WUI areas – 0.5-mile buffer of housing density layer.
- Secondary WUI areas – 1.5-mile buffer of housing density layer.

The housing density layer was created using Urban/Rural Areas based on Census Block data from 2000 US Census. Rural is less than 20 Housing Units per acre. Urban is greater than or equal to 20 Housing Units per acre.

### USFS

#### Shasta-Trinity National Forest

Using GIS, the Shasta-Trinity National Forest developed their WUI which created four zones, using the following methodology:

- Improvement Zone (Zone 1):
  - Plotted currently known structures
- Reduced Fuel Zone (Zone 2):
  - Create a 100-foot buffer around each structure which aligns with PRC 4291
- Defense Zone (Zone 3):
  - Create 0.25 mile buffer around each structure
- Threat Zone (Zone 4):
  - Create 1.5 mile buffer around each structure. The Districts were then asked to either extend or reduced the 1.5 mile buffer to a place on the map that made sense (regarding fire movement, topography, weather, suppression areas such as roads, rivers and ridges, etc.).

### CAL FIRE

Utilizing a Geographic Information System (GIS) approach, CAL FIRE used three main components in the assessment of threat from wildland fire to Wildland-Urban Interface areas:

- Ranking fuel hazard.
- Assessing the probability of wildland fire.
- Defining areas of suitable housing density that lead to Wildland-Urban Interface fire protection strategy situations.

These three independent components were then combined using GIS to identify wildland interface areas threatened by wildfire. In addition to mapping these areas, a list of communities was developed that summarized a non-spatial assessment of key areas within the vicinity of significant threat from wildland fire. A subset of that list was made that includes those communities that have a significant fire threat from nearby federal lands. A buffer distance of 1.5



miles was used in the analysis to define “nearby” federal lands. More information regarding this approach is available at [http://frap.fire.ca.gov/projects/wui/525\\_CA\\_wui\\_analysis.pdf](http://frap.fire.ca.gov/projects/wui/525_CA_wui_analysis.pdf).

### **Trinity County Methodology**

The three agency-developed WUI boundaries were combined using the outer most reaches of each. These maps were presented to the communities for adaptation according to local community knowledge. Community members expanded and reduced the draft WUI boundaries to incorporate the following:

- Geography (used major ridges and roads as boundary lines)
- Climate conditions
- Weather patterns
- Local areas of concern such as watersheds that provide municipal water sources
- Ingress/egress (communities decided to include a buffer around major arterial roads because in many areas the major roads are the only ingress and egress available. The definition of *major arterial* roads as defined by the Trinity County Road Department was used.)

The WUI boundary information gathered at community meetings was digitized into a GIS database and refined WUI boundary maps were created for review during the revision and review/comment period.

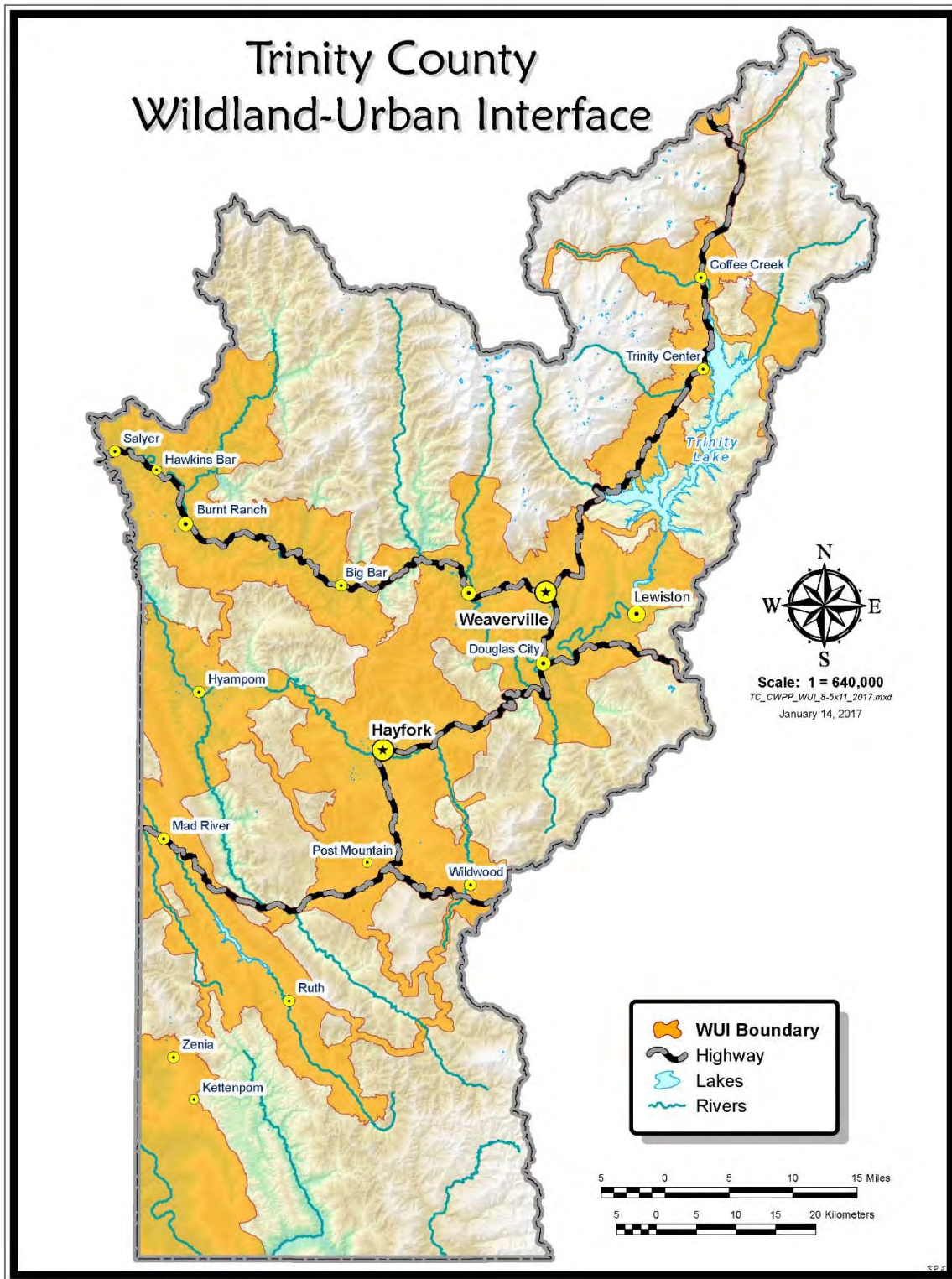
### **WUI Caveats**

- The WUI boundary as defined by the community is to be used for assistance in planning for forest health related projects and fire safe activities.
- The WUI boundary is based on current conditions and land use and should be updated as needed, using community input and the most current science.
- The boundary is not intended to be used for community planning such as zoning, building codes and subdivision requests.
- The boundary is not intended to be used by insurance agencies as a means for determining rates.
- Embedded in the boundary is the concept of 4 different zones as defined by Jack Cohen’s work with an emphasis on the first 0.25 miles.
- These zones are based on infrastructure densities as described in a variety of papers and other recent CWPPs. These will be included in the literature cited.
- The boundaries take advantage of topographic features and include community water sources identified by communities.
- The purpose of the WUI is to help guide identification of fuels reduction/forest health projects, their design and prioritization, recognizing that there always will be more work to do than available funding.
- The WUI boundary needs to be “elastic” with periodic reviews and updates (a 5-year interval was recommended).
- The WUI boundary is simply a spatially explicit tool to help visualize potential strategies for reducing wildfire risk to communities and to track progress in meeting the goals of the CWPP.

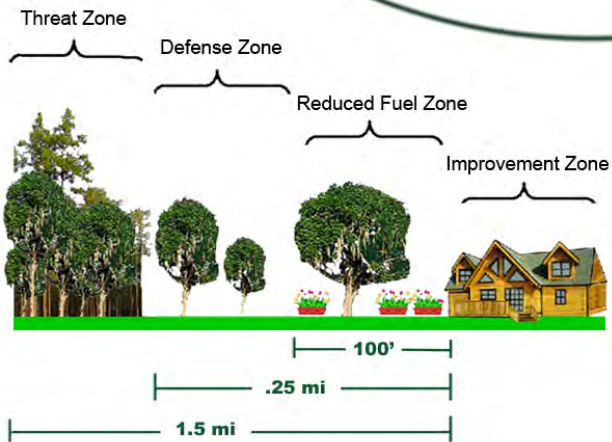
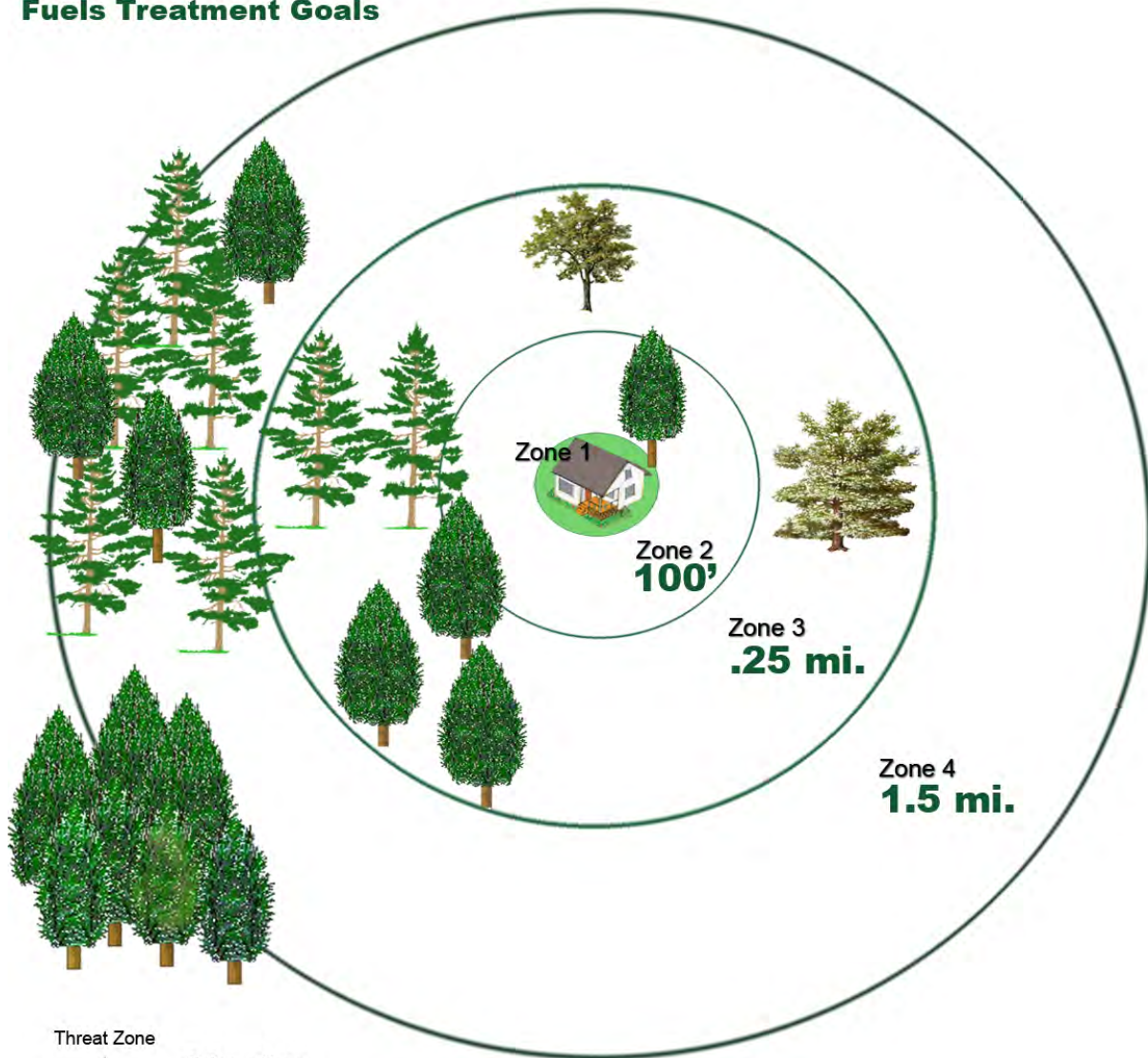
The following description is important to keep in mind with discussing the WUI boundary:

The Wildland Urban Interface (WUI) is a general term derived from the Healthy Forest Restoration Act (HFRA) to describe the area where homes and wildland meet. The Federal Register (Region 5, January 4, 2001, Vol. 66, No.3, Pp. 751-754) defines the WUI as the “line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel.” The WUI boundaries established in this Trinity County CWPP update were developed to help prioritize project planning and funding for pre-fire (prevention) projects to help aid in protecting communities at risk for wildfire. These boundaries and the progress in implementing priority projects will be reviewed regularly, and no less frequently than every 5 years, and the WUI boundaries amended as needed to reflect changes in conditions (e.g. new land development, recent wildfires, and new infrastructure such as community water systems).

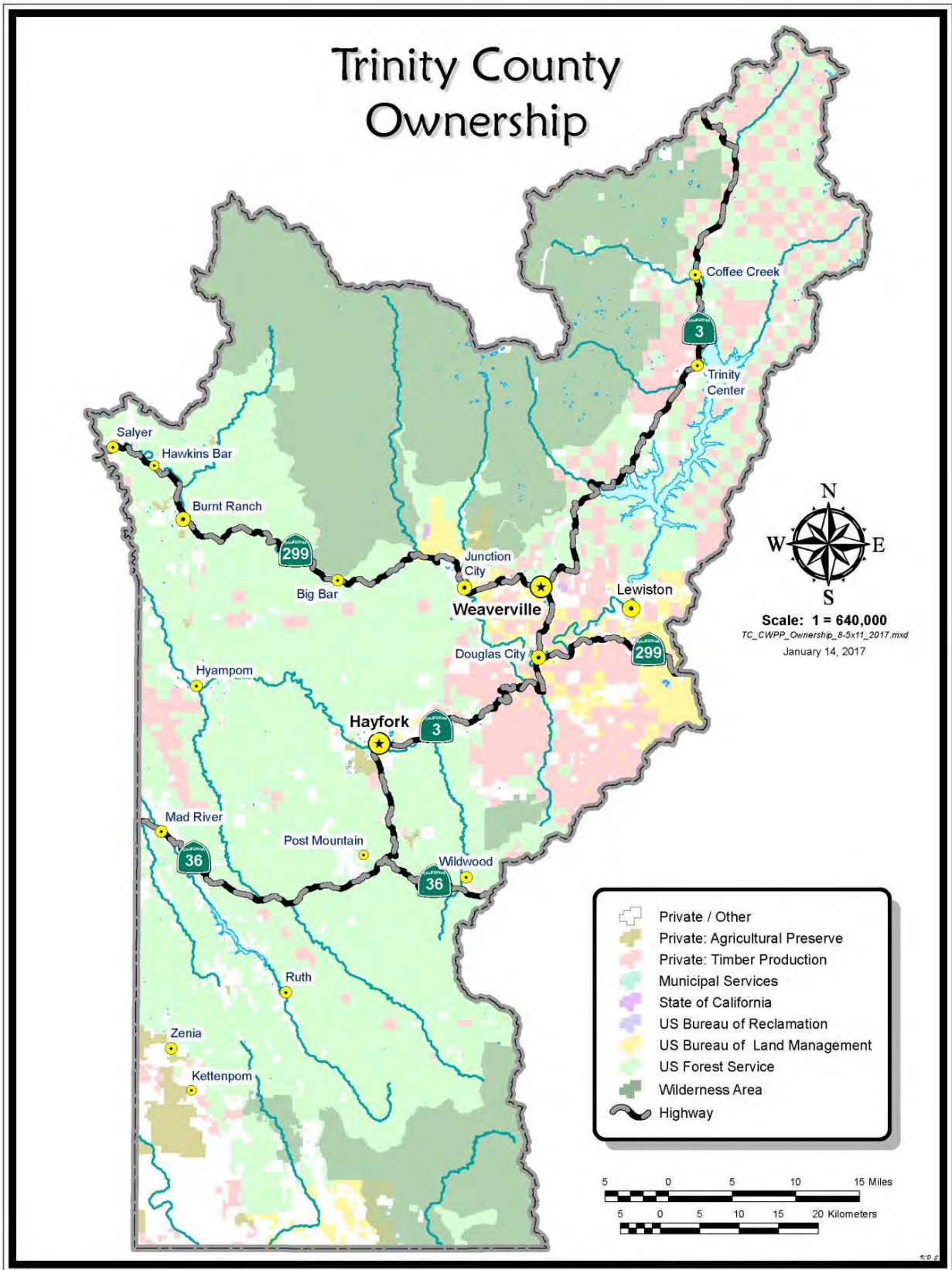
# Trinity County Wildland-Urban Interface



## Wildland Urban Interface Zones Fuels Treatment Goals



1. Improvement Zone  
goal - Fire Resistant Structures / Improvements
2. Reduced Fuels Zone 100'  
goal - Flame Length <2' w/ no crown fire
3. Defense Zone .25 mi.  
goal - Flame Length <4' limit crown fire potential
4. Threat Zone 1.5 mi.  
goal - Flame Length <8' bring crown fires to ground



## Project Prioritization

Using the methodology developed for the 2010 update, it was decided that the ranking of projects using key factors important to both community members and those involved with fire suppression would give a general ranking system sufficient for this broad level of planning. The two factors used are relationship to the Wildland Urban Interface and relationship to a previous wildland fire. The Wildland Urban Interface was chosen because projects with closer proximity to communities will benefit those communities more closely. Areas that have experienced previous fire may have a higher resistance to control and need consideration to reduce fuels and the effect of a wildland fire, especially if not treated for the 5 years immediately following a fire.

Projects were analyzed and given points ranging from 1 to 4 depending on their relative position to the WUI and previous wildland burn areas. If a project is completely within the WUI it receives a (4) *Four*, and similarly if a project is completely within a previous wildland burn area it receives a (4) *Four*. A project that has more than 50% of its boundary within either of the two categories is given a (3) *Three*, while a project with less than 50% of the boundary within either of the two categories, is given a (2) *Two*. These two numbers were then multiplied together to give a total ranking. The reason for multiplying rather than adding is to give more of a spread and variation in ranking.

## Next Steps

The data gathered in community meetings remain to be ground-truthed through on-site visits. If there is interest, additional community meetings may be held through Trinity County VFDs.

## V. Results - Summaries and Recommendations

For the 2015 CWPP update, community meetings were held in Willow Creek and Big Bar for the Down River Division; in Trinity Center for the North Lake Division; in Weaverville, Lewiston, Junction City and Douglas City for the Middle-Trinity Division; in Zenia/Kettenpom and Van Duzen for the South County Division; and in Hayfork, Post Mountain and Hyampom for the South Fork Division.

The purpose of the community meetings was to:

- Provide educational information to residents about living in a wildfire environment;
- Explain the Community Wildfire Protection Plan (CWPP) process; and
- Gather information about wildfire hazards, resources at risk, fire protection resources, and potential hazard reduction projects.

The intended outcomes were:

- The identification of local concerns and hazard mitigation projects on maps that could be used for capturing future project implementation funding;
- A basic understanding of fire safety and defensible space so that residents would be equipped to implement these concepts on their property and throughout their community;
- A basic understanding of local fire protection services available in each community; and
- Broad-based community participation in the CWPP process.

The results from the community meetings are summarized in this section. For each meeting the values at risk and activities proposed to protect these values are presented. A table displaying the ranking of proposed projects by category follows.

Several general recommendations emerged from the meetings that are relevant to the county as a whole. These additional recommendations for Fire Safe activities are also discussed.

A substantial amount of fire planning information was gathered at these workshops. The community identified fire planning features such as areas proposed for fuels reduction treatment. Protection resources were digitized into a GIS database.

During the 2010 CWPP update process, a second set of workshops were held bringing community members back together to review the GIS maps generated from community input at the first workshop. Due to the stable WUI boundaries and the limited amount of new projects updated to the maps, a second set of community workshops were not held during the 2015 CWPP update process.

## Down River Division

The Down River community meetings were held in

Willow Creek, Willow Creek Fire Safe Council, Community Service District

Big Bar, Down River Fire Hall



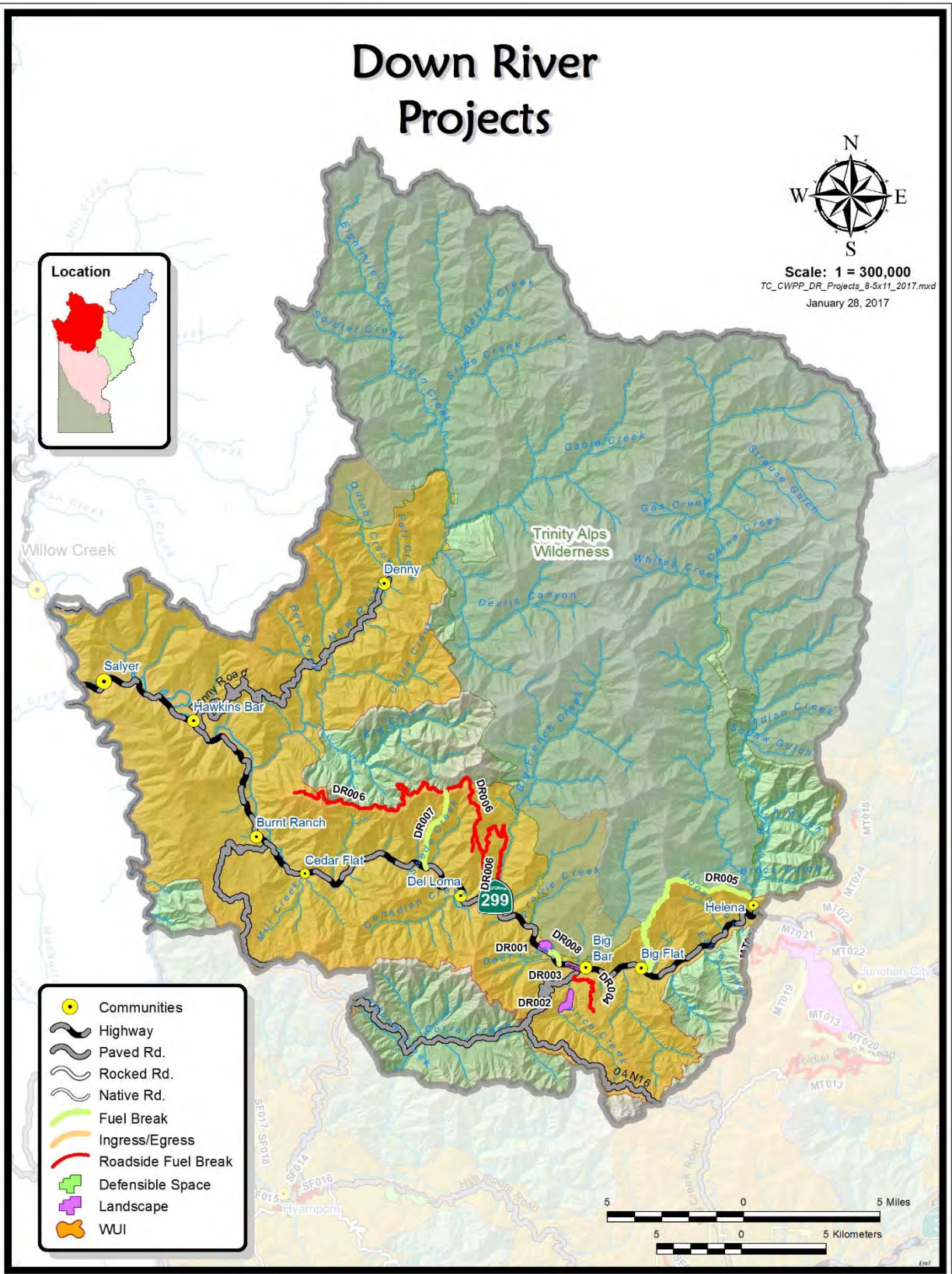
Down River Community Meeting



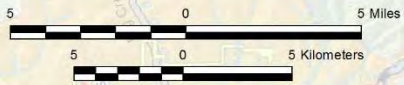
# Down River Projects



Scale: 1 = 300,000  
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 January 28, 2017



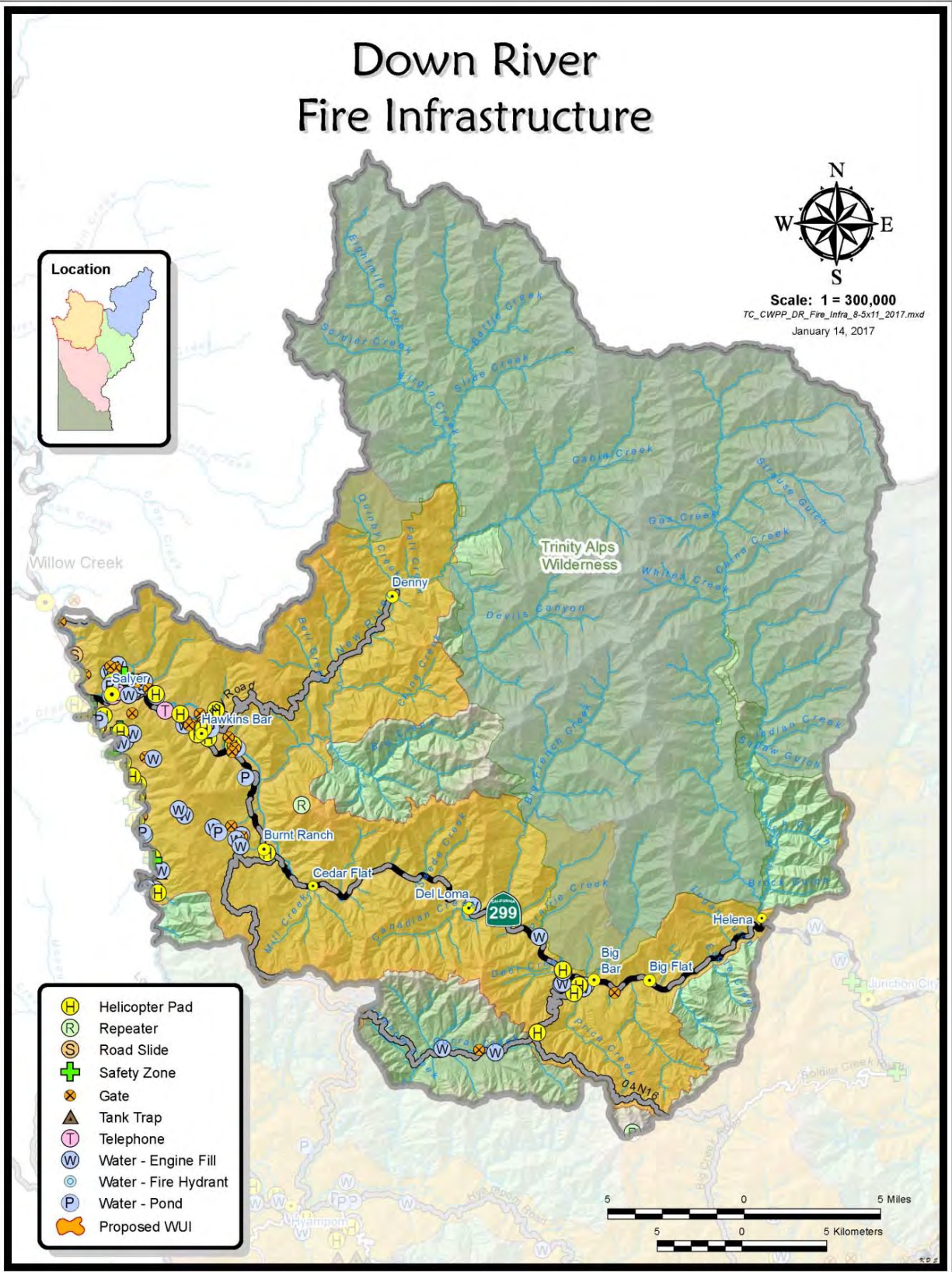
- Communities
- Highway
- Paved Rd.
- Rocked Rd.
- Native Rd.
- Fuel Break
- Ingress/Egress
- Roadside Fuel Break
- Defensible Space
- Landscape
- WUI



**Down River Projects** –Ranked based on their relationship to a previous burn and the Wildland Urban Interface (WUI) (See page 34)

<b>RANK</b>	<b>Community</b>	<b>Project Type</b>	<b>Project Name</b>	<b>Project ID</b>	<b>Comment</b>	<b>Previous Burn Score</b>	<b>WUI Score</b>	<b>Ownership</b>
16	Big Bar	Landscape		DR001	Lots of fire kill along fire line around Big Bar	4	4	US Forest Service
16	Big Bar	Landscape		DR002	Severe fire kill in Price cr drainage	4	4	US Forest Service
16	Big Bar	Fuelbreak		DR005	Strategic Fuelbreak used in 2006, 2008, etc.	4	4	US Forest Service
16	Del Loma	Roadside Fuelbreak		DR006	300' Fuelbreak needed due to steep slopes	4	4	US Forest Service
16	Del Loma	Fuelbreak		DR007	Old Fuelbreak	4	4	US Forest Service
16	Big Bar	Fuelbreak		DR008	Old fire line	4	4	US Forest Service
8	Big Bar	Landscape		DR003	Very grassy, brushy	2	4	Private
8	Big Bar	Roadside Fuelbreak		DR004	Roadside Fuelbreak	2	4	Private

# Down River Fire Infrastructure



## **Middle Trinity Division**

The Middle Trinity community meetings were held in

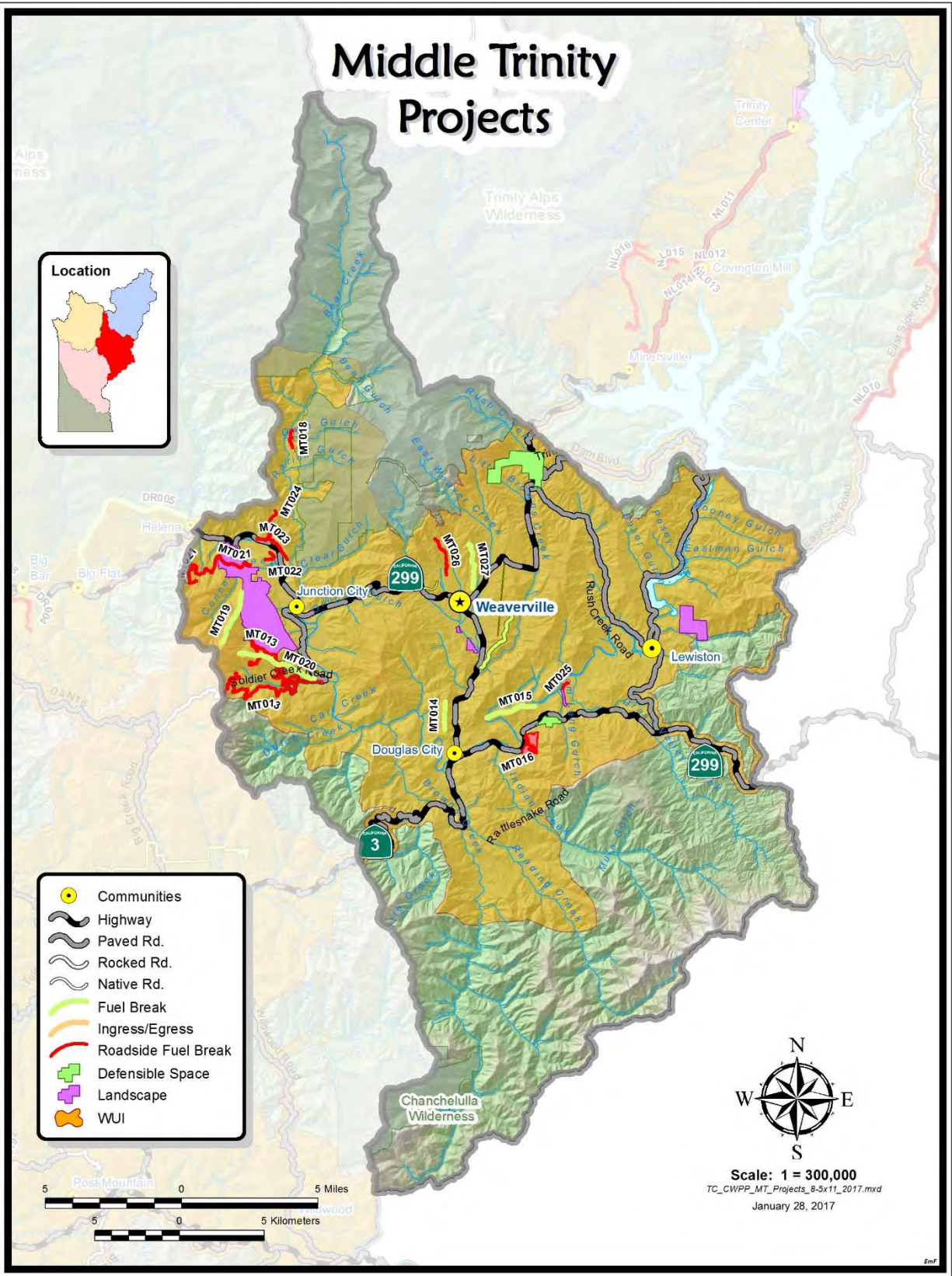
Weaverville, Weaverville VFD Fire Hall

Junction City, Junction City Fire Hall

Douglas City, Douglas City Fire Hall

Lewiston, Lewiston Community Center

# Middle Trinity Projects



**Middle Trinity Projects** –Ranked based on their relationship to a previous burn and the Wildland Urban Interface (WUI) (See page 34)

<b>RANK</b>	<b>Community</b>	<b>Project Type</b>	<b>Project Name</b>	<b>Project ID</b>	<b>Comment</b>	<b>Previous Burn Score</b>	<b>WUI Score</b>	<b>Ownership</b>
16	Weaverville	Fuelbreak		MT012	Fuelbreak - stopped fire in 2006	4	4	US Forest Service
16	Junction City	Fuelbreak		MT019	Maintain prior dozer line	4	4	US Forest Service
12	Junction City	Landscape		MT003	Reduce fuels, burn, re-establish suppression lines	3	4	US Forest Service
12	Junction City	Roadside Fuelbreak		MT018	Road side thinning - both sides	3	4	US Forest Service
12	Junction City	Roadside Fuelbreak		MT021	Maintain existing treatment area, expend	3	4	US Forest Service
8	Weaverville	Fuelbreak		MT011	Ridge top Fuelbreak	2	4	Private: Timber Production
8	Junction City	Roadside Fuelbreak		MT013	Access to important ridges used in 2008	2	4	US Forest Service
8	Junction City	Fuelbreak		MT020	Ridge top Fuelbreak	2	4	US Forest Service
8	Junction City	Roadside Fuelbreak		MT023	Brush needs clearing	2	4	US Bureau of Land Management

<b>RANK</b>	<b>Community</b>	<b>Project Type</b>	<b>Project Name</b>	<b>Project ID</b>	<b>Comment</b>	<b>Previous Burn Score</b>	<b>WUI Score</b>	<b>Ownership</b>
8	Weaverville	Roadside Fuelbreak		MT026	Shaded Fuelbreak	2	4	Private
8	Weaverville	Fuelbreak		MT027	Maintain Jackass Ridge Fuelbreak	2	4	US Forest Service
4	Douglas City	Roadside Fuelbreak		MT001	Vitzthum Phase II (Widen Road, Pull Outs, Fuels)	1	4	Private
4	Douglas City	Defensible Space		MT002	High Risk - VFD will not respond to fire	1	4	Private: Timber Production
4	Junction City	Landscape		MT004	Fuels reduction, large dead and down trees, brush	1	4	US Bureau of Land Management
4	Weaverville	Defensible Space		MT005	Fuels reduction, defensible space	1	4	US Forest Service
4	Lewiston	Landscape		MT006	Ridge top fuels reduction / brush thinning	1	4	US Bureau of Land Management
4	Weaverville	Landscape		MT008	Fuels reduction, timber sale, Rx fire	1	4	US Bureau of Land Management
4	Weaverville	Landscape		MT009	Fuels reduction, timber sale, Rx fire	1	4	Private: Timber Production

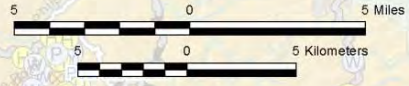
<b>RANK</b>	<b>Community</b>	<b>Project Type</b>	<b>Project Name</b>	<b>Project ID</b>	<b>Comment</b>	<b>Previous Burn Score</b>	<b>WUI Score</b>	<b>Ownership</b>
4	Weaverville	Fuelbreak		MT010	200 foot treated buffer zone	1	4	US Forest Service
4	Douglas City	Fuelbreak		MT014	Rx burn	1	4	Private: Timber Production
4	Douglas City	Fuelbreak		MT015	Rx burn to north	1	4	US Bureau of Land Management
4	Douglas City	Roadside Fuelbreak		MT016	Needs brushing	1	4	Private
4	Junction City	Roadside Fuelbreak		MT022	Shaded Fuelbreak on ingress / egress road	1	4	Private
4	Junction City	Roadside Fuelbreak		MT024	Fuelbreak off of old jeep trail	1	4	US Bureau of Land Management
4	Lewiston	Roadside Fuelbreak		MT025	Roadside Fuelbreak	1	4	Private
3	Lewiston	Landscape		MT007	Needs more landscape treatment	1	3	Private



# Middle Trinity Fire Infrastructure



- Helicopter Pad
- Repeater
- Road Slide
- Safety Zone
- Gate
- Tank Trap
- Telephone
- Water - Engine Fill
- Water - Fire Hydrant
- Water - Pond
- Proposed WUI



**Scale: 1 = 300,000**  
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 January 14, 2017

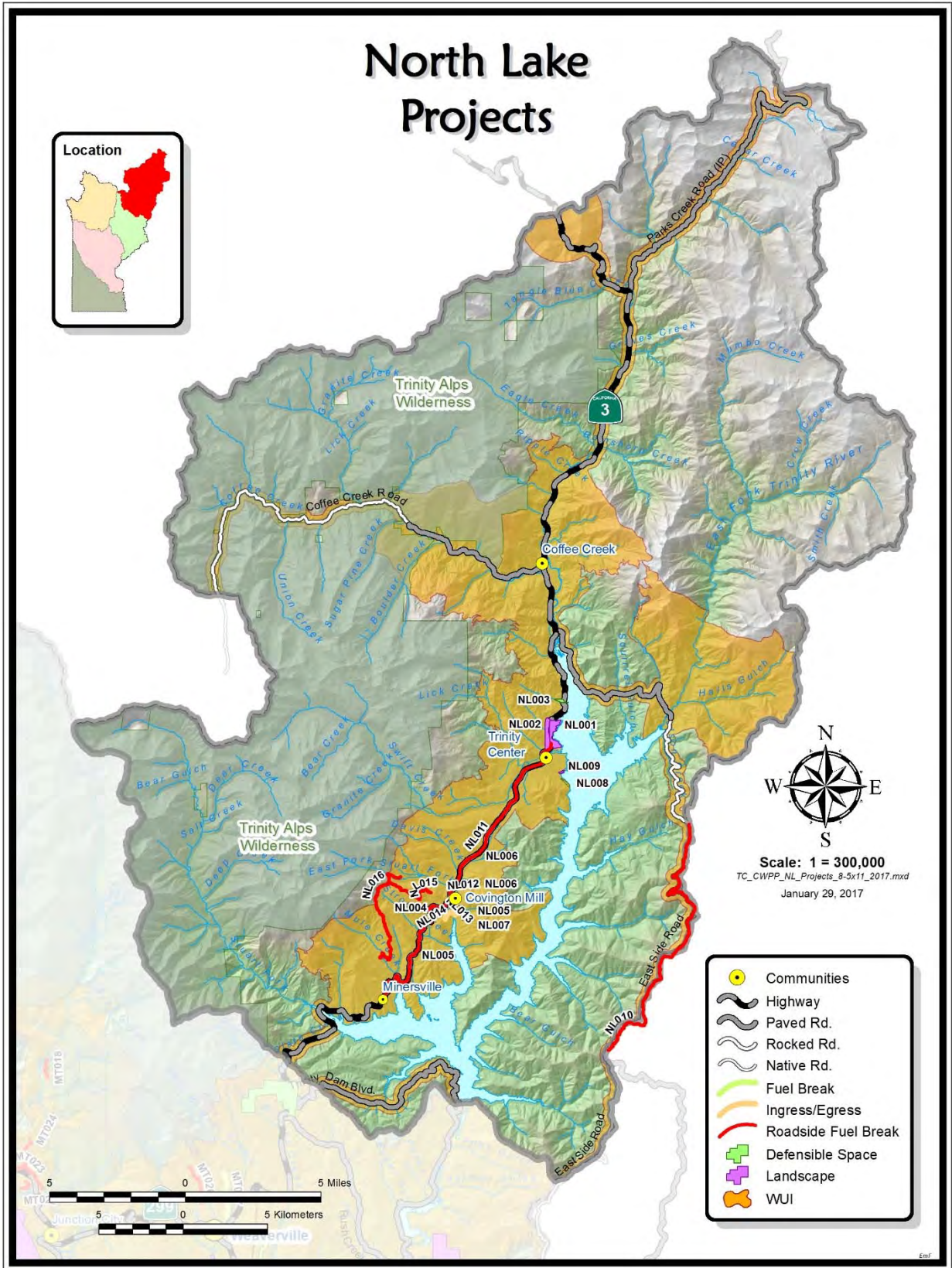
## North Lake Division

North Lake community meeting was held in  
Trinity Center, Trinity Center IOOF (Oddfellows) Hall



North Lake Community Meeting, Trinity Center IOOF Hall

# North Lake Projects

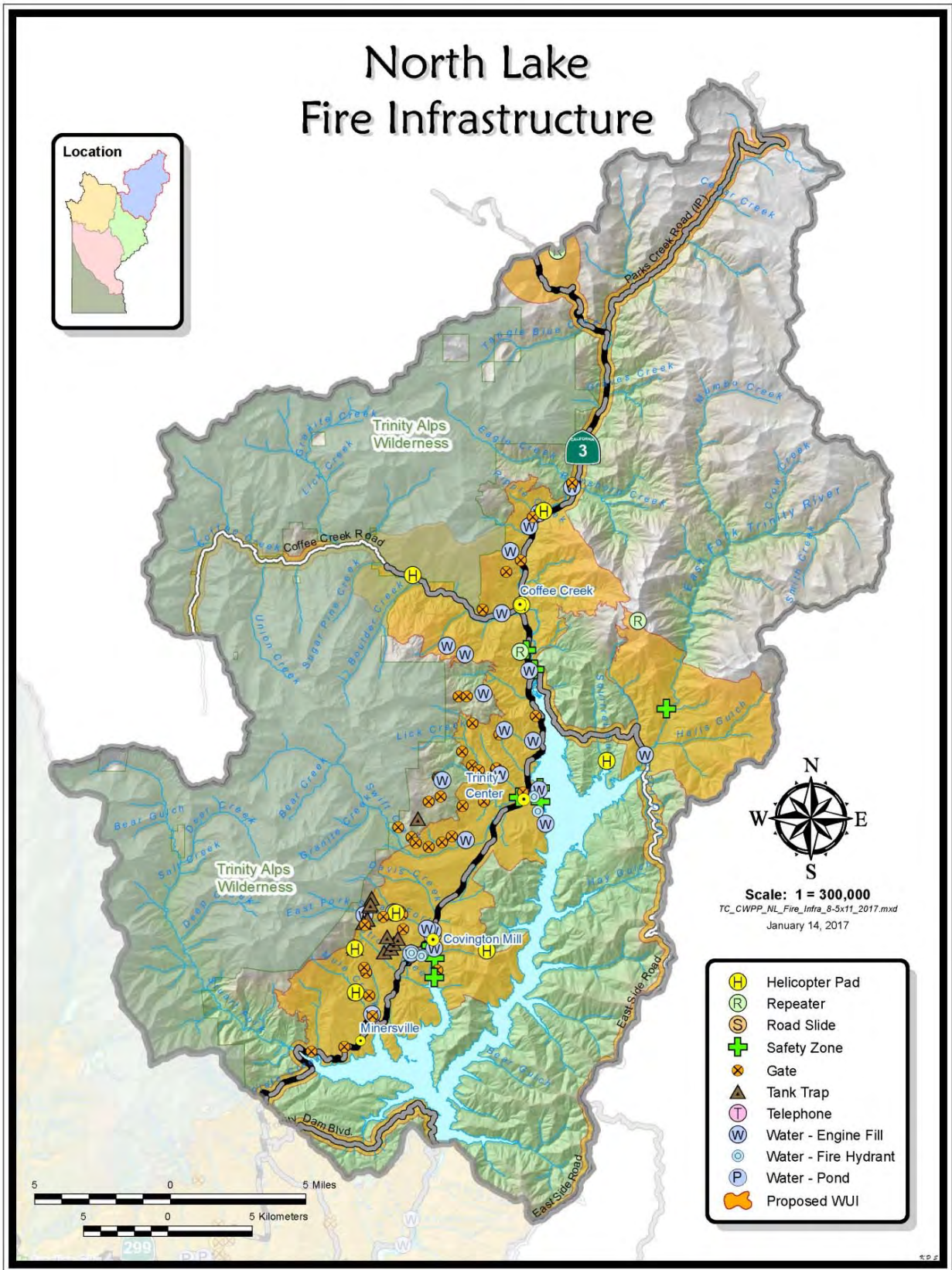


**North Lake Projects** –Ranked based on their relationship to a previous burn and the Wildland Urban Interface (WUI) See page 34

RANK	Community	Project Type	Project Name	Project ID	Comment	Previous Burn Score	WUI Score	Ownership
8	Trinity Center	Roadside Fuelbreak		NL011	Roadside Fuelbreak	2	4	US Forest Service
4	Trinity Center	Landscape		NL001	Needs maintenance	1	4	Municipal Services
4	Trinity Center	Landscape		NL002	Needs maintenance	1	4	Private: Timber Production
4	Trinity Center	Defensible Space		NL003	Manzanita needs thinning below house	1	4	US Forest Service
4	Covington Mill	Landscape		NL004	Fuels reduction (USFS) needs maintenance	1	4	Municipal Services
4	Covington Mill	Landscape		NL005	Fuels reduction (USFS) needs maintenance	1	4	Municipal Services
4	Covington Mill	Landscape		NL006	Fuels reduction (USFS) needs maintenance	1	4	State of California
4	Trinity Center	Fuelbreak		NL008	Fuelbreak - dense underbrush	1	4	US Forest Service

<b>RANK</b>	<b>Community</b>	<b>Project Type</b>	<b>Project Name</b>	<b>Project ID</b>	<b>Comment</b>	<b>Previous Burn Score</b>	<b>WUI Score</b>	<b>Ownership</b>
4	Trinity Center	Landscape		NL009	Fuels reduction - dense underbrush	1	4	US Forest Service
4	Trinity Center	Roadside Fuelbreak		NL012	Roadside Fuelbreak	1	4	State of California
4	Trinity Center	Ingress/Egress		NL013	Create escape route to hwy 3	1	4	State of California
4	Trinity Center	Ingress/Egress		NL014	Trail needs maintenance - overgrown	1	4	Private
4	Trinity Center	Roadside Fuelbreak		NL015	50' Fuelbreak on both sides of road	1	4	US Forest Service
4	Trinity Center	Roadside Fuelbreak		NL016	Roadside Fuelbreak needs maintenance	1	4	US Forest Service
3	Coffee Creek	Roadside Fuelbreak		NL010	East Side Project 2016 / 2017	1	3	US Forest Service

# North Lake Fire Infrastructure

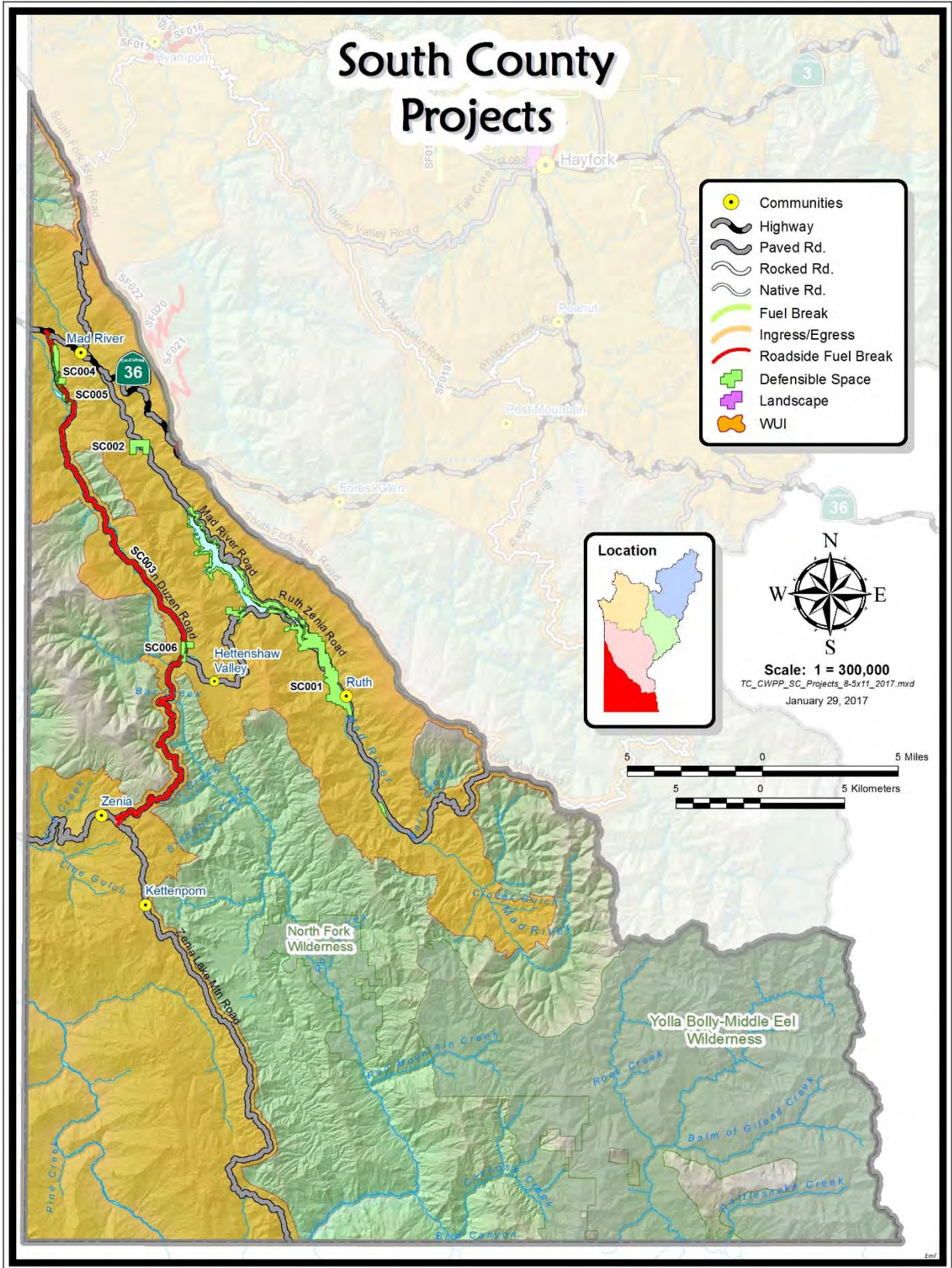


## **South County Division**

The South County meetings were held in

Van Duzen, Community Hall

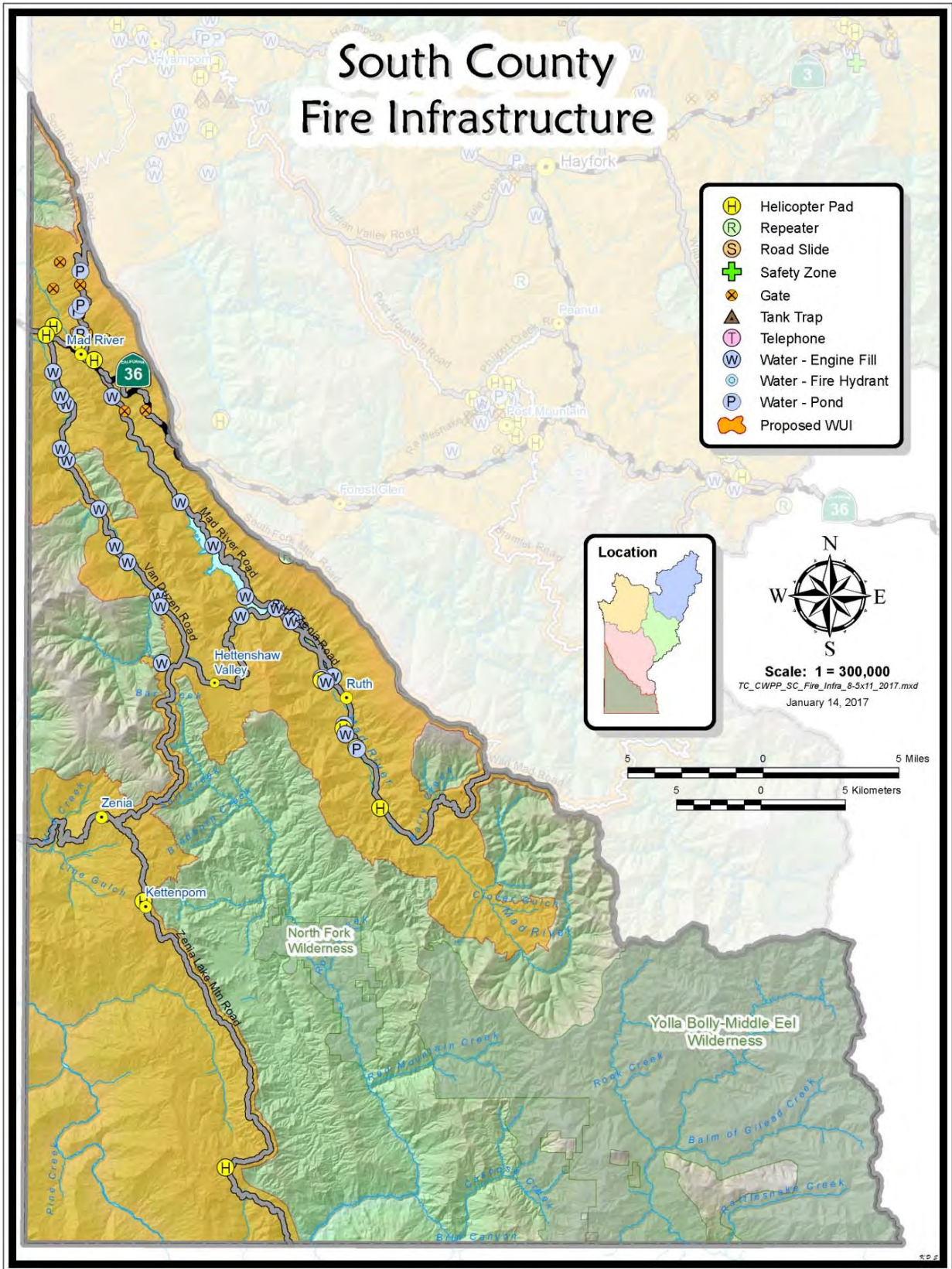
Kettenpom/Zenia, VFD Fire Hall





**South County Projects** –Ranked based on their relationship to a previous burn and the Wildland Urban Interface (WUI) (See page 34)

RANK	Community	Project Type	Project Name	Project ID	Comment	Previous Burn Score	WUI Score	Ownership
8	Ruth Lake	Defensible Space		SC001	Ruth CSD fuels reduction / defensible space	2	4	US Forest Service
8	Ruth Lake	Roadside Fuelbreak		SC003	Roadside Fuelbreak	2	4	US Forest Service
4	Ruth Lake	Defensible Space		SC002	Fuels reduction around Mad River campground	1	4	Private
4	Ruth Lake	Defensible Space		SC004	Help with defensible space, chipping crews	1	4	Private
4	Ruth Lake	Defensible Space		SC005	Help with defensible space, chipping crews	1	4	Private
4	Ruth Lake	Defensible Space		SC006	Help with defensible space, chipping crews	1	4	Private



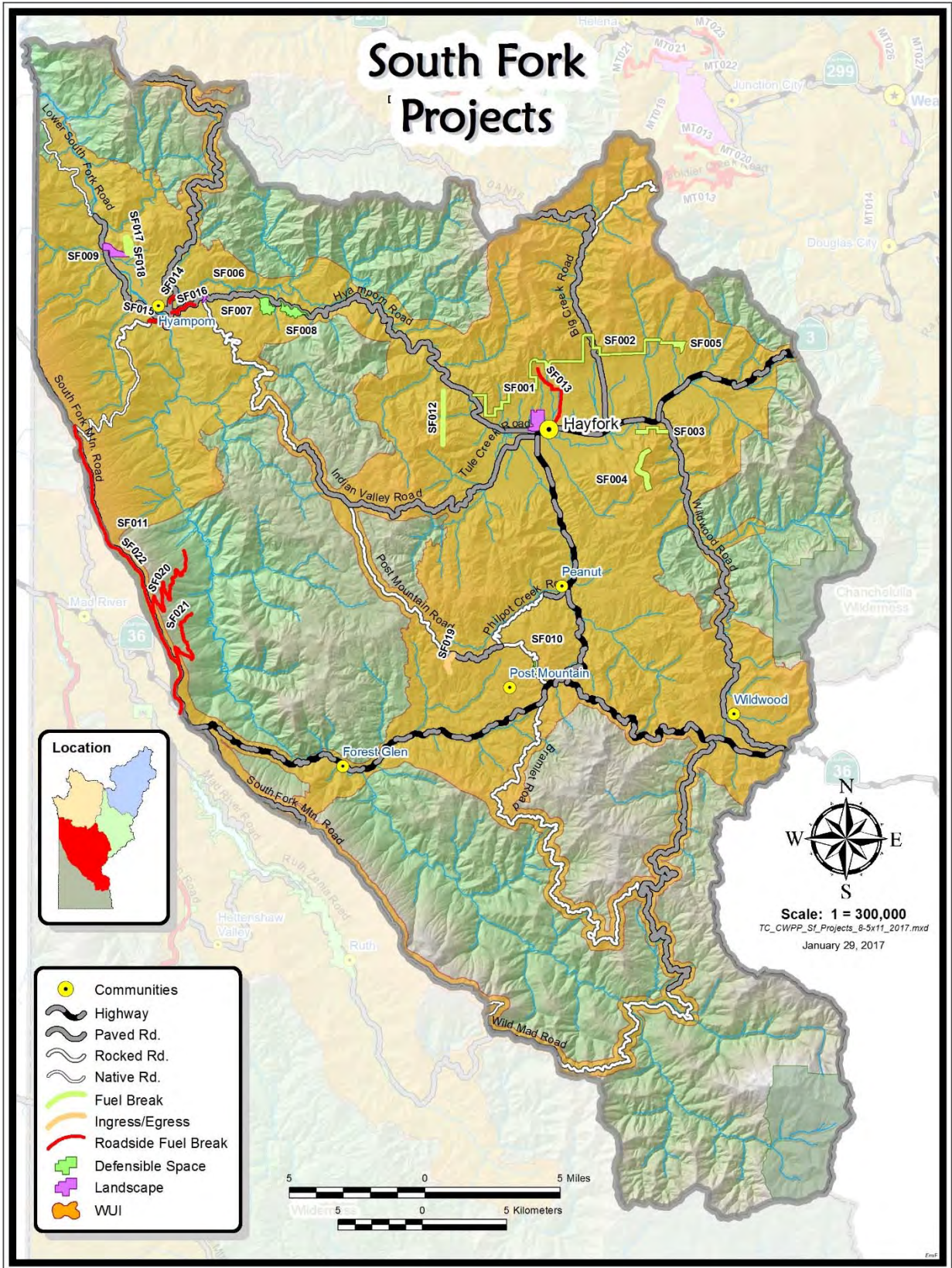
## **South Fork Division**

The South Fork meetings were held in

Hayfork, Fire Hall

Hyampom, Community Center

Post Mountain, Fire Hall

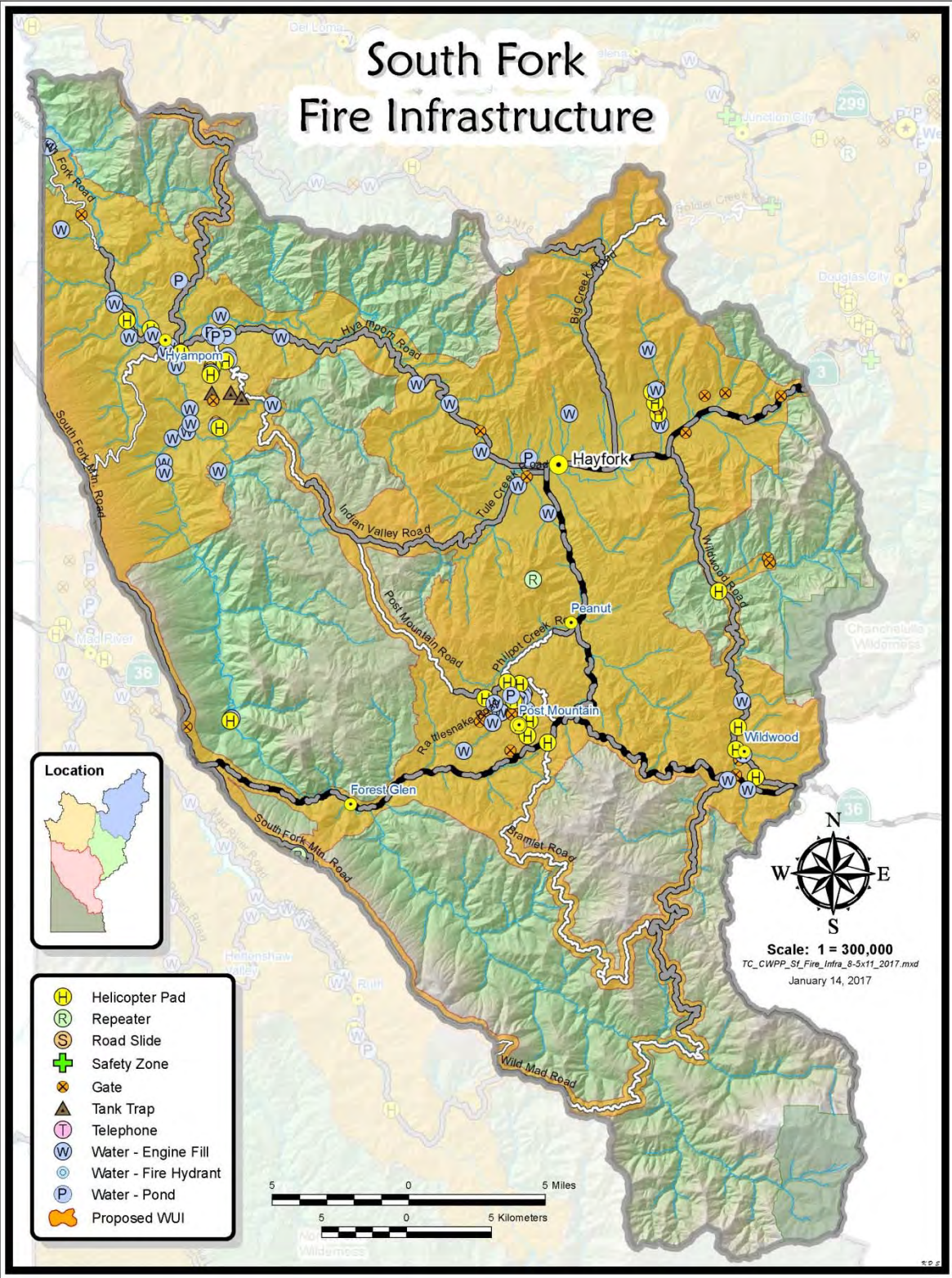


**South Fork Projects** –Ranked based on their relationship to a previous burn and the Wildland Urban Interface (WUI) (See page 34)

RANK	Community	Project Type	Project Name	Project ID	Comment	Previous Burn Score	WUI Score	Ownership
16	Hayfork	Fuelbreak		SF003	Fuelbreak 3/4 percent finished	4	4	US Forest Service
16	Hayfork	Fuelbreak		SF004	Fuelbreak being worked on cy 2016	4	4	US Forest Service
16	Hyampom	Fuelbreak		SF017	USFS Ridge top Fuelbreaks	4	4	US Forest Service
16	Hyampom	Fuelbreak		SF018	USFS Ridge top Fuelbreaks	4	4	US Forest Service
12	Hayfork	Fuelbreak		SF005	Fuelbreak, needs funding	3	4	Private: Timber Production
12	Hyampom	Landscape		SF009	USFS burnt plantation	3	4	US Forest Service
12	Hyampom	Roadside Fuelbreak		SF014	Maintain shaded Fuelbreak	3	4	US Forest Service
8	Hayfork	Fuelbreak		SF002	Completed Fuelbreak, needs maintenance	2	4	Private
8	Hyampom	Defensible Space		SF007	Fuels reduction for protection of Bar 717 ranch	2	4	US Forest Service

<b>RANK</b>	<b>Community</b>	<b>Project Type</b>	<b>Project Name</b>	<b>Project ID</b>	<b>Comment</b>	<b>Previous Burn Score</b>	<b>WUI Score</b>	<b>Ownership</b>
8	Hyampom	Defensible Space		SF008	Fuels reduction for protection of Bar 717 ranch	2	4	US Forest Service
8	Ruth Lake	Fuelbreak		SF011	Fuelbreak	2	4	Private: Timber Production
8	Ruth Lake	Roadside Fuelbreak		SF022	Roadside Fuelbreak	2	4	Private: Timber Production
4	Hayfork	Landscape		SF001	Heavy fuel loads, dead / dying trees	1	4	Private
4	Hyampom	Landscape		SF006	Needs under story burn	1	4	US Forest Service
4	Hayfork	Defensible Space		SF010	Fuels reduction around entrance to pines	1	4	US Forest Service
4	Hayfork	Fuelbreak		SF012	West of drinkwater gulch- USFS / private line	1	4	US Forest Service
4	Hayfork	Roadside Fuelbreak		SF013	Maintain fuels - mastication	1	4	Municipal Services
4	Hyampom	Roadside Fuelbreak		SF015	Maintain shaded Fuelbreak	1	4	Private

<b>RANK</b>	<b>Community</b>	<b>Project Type</b>	<b>Project Name</b>	<b>Project ID</b>	<b>Comment</b>	<b>Previous Burn Score</b>	<b>WUI Score</b>	<b>Ownership</b>
4	Hyampom	Roadside Fuelbreak		SF016	Maintain shaded Fuelbreak	1	4	Private
4	Post Mountain	Ingress/Egress		SF019	Open up for access to Sunset Rd.	1	4	US Forest Service
4	Ruth Lake	Roadside Fuelbreak		SF020	Roadside Fuelbreak	2	2	US Forest Service
4	Ruth Lake	Roadside Fuelbreak		SF021	Roadside Fuelbreak	2	2	US Forest Service





## VI. County-Wide Issues and Recommendations

The following recommendations made in the 2010 community meetings are relevant to the fire management process throughout the county in 2015 and beyond:

- Work to integrate fire management planning explicitly into the National Forest Management Act mandated planning process on the national forests and across jurisdictional boundaries to allow for landscape-scale prioritization and implementation of pre-fire treatments. Agencies should also look at areas of concern based on their land use plans.
- Immediate areas for coordination include:
  - a. Linking the Six Rivers and Shasta-Trinity National Forests' Road Management Plans to ensure that roads critical for access in case of fire are being maintained. Further, encourage cooperation among all jurisdictions along any and all roadsides to reduce fuels;
  - b. Coordinating Six Rivers National Forest and Shasta-Trinity National Forest Fire Management and Trinity Alps Wilderness Management Plans;
  - c. Identifying and publicizing, for each community, safety zones in case of catastrophic fire; and
  - d. Coordinating between fire prevention programs or personnel and land management organizations, and local VFDs to address wildfire issues.
- Coordinate with staff on the Lower Trinity Ranger District, Six Rivers National Forest on fuels reduction treatments. Projects should take advantage of topographic features, including ridgeline shaded fuelbreaks, especially those with multiple access points.
- Considerable expense has gone into plantations and which are neglected. Existing plantations are both important resources and, if untended, fire hazards. Consider proactive thinning and fuels reduction of plantations during their period of greatest vulnerability to fire.
- Continue to expand Volunteer Fire Departments capacities throughout the county.
- Work with Volunteer Fire Departments to increase needed items such as fire protection equipment, community outreach tools, and firefighting water sources (and ensure access).
- Ensure that the increased amount of fuel resulting from fire, windfall, insect and disease outbreaks, and other events, should be used as a factor to focus priority fuel treatments.

Building upon the recommendations of the *CWPP Update 2010*, the following recommendations have been added:

- **Prescribed Fire-** controlled burning has become an important tool in Trinity County over the last 5 years.

- **General Plan-** In November 2014, Trinity County adopted an update to the Safety Element. Wildfire and Structures were addressed in the plan and this CWPP reinforces the Safety Element including the following recommendations:
  - Fire Hazard Planning reviewed and conducted by the Trinity County Fire Safe Council and Trinity County Fire Chiefs' Association.
  - Coordinating with CAL FIRE in the development of policies regarding wildfire and review of the CWPP.
  - Use of Local Area Advisors as a resource during fire incidents.
  - Protecting and maintaining transportation network is critical to public safety.
  - Continue to use the national Firewise Program to educate improve community awareness of what every community can do to make communities more fire adapted.
  
- **Hazard Mitigation Plan-** Table 4.2 Trinity County Mitigation Actions of the Hazard Mitigation Plan needs to be implemented. Wildfire specific actions include the following:
  - Centralized GIS mapping of water sources for firefighting, structure location, bridges, and all county infrastructure and services necessary for emergency response.
  - Improve Watershed and forest health through actions to reduce illegal water diversions, fire hazards and unsustainable agricultural practices.
  - Identify, develop and secure funding to bring existing repeater sites up to current standards.
  
- **Fire Borrowing-** Trinity County should encourage Congress should take two actions. First, Congress must allow the firefighting spending to be scored as an adjustment to discretionary spending caps in bad fire seasons, in keeping with the treatment of other federal disaster response activities, instead of transferring resources from non-fire programs, including timber sale and fuels reduction projects, research and monitoring efforts, recreation and wildlife activities, and trail and visitor facility maintenance. Second, Congress must do this in a way that does not harm the agencies' ability to invest in fuels management and forest and rangeland restoration to make these lands less vulnerable and more resilient to catastrophic wildfire. Both of these actions are consistent with how the nation treats other natural disasters (June 7, 2016 Trinity County Board of Supervisors' letter to U.S. Senator Maria Cantwell).
  
- **Build Local Capacity-** There is a need to increase local capacity for integrated forest and wildfire management. Federal and state agencies need to work with local organizations to increase the capacity to reduce hazardous fuels. Examples include:
  - Long-term service contracts with federal and state agencies for fuels reduction that supports the development of a skilled workforce.
  - Contracting rules that allow for the local agencies to participate in wildfire suppression activities without penalizing project work.

- **Trinity County Collaborative Group-** Support the Trinity County Collaborative Group's (TCCG's) efforts to serve as an inclusive and successful natural resources, land management and economic development advisory group that supports save and vibrant communities, thriving economies, and ecological resilience, through sustainable resource use and stewardship practices.

### **Additional Recommendations for Fire Safe Activities**

The most frequently recommended methods of pre-fire treatment identified through this process were general fuels reduction efforts, followed by shaded fuelbreak construction and maintenance, and stand and plantation thinning. Recommendations for individual landowners to treat their own fuels and for neighborhood groups to work together to reduce fire hazard and emergency response problems were also stressed. In addition to these recommendations participants raised several additional issues that are broadly relevant to the area as a whole.

Participants noted the importance of taking a landscape-scale view of fire hazard and the importance of maintaining existing fuelbreaks. It was also noted that large accumulations of standing dead fuel exist on past burns and that fuels treatments in those areas should be considered, especially near communities. These areas pose an increased Resistance to Control (how much time and effort will it take to control a fire). This issue of was practically stressed in the South Fork Division.

Further we should focus on past burns and consider fuels treatment and maintenance in those areas. We need to maintain our fuelbreaks so that they can be used for future fires. We also need to know where all of the old fire lines in the area are and figure out a way to make that information accessible to firefighters and other people making decisions during fire incidents.

Specific firefighting techniques were also mentioned such as burnouts. There is a general dislike for burning from below vs. from a ridge top down during a fire event.

### **Project Suggestions**

Implementing a system of strategic fuelbreaks along ridges and roadsides is suggested as an extremely productive and agreed upon strategy for creating a more fire-safe community.

It was suggested that efforts be put towards connecting private roads to allow for more than one egress. Specific examples are Farmer Ranch Road and Barker Valley Road in Hayfork.

When preparing an area for a prescribed burn, lop and scatter first and then treat with fire to get more thorough results.

It is suggested that SPI be contacted in conjunction with the residents of the Barker Valley neighborhood to discuss possible burning operations on SPI land adjacent to that neighborhood. (This could potentially be done in conjunction with the Hayfork Neighborhood Protection Project that is being run by the WRTC.)

There are some bridges that need signage to indicate their load capacity. After further discussion, it is suggested that where possible a ford be rocked into the creek bed and heavy equipment be

diverted to that crossing during a fire event limiting the stress on infrastructure and the potential for a bridge to fail cutting off access completely.

While projects that are strategic are important, it's also important to adjust a project's ranking based on access, shared funding, diverse objectives, and not just hazard fuels. Furthermore, not every good project was identified during this process – conditions change and this CWPP is a “living document” that recognizes that new, worthy projects will arise and should be included through an annual project update process.

The 2010 CWPP Update project maps and tables, for each division, can be found in Appendix J.

## VII. Conclusions and Next Steps

The results of this effort to capture recommendations from Trinity County communities and professional fire managers can be used by the FSC to provide the basis for a fire management plan for the Trinity County landscape. This draft report will be circulated throughout the county for comments that will be incorporated in the final report. The Fire Safe Council will present this report to the Fire Chiefs' Association, the Trinity County Board of Supervisors and CAL FIRE.

The Trinity County Board of Supervisors may find this report valuable as it seeks to ensure that the voice of the county is heard in public land managers' decisions about fire management. Further it is hoped that the USFS and BLM will find this report useful as they gather community input to their fire planning process. The community recommendations may assist the Trinity County Planning Department in future updates to the County's General Plan Safety Element. The Fire Safe Council, including the TCRC and the WRTC, will continue with its fire management coordination efforts using the results to systematically promote implementation of the projects recommended by the community participants. Further, it will encourage public land management agencies to carry out the necessary pre-work such as National Environmental Protection Act (NEPA) Environmental Assessments required before many recommended activities can be carried out. Trinity County VFDs and the FSC may also find the information helpful in the next phases of county level coordination of emergency response such as sharing equipment to implement projects.

This CWPP update also will help inform and the Trinity County Collaborative Group as it continues its landscape-scale efforts to increase the pace and scale of work being done on forested lands. By supporting the mission of the TCCG, to create and recommend for implementation, natural resources, land management and economic development strategies driven by local values and goals that:

- acknowledge the interrelation between community, economy and ecology,
- provide solutions for sustainable and resilient economic and ecological practices and projects,
- foster a culture of stewardship,
- improve our community, economy and ecology, and
- create a better place for future generations.

## Appendices

## Appendix A – Meetings

### Community Meetings

Trinity County Divisions	Meeting Location	Meeting Date
<p style="text-align: center;"><b>Down River</b></p> <p>(including the communities of Salyer, Hawkins Bar, Burnt Ranch, Big Bar and Willow Creek)</p>	Down River Fire Hall, Big Bar	6-22-2016
	Willow Creek, Community Services District Office	8-4-2016
<p style="text-align: center;"><b>Middle Trinity</b></p> <p>(including the communities of Douglas City, Lewiston, Weaverville and Junction City)</p>	Douglas City Fire Hall	4-6-2016
	Lewiston Community Center	3-10-2016
	Weaverville Volunteer Fire Department	4-12-2016
	Junction City Fire Hall	4-19-2016
<p style="text-align: center;"><b>North Lake</b></p> <p>(including the communities of Coffee Creek, Trinity Center, Covington Mill, Lake Forest Drive, Long Canyon and surrounding areas)</p>	Trinity Center IOOF Hall	3-1-2016
<p style="text-align: center;"><b>South County</b></p> <p>(including the communities of Mad River, Ruth, Kettenpom, Zenia and surrounding areas)</p>	Kettenpom/Zenia VFD Fire Hall	6-30-2016
	Van Duzen Community Hall	4-13-2016
<p style="text-align: center;"><b>South Fork</b></p> <p>(including the communities of Hayfork, Hyampom, Wildwood, Peanut, Forest Glen, and surrounding areas)</p>	Hayfork Fire Hall	4-5-2016
	Hyampom Community Center	4-21-2016
	Post Mountain Fire Hall	4-9-2016

# Join the Blue Dot Brigade

OK, you've done the most important things to protect your home from wildfire - established 100' of defensible space, provided safe access and turnarounds for firefighters, and set up a hydrant or accessible water supply.

Would firefighters be able to locate your hydrant or water supply in the dark or under smoky conditions?

Mark your firefighting water supply with a blue reflector!

Mark **only** water supplies that are set up specifically for firefighting, such as:

- Hydrants with 2 ½" National Standard male thread
- Swimming pools or ponds that that can be accessed by a large fire engine with a short hose



***Don't mark just any water supply.***

***See reverse side for more information.***

***Please don't endanger your firefighters!***

***Check with your local VFD to learn what to mark and to obtain free blue reflectors.***

## Firefighting Water Supplies



Water is one of the limiting factors in fighting fires. Having a water tank, swimming pool or pond nearby is not enough – the water must be accessible to firefighters. Consider this:

1. There are 2 basic types of water sources: draft and pressurized.
2. In most draft systems, the fire engine has to suck water into its pump, where it's pressurized for firefighting. Draft water sources can be a swimming pool, pond or water tank. Because a fire engine's suction hose is very short, the fire engine must be able to park within 7 feet of the source. Both the parking location AND the approach to it must be a hard surface capable of holding a 14' tall, 40,000-pound vehicle.
3. The better choice is a pressurized system, using gravity or a pump. Gravity systems are the most desirable for fire protection, since they can work when the power goes out.

In a gravity system, water is stored in an elevated tank or tanks before it is needed. The tank is kept full and water is brought down to a hydrant through a large diameter pipe (3" or more). An elevated tank provides 1 pound of pressure for every 2.3' in elevation. A tank 80' uphill provides 35 pounds of pressure – the minimum needed to protect a home from fire.

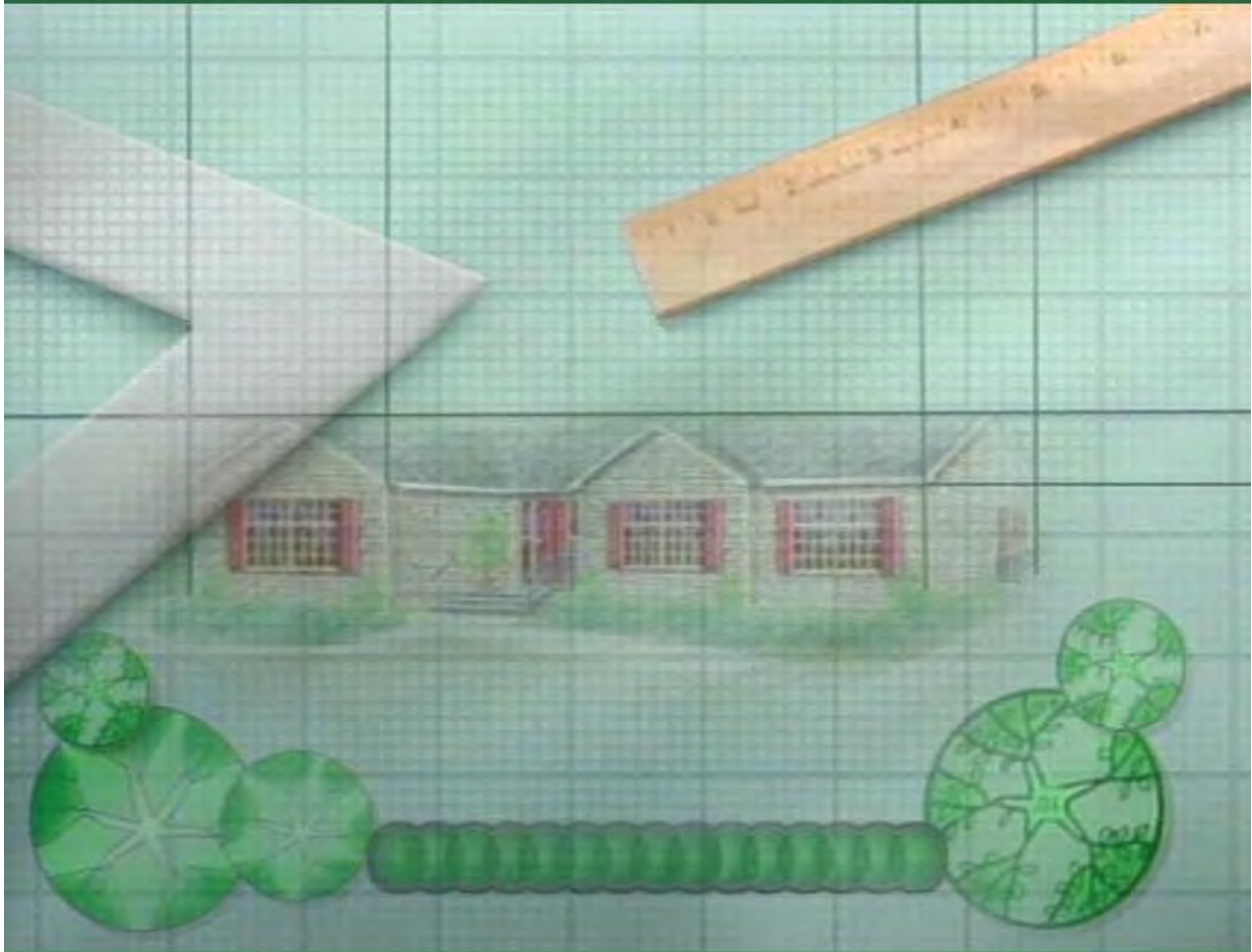
4. Portable water pumps can be used with tanks, pools, ponds or streams. Pumps should be pre-fitted with 1 ½" or 2 ½" male National Hose pipe thread fittings on their discharge sides and must have suction hoses long enough to reach the water.
5. Hydrants should be located about 50' away from your house. At this distance, if the house is on fire, the hydrant can probably still be reached. Hydrants must be very sturdy. Fortify PVC pipe so that it can withstand heavy weights and pressures. Hydrants should be 18-24" high and placed 4-12' from any road. Protect your hydrant from vehicles with barriers, but make sure that firefighters can park near it.
6. Install round blue reflectors to guide firefighters to your firefighting water supply. Do not use blue reflectors for any other purpose – this could lead to confusion and endanger firefighters.

Abridged from "Water, water everywhere", Forestland Steward, Summer 2008.  
Published by the CA Forest Stewardship Program.

<http://ceres.ca.gov/foreststeward/pdf/34-Foreststeward-Sum08.pdf>.

Contact your local fire department for more information about firefighting water supplies.

# Firewise Guide to Landscape and Construction



# Guide to Landscaping

The primary goal for Firewise landscaping is fuel reduction — limiting the level of flammable vegetation and materials surrounding the home and increasing the moisture content of remaining vegetation. This includes the entire 'home ignition zone' which extends up to 200 feet in high hazard areas.

## Use the Zone Concept

Zone 1 is the 30 feet adjacent to the home and its attachments; Zone 2 is 30 to 100 feet from the home; Zone 3 is 100 to 200 feet from the home.

**Zone 1 (All Hazard Areas)** This well-irrigated area encircles the structure and all its attachments (wooden decks, fences, and boardwalks) for at least 30 feet on all sides.

- 1) Plants should be carefully spaced, low-growing and free of resins, oils and waxes that burn easily.
- 2) Mow the lawn regularly. Prune trees up six to ten feet from the ground.
- 3) Space conifer trees 30 feet between crowns. Trim back trees that overhang the house.
- 4) Create a 'fire-free' area within five feet of the home, using non-flammable landscaping materials and/or high-moisture-content annuals and perennials.
- 5) Remove dead vegetation from under deck and within 10 feet of house.
- 6) Consider fire-resistant material for patio furniture, swing sets, etc.
- 7) Firewood stacks and propane tanks should not be located in this zone.
- 8) Water plants, trees and mulch regularly.
- 9) Consider xeriscaping if you are affected by water-use restrictions.

**Zone 2 (Moderate and High Hazard Areas)** Plants in this zone should be low-growing, well-irrigated, and less flammable.

- 1) Leave 30 feet between clusters of two to three trees, or 20 feet between individual trees.
- 2) Encourage a mixture of deciduous and coniferous trees.
- 3) Create 'fuel breaks,' like driveways, gravel walkways and lawns.
- 4) Prune trees up six to ten feet from the ground.

**Zone 3 (High Hazard Areas)** Thin this area, although less space is required than in Zone 2. Remove smaller conifers that are growing between taller trees. Remove heavy accumulation of woody debris. Reduce the density of tall trees so canopies are not touching.

## Maintaining the Firewise Landscape

- ✓ Keep trees and shrubs pruned six to ten feet from the ground.
- ✓ Remove leaf clutter and dead and overhanging branches.
- ✓ Mow the lawn regularly and dispose of cutting and debris promptly.
- ✓ Store firewood away from the house.
- ✓ Maintain the irrigation system regularly.
- ✓ Familiarize yourself with local regulations regarding vegetative clearance, debris disposal, and fire safety requirements for equipment.



Use grass and driveways as fuel breaks from the house.



Use faux brick and stone finishes and high-moisture-content annuals and perennials.



Use groupings of potted plants that include succulents and other drought resistant vegetation.



Create a cinder block wall around the perimeter of your yard and use grass and slate to break up the landscape.



The use of pavers and rock make for a pleasing effect and creates a fuel break.



## Guide to Construction



The roof is the most important element of the home. Use rated roofing material.

*"When considering improvements to reduce wildfire vulnerability, the key is to consider the home in relation to its immediate surroundings. The home's vulnerability is determined by the exposure of its external materials and design to flames and firebrands during extreme wildfires. The higher the fire intensities near the home, the greater the need for nonflammable construction materials and a resistant building design." – Jack Cohen, USDA-Forest Service*

**Use Rated Roofing Material.** Roofing material with a Class A, B or C rating is fire resistant and will help keep the flame from spreading. Examples:

- ✓ Composition shingle
- ✓ Metal
- ✓ Clay
- ✓ Cement tile



Cover openings with 1/8" metal screen to block fire brands and embers from collecting under the home or deck.

**Use Fire-Resistant Building Materials on Exterior Walls.** Examples include:

- ✓ Cement
- ✓ Plaster
- ✓ Stucco
- ✓ Masonry (concrete, stone, brick or block)

While vinyl is difficult to ignite, it can fall away or melt when exposed to extreme heat.

**Use Double-Paned or Tempered Glass.** Double-pane glass can help reduce the risk of fracture or collapse during an extreme wildfire. Tempered glass is the most effective. For skylights, glass is a better choice than plastic or fiberglass.



Use non-flammable fencing if attached to the house such as metal.

**Enclose Eaves, Fascias, Soffits and Vents.** "Box" eaves, fascias, soffits and vents, or enclose them with metal screens. Vent openings should be covered with 1/8" metal screen.

**Protect Overhangs and Other Attachments.** Remove all vegetation and other fuels from around overhangs and other attachments (room additions, bay windows, decks, porches, carports and fences). Box in the undersides of overhangs, decks and balconies with noncombustible or fire-resistant materials. Fences constructed of flammable materials like wood should not be attached directly to the house.

Anything attached to the house (decks, porches, fences and outbuildings) should be considered part of the house. These act as fuel bridges, particularly if constructed from flammable materials.

- 1) If a wood fence is attached to the house, separate the fence from the house with a masonry or metal barrier.
- 2) Decks and elevated porches should be kept free of combustible materials and debris.
- 3) Elevated wooden decks should not be located at the top of a hill. Consider a terrace.



Use glass skylights; plastic will melt and allow embers into the home.



Enclose eaves and soffits.



Enclose under decks so firebrands do not fly under and collect.



## Appendix D - Homeowners Checklist

# OUTSIDE

### 1 Design/Construction

(For new Wildland Urban Interface Construction or Remodels)

- Use ignition resistant construction (effective January 1, 2008) for roofs/roof assemblies, gutters, vents, decks, exterior walls, exterior windows.
- Enclose the underside of eaves, balconies and above ground decks with fire resistant materials
- Show your 100 feet Defensible Space on plot plan
- Build your home away from ridge tops, canyons and areas between high points of a ridge
- Consider installing residential sprinklers
- Make sure that electric service lines, fuse boxes and circuit breaker panels are installed and maintained per code
- Contact qualified individuals to perform electrical maintenance and repairs

### 2 Access

- Make sure that your street name sign is visibly posted at each street intersection
- Post your house address so it is easily visible from the street, especially at night
- Address numbers should be at least 3 inches tall and on a contrasting background
- Identify at least two exit routes from your neighborhood
- Clear flammable vegetation at least 10 feet from roads and five feet from driveways
- Cut back overhanging tree branches above access roads
- Construct roads that allow two-way traffic
- Make sure dead-end roads, and long drive ways have turn-around areas wide enough for emergency vehicles
- Design bridges to carry heavy emergency vehicles
- Post clear road signs to show traffic restrictions such as dead-end roads, and weight and height limitations

### 3 Roof

- Install a fire resistant roof. Contact your local fire department for current roofing requirements
- Remove dead leaves and needles from your roof and gutters
- Remove dead branches overhanging your roof and keep branches 10 feet from your chimney
- Cover your chimney outlet and stovepipe with a nonflammable screen of 1/2 inch or smaller mesh

### 4 Landscape

- Create a **Defensible Space** of 100 feet around your home. It is required by law
- Create a **"LEAN, CLEAN and GREEN ZONE"** by removing all flammable vegetation within 30 feet immediately surrounding your home
- Then create a **"REDUCED FUEL ZONE"** in the remaining 70 feet or to your property line  
You have two options in this area:
  - A. Create horizontal and vertical spacing between plants. The amount of space will depend on how steep your property is and the size of your plants.**
  - B. Large trees do not have to be removed as long as all of the plants beneath them are removed.**
- Remove lower tree branches at least six feet from the ground
- Landscape with fire resistant plants
- Maintain all plants with regular water, and keep dead branches, leaves and needles removed.
- When clearing vegetation, use care when operating equipment such as lawnmowers. One small spark may start a fire; a string trimmer is much safer

### 5 Yard

- Stack woodpiles at least 30 feet from all structures and remove vegetation within 10 feet of woodpiles
- Above ground Liquefied Petroleum Gas (LP-gas) containers (500 or less water gallons) shall be located a minimum of 10 feet with respect to buildings, public ways, and lot lines of adjoining property that can be built upon. - CFC 3804.3
- Remove all stacks of construction materials, pine needles, leaves and other debris from your yard
- Contact your local fire department to see if debris burning is allowed in your area; if so, obtain a burning permit and follow all local air quality restrictions

### 6 Emergency Water Supply

- Maintain an emergency water supply that meets fire department standards through one of the following:
  - a community water/hydrant system
  - a cooperative emergency storage tank with neighbors
  - a minimum storage supply of 2,500 gallon on your property (like a pond or pool)
- Clearly mark all emergency water sources
- Create easy firefighter access to your closest emergency water source
- If your water comes from a well, consider an emergency generator to operate the pump during a power failure

March 2009

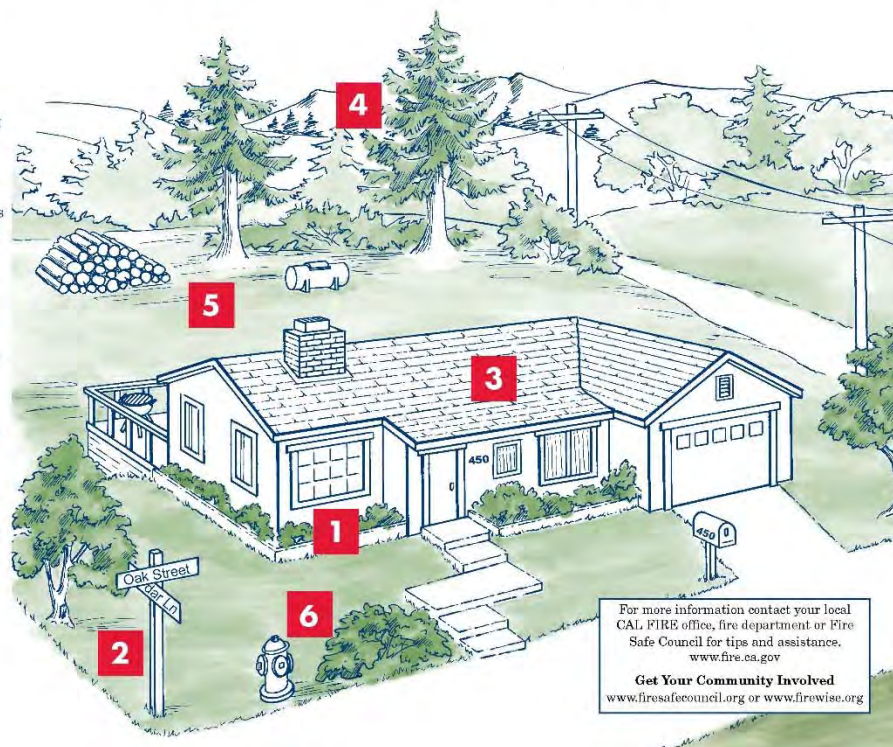
California Department of Forestry and Fire Protection

# Homeowners Checklist

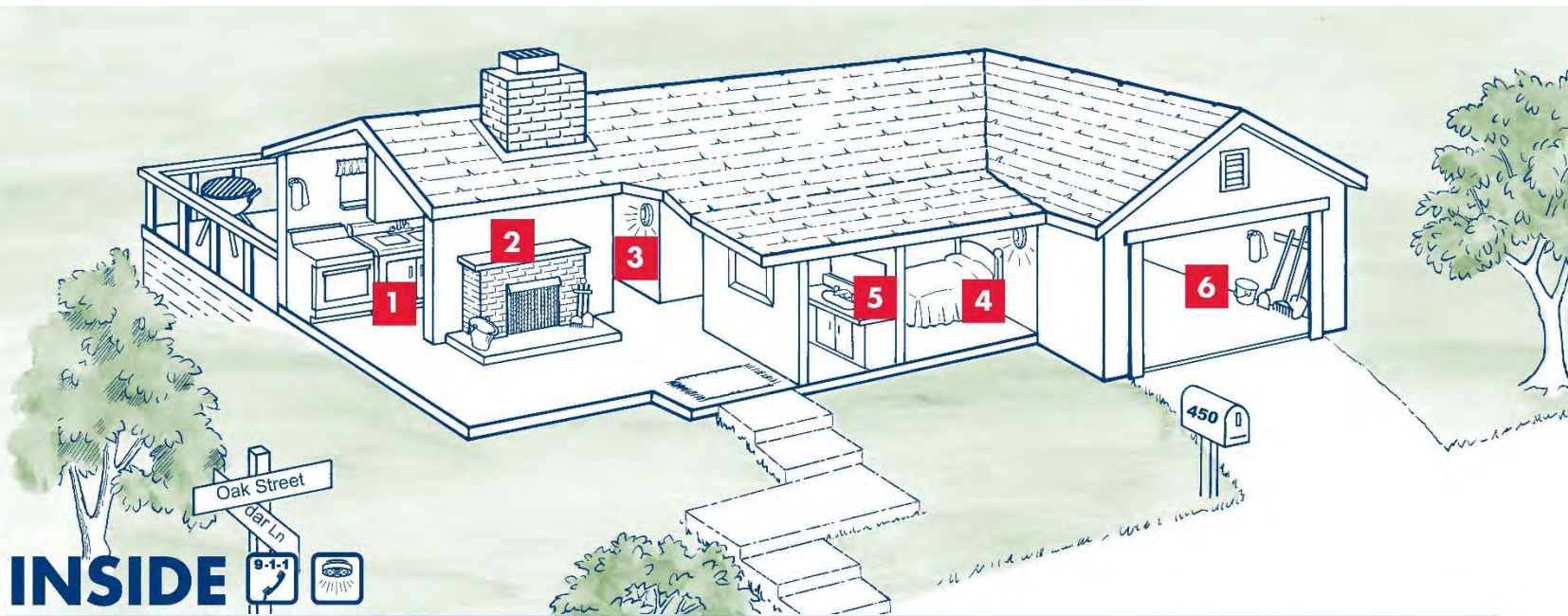
**How To Make Your Home Fire Safe**



www.fire.ca.gov



For more information contact your local CAL FIRE office, fire department or Fire Safe Council for tips and assistance.  
www.fire.ca.gov  
**Get Your Community Involved**  
www.firesafecouncil.org or www.firewise.org



# INSIDE

## 1 Kitchen

- Keep a working fire extinguisher in the kitchen
- Maintain electric and gas stoves in good operating condition
- Keep baking soda on hand to extinguish stove-top grease fires
- Turn the handles of pots and pans away from the front of the stove
- Install curtains and towel holders away from stoveburners
- Store matches and lighters out of reach of children
- Make sure that electrical outlets are designed to handle appliance loads

## 2 Living Room

- Install a screen in front of fireplace or wood stove
- Store the ashes from your fireplace (and barbecue) in a metal container and dispose of only when cold
- Clean fireplace chimneys and flues at least once a year

## 3 Hallway

- Install smoke detectors between living and sleeping areas
- Test smoke detectors monthly and replace batteries twice a year, when clocks are changed in the spring and fall
- Replace electrical cords that do not work properly, have loose connections, or are frayed

## 4 Bedroom

- If you sleep with the door closed, install a smoke detector in the bedroom
- Turn off electric blankets and other electrical appliances when not in use
- Do not smoke in bed
- If you have security bars on your windows or doors, be sure they have an approved quick release mechanism so you and your family can get out in the event of a fire

## 5 Bathroom

- Disconnect appliances such as curling irons and hair dryers when done; store in a safe location until cool
- Keep items such as towels away from wall and floor heaters

## 6 Garage

- Mount a working fire extinguisher in the garage
- Have tools such as a shovel, hoe, rake and bucket available for use in a wildfire emergency
- Install a solid door with self-closing hinges between living areas and the garage
- Dispose of oily rags in Underwriters Laboratories approved metal containers
- Store all combustibles away from ignition sources such as water heaters
- Disconnect electrical tools and appliances when not in use
- Allow hot tools such as glue guns and soldering irons to cool before storing
- Properly store flammable liquids in approved containers and away from ignition sources such as pilot lights

## \* Disaster Preparedness

- Maintain at least a three-day supply of drinking water, and food that does not require refrigeration and generally does not need cooking
- Maintain a portable radio, flashlight, emergency cooking equipment, lanterns and batteries
- Outdoor cooking appliances such as barbecues should never be taken indoors for use as heaters
- Maintain first aid supplies to treat the injured until help arrives
- Keep a list of valuables to take with you in an emergency; if possible, store these valuables together
- For safety, securely attach all water heaters and furniture such as cabinets and bookshelves to walls
- Have a contingency plan to enable family members to contact each other. Establish a family/friend phone tree
- Designate an emergency meeting place outside your home
- Practice emergency exit drills in the house (EDITH) regularly
- Make sure that all family members understand how to STOP, DROP AND ROLL if their clothes should catch fire

## Appendix E - Defensible Space

**WHY 100 FEET?...**

**CAL FIRE**  
SINCE 1889

...Because Defensible Space  
is **YOUR** responsibility

**WHY 100 FEET?...**

Protect Your Home... and Property.

**CAL FIRE**  
SINCE 1889

Contact your local CAL FIRE office, fire department,  
or Fire Safe Council for tips and assistance.  
[www.fire.ca.gov](http://www.fire.ca.gov)



### WHEN CREATING DEFENSIBLE SPACE, KEEP THESE SAFETY TIPS IN MIND.

- All equipment with an internal combustion engine must be equipped with an approved and operable spark arrestor.
- Metal blades striking rocks can create sparks and start fires. Use caution.
- To protect water quality and habitat do not remove vegetation associated with water, avoid using heavy equipment near waterways and do not clear vegetation near waterways to the bare mineral soil. Keep soil disturbance to a minimum.

### OTHER HINTS TO SECURE A LEAN, CLEAN AND GREEN ZONE:

- Select less flammable plants for your Lean, Clean and Green Zone:
  - Shorter plants (less than 2 feet) are safer than taller ones.
  - If kept green, herbaceous plants (grass and non-woody flowers) are better choices than shrubs and trees.
  - If planting shrubs and trees, choose deciduous (trees that shed their leaves) ones over evergreens. Avoid planting juniper, pine and palms.
- Remove tree limbs that are touching the house or deck, or are within 10 feet of the chimney. If limbs are encroaching on overhead lines, contact your telephone or power company for removal.
- Use hard surfaces (concrete, stone, asphalt, brick, etc.) in your landscaping.
- Clear ALL flammable vegetation from within 10 feet of propane tanks.

### YOUR RESPONSIBILITY:

California law (PRC 4291) requires property owners and/or occupants to create 100 feet of DEFENSIBLE SPACE around homes and buildings.\*

### YOUR GOAL — TO CREATE A:

#### Lean, Clean and Green Zone

An area of 30 feet immediately surrounding your home.

#### Reduced Fuel Zone

The fuel reduction zone in the remaining 70 feet (or to the property line).



*\*Compliance to PRC 4291 is required by any person who owns, leases, controls, operates or maintains a building or structure in or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands or any land that is covered with flammable material and is within the State Responsibility Area. PRC 4291 requires 100 feet of Defensible Space (or to the property line if less than 100 feet) from every building or structure that is used for support or shelter of any use or occupancy.*

*Owner, lessee or operator must also comply with all existing environmental protection laws and must obtain all necessary permits. Contact your local resource or planning agency officials to ensure compliance with federal, state and local requirements.*

## TWO ZONES MAKE UP THE REQUIRED 100 FEET OF DEFENSIBLE SPACE:

### 1. Lean, Clean and Green Zone

An area of 30 feet immediately surrounding your home.

### 2. Reduced Fuel Zone

The fuel reduction zone in the remaining 70 feet (or to the property line).



## COMPLY WITH THE LAW AND HELP SAVE YOUR HOME BY CREATING DEFENSIBLE SPACE.

Follow these guidelines:

### 1. Create a Lean, Clean and Green Zone

Remove all flammable vegetation and any dead or dying plants within 30 feet of each building or structure.

You may keep single trees or other vegetation that are trimmed of all dead and dying foliage and are well pruned and maintained.

### 2. Decrease Fuel in the Reduced Fuel Zone

Surface litter consists of fallen leaves, needles, twigs, bark, cones, pods, small branches, etc. Remove loose surface litter so it does not exceed a depth of three inches.

#### Make It Safe: Logs, Stumps and Snags

- All logs and stumps should be removed unless they are embedded in the soil. If you keep an embedded log, remove nearby vegetation.
- A standing dead tree (snag) may be kept for wildlife providing there is only one snag per acre, and if the snag were to fall, it would not reach buildings or structures and would not land on roadways or driveways.

#### Provide Fuel Separation and Treatment

- Guidelines for fuel treatment as published by CDF are designed to reduce the spread of wildfires.
- Choose option 2a or 2b. The best option for your property will be based on its characteristics (slope, vegetation size, vegetation type—brush, grass, trees, etc.—and other fuel characteristics). Properties with greater fire hazards will require larger separation between fuels. For example, a property on a steep slope with larger vegetation will require greater spacing between trees and shrubs than a level property that has small, sparse vegetation.

**2a: Grasses**

Ideally, grass should not exceed four inches in height. In situations where these fuels are isolated from other fuels or where necessary to stabilize soil, grasses and forbs may reach a height of 18 inches.

**2a: Horizontal Clearance for Shrubs and Trees**

Uncleared ground fuels provide an open freeway for the rapid spread and increased intensity of fire.

Clearance between shrubs should be 4 to 40 feet depending on the slope of the land and size and type of vegetation. Check the chart below for an estimation of clearance distance. Any questions regarding requirements for a specific property should be addressed to your local fire official.

Minimum Horizontal Clearance	
SHRUBS	TREES
<p><b>From edge of one shrub to the edge of the next</b></p> <p>Flat to mild slope (0% to 20% slope) Two times (2x) the height of the shrub (Two shrubs 2' high should be spaced 4' apart)</p> 	<p><b>From edge of one tree canopy to the edge of the next</b></p> <p>Flat to mild slope (0% to 20% slope)</p> <p>10 feet</p> 
<p>Mild to moderate slope (20% to 40% slope) Four times (4x) the height of the shrub (Two shrubs 2' high should be spaced 8' apart)</p> 	<p>Mild to moderate slope (20% to 40% slope)</p> <p>20 feet</p> 
<p>Moderate to steep slope (greater than 40% slope) Six times (6x) the height of the shrub (Two shrubs 2' high should be spaced 12' apart)</p> 	<p>Moderate to steep slope (greater than 40% slope)</p> <p>30 feet</p> 

**2a: Vertical Clearance for Shrubs and Trees**


Low branches create "ladders" from the ground fuels to the trees.

To determine the proper vertical clearance between shrubs and the lowest branches of trees, use the formula below.

**Minimum Vertical Clearance**

**3X HEIGHT OF SHRUB = MINIMUM VERTICAL CLEARANCE**

**Example: A five foot shrub is growing near a tree.**  
 $3 \times 5 = 15$  feet of clearance needed between the top of the shrub and the lowest tree branches.



3x height of shrub to lowest branches of tree.

*Note: A grouping of vegetation may be treated as a single plant if the foliage of the grouping does not exceed 10 feet in width. For example, three individual manzanita plants growing in a cluster with a total foliage width of 8 feet can be "grouped" and considered as one plant.*

**2b: Defensible Space with Continuous Tree Canopy**

To achieve Defensible Space while keeping a larger stand of trees with a continuous tree canopy, adhere to the guidelines below:

- Prune lower branches of trees to a height of six to 15 feet from the top of the vegetation below (or the lower 1/3 of branches for small trees). Properties with greater fire potential such as steeper slopes or more severe fire danger will require pruning heights in the upper end of this range.
- Remove all ground fuels greater than four inches in height. Single specimens of trees or other vegetation may be kept if they are well-spaced, well-pruned and create an overall condition that avoids the spread of fire to other vegetation or to structures.

June, 2007

## Appendix F -Acronyms

<b>Alliance</b>	California Fire Alliance
<b>AED</b>	Automated External Defibrillator
<b>BLM</b>	Bureau of Land Management
<b>BLS</b>	Basic Life Support
<b>CAL FIRE/CDF</b>	California Department of Forestry and Fire Protection
<b>CHP</b>	California Highway Patrol
<b>CSD</b>	Community Services District
<b>CWPP</b>	Community Wildfire Protection Program
<b>DOF</b>	Depends on Funding
<b>EMT</b>	Emergency Medical Technician
<b>FACA</b>	Federal Advisory Committee Act
<b>FLASH</b>	Fire-adapted Landscapes and Safe Homes
<b>FPD</b>	Fire Protection District
<b>FRA</b>	Federal Responsibility Area
<b>FRAP</b>	Fire and Resource Assessment Program
<b>FSC</b>	Fire Safe Council
<b>GIS</b>	Geographic Information System
<b>HazMat</b>	Hazardous Materials
<b>HFRA</b>	Healthy Forests Restoration Act
<b>LAL</b>	Lightning Activity Level
<b>LOS</b>	Level of Service
<b>LT</b>	Long Term
<b>MOU</b>	Memorandum of Understanding
<b>MFPP</b>	Master Fire Protection Plan
<b>MTWA</b>	Mainstem Trinity Watershed Analysis
<b>NEPA</b>	National Environmental Policy Act
<b>NF</b>	National Forest
<b>NFPA</b>	National Fire Protection Association
<b>OES</b>	Office of Emergency Services
<b>OG</b>	Ongoing
<b>OSHA</b>	Occupational Safety and Health Administration

<b>PPE</b>	Personal Protective Equipment
<b>RAC</b>	Resource Advisory Committee
<b>RTE</b>	Route
<b>SAFE</b>	Safe Alternatives for the Environment
<b>SR</b>	State Route
<b>SRA</b>	State Responsibility Area
<b>SRNF</b>	Six Rivers National Forest
<b>ST</b>	Short Term
<b>TCRCD</b>	Trinity County Resource Conservation District
<b>TCS</b>	Traffic Accidents
<b>USFS</b>	United States Forest Service
<b>USDA</b>	United States Department of Agriculture
<b>VFD</b>	Volunteer Fire Department
<b>VMP</b>	Vegetation Management Program
<b>WCK</b>	Willow Creek
<b>WRTC</b>	Watershed Research and Training Center
<b>WUI</b>	Wildland Urban Interface

## Appendix G - Glossary

**Apparatus:** Fire apparatus includes various types of firefighting vehicles. For the purposes of the Humboldt County Master Fire Protection Plan, fire apparatus includes wildland fire engines, rescue vehicles, ladder and aerial trucks, engines, and water tenders.

**Aspect:** The compass direction toward which a slope faces.

**Automatic Aid Agreement:** An agreement between two or more agencies whereby the agencies are automatically dispatched simultaneously to predetermined types of emergencies in predetermined areas.

**Benefit Assessment:** An assessment of taxes levied on the property owners in a district who enjoy a "special benefit". Proposition 218 establishes a strict definition of "special benefit." For the purposes of all assessment acts, special benefit means "a particular and distinct benefit over and above general benefits conferred on real property located in the district or the public at large. General enhancement of property value does not constitute 'special benefit.'" In a reversal of previous law, a local agency is prohibited by Proposition 218 from including the cost of any general benefit in the assessment apportioned to individual properties. Assessments are limited to those necessary to recover the cost of the special benefit provided the property.

**Brush:** A collective term that refers to stands of vegetation dominated by shrubby, woody plant, or low-growing trees.

**Brushfire:** A fire burning in vegetation that is predominantly shrubs, brush, and scrub growth.

**Community at Risk.** Wildland interface (see definition below) communities in the vicinity of federal lands that are at high risk from wildfire. (See list in Federal Register, January 4, 2001).

- **CSD:** Community Services District. CSDs are sometimes called "junior cities" and are authorized under §61000 of the Government Code. CSDs can provide a broad range of municipal services including fire protection to unincorporated areas. CSDs are governed by a five member elected Board of Directors and receive revenue from taxes and fees. In cases where a CSD is responsible for fire protection in Humboldt County, services are provided by a volunteer fire department with facilities and funding provided by the CSD.

**Dead Fuels:** Fuels with no living tissue in which moisture content is governed almost entirely by atmospheric moisture (relative humidity and precipitation), dry-bulb temperature, and solar radiation.

**Debris Burning:** Any fire originally set for the purpose of clearing land or for burning rubbish, garbage, range, stubble, or meadow burning.

**Defensible Space:** An area, either natural or manmade, where material capable of causing a fire to spread has been treated, cleared, reduced, or changed in order to provide a barrier between an advancing wildland fire and the loss to life, property, or resources. In practice, defensible space is defined as an area with a minimum of 100 feet around a structure that is cleared of flammable brush or vegetation. Distance from the structure and the degree of fuels treatment vary with vegetation type, slope, density, and other factors.

**Detection:** The act or system of discovering and locating fires.

**Direct Attack:** Any treatment of burning fuel, such as by wetting, smothering, or chemically quenching the fire or by physically separating burning from unburned fuel.

**Direct Protection Area:** Fire protection responsibility areas as delineated for state, federal, and local agencies.

**Dispatch:** The implementation of a command decision to move a resource or resources from one place to another.

**Extreme Fire Behavior:** "Extreme" implies a level of fire behavior characteristics that ordinarily precludes methods of direct control action. One or more of the following is usually involved: high rate of spread, prolific crowning and/or spotting, presence of fire whirls, strong convection column. Predictability is difficult because such fires often exercise some degree of influence on their environment and behave erratically and/or dangerously.

**Federal Responsibility Area:** Areas within which a federal government agency has the financial responsibility of preventing and suppressing fires (see also State Responsibility Area and Local Responsibility Area).

**Fine (Light, Flash) Fuels:** Fast-drying fuels, generally with a comparatively high surface area-to-volume ratio, which are less than ¼-inch in diameter and have a time-lag constant of one hour or less. These fuels readily ignite and are rapidly consumed by fire when dry.

**Fire Behavior:** The manner in which a fire reacts to the influences of fuel, weather, and topography. Common terms used to describe behavior include: smoldering, creeping, running, spotting, torching, and crowning.

**Fire Hazard:** What will happen when a fire occurs based on fuel loading, resistance to control, vegetation types, etc. A high hazard is indicated by dens, flammable vegetation, e.g. thickets of second growth, untreated plantations, and brush fields.

**Fire Management Plan (FMP):** A strategic plan that defines a program to manage wildland and prescribed fires. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

**Fire Regime:** The combination of fire frequency, predictability, intensity, seasonality, and size characteristics of fire in a particular ecosystem.

**Fire-Return Interval:** The number of years between two successive fire events at a specific site or an area of a specified size.

**Fire Risk:** The Likelihood of a fire starting based on slope, position, past history of lightning strikes, places near recreational populations

**Fire Safe:** Action(s) that moderate the severity of a fire hazard to a level of "acceptable risk". In a broader context this term describes the state of lessened severity or action(s) that moderate the severity of a fire hazard or risk, while protecting structures and surrounding property from fire, whether fire is inside the structure or is threatening the structure from exterior sources.

**Fire Season:** 1) Period(s) of the year during which wildland fires are likely to occur, spread, and affect resource values sufficient to warrant organized fire management activities. 2) A legally enacted time during which burning activities are regulated by state or local authority.

**Fire Severity:** The effect of fire on plants. It is dependant on intensity and residence of the burn. An intense fire may not necessarily be severe. For trees, severity is often measured as percentage of basal area removed.

**Fire Safe Standards:** Standards adopted by ordinance for the purpose of establishing a set of standards that will result in fire safe development within a specified area.

**Firewise:** An interagency program designed to encourage local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters, and others in the effort to protect people and property from the risk of wildfire ([www.firewise.org](http://www.firewise.org)).

**FPD:** Fire Protection District. Districts authorized under §13800 of the California Health and Safety Code to provide fire protection and emergency medical services. Fire Protection Districts are generally governed by a five member elected Board of Directors.

**Fuel:** Combustible material. Includes vegetation such as grass, leaves, ground litter, plants, shrubs, and trees that feed a fire. (See Surface Fuels.)

**Fuel Bed:** An array of fuels usually constructed with specific loading, depth and particle size to meet experimental requirements; also commonly used to describe the fuel composition in natural settings.

**Fuel-break:** A natural or constructed barrier used to stop or check fires that may occur, or to provide a control line from which to work.

**Fuel Load:** The amount of available and potentially combustible material, usually expressed as tons/acre.

**Fuel Loading:** The volume of fuel present expressed quantitatively in terms of weight of fuel per unit area.

**Fuel Moisture (Fuel Moisture Content):** The quantity of moisture in fuel expressed as a percentage of the weight when fuel is thoroughly dried at 212 degrees Fahrenheit.

**Fuel Reduction:** Manipulation (including combustion and/or removal of fuels) to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control.

**Fuel Type:** An identifiable association of fuel elements of a distinctive plant species, form, size, arrangement; or other characteristics that will cause a predictable rate of fire spread or difficulty of control under specified weather conditions.

**Ground Fuel:** All combustible materials below the surface litter (including duff, tree or shrub roots, punchy wood, peat, and sawdust) that normally support a glowing combustion without flame.



**Hazard Reduction:** Any treatment of a hazard that reduces the threat of ignition and fire intensity or rate of spread.

**Hazardous Fuels Reduction:** Any treatment that reduces the amount of hazardous fuels.

**Healthy Forests Restoration Act (HFRA):** A portion of the 2003 President's Healthy Forests Initiative intended to reduce hazardous fuels on public and private lands. Establishes Community Wildfire Protection Plans and sets standards for those plans.

**Heavy Fuels:** Fuels of large diameter (such as snags, logs, and large limb wood) that ignite and are consumed more slowly than flash (fine, light) fuels.

**Home Ignition Zone:** This zone principally determines the potential for home ignitions during a wildland fire; it includes a house and its immediate surroundings within 100 to 150 feet.

**Ignition Management:** A program that includes fire prevention program activities that are aimed at preventing the ignition of wildland fires and/or reducing damage from fires. Components include law enforcement, public education, engineering, fuels modification, and fire-safe planning.

**Incident:** A human-caused or natural occurrence, such as wildland fire, that requires emergency service action to prevent or reduce the loss of life or damage to property or natural resources. Incident management teams also handle other non-fire emergency response, including tornadoes, floods, hurricanes, earthquakes, and other disasters or large events.

**Initial Attack:** The actions taken by the first resources to arrive at a wildfire in order to protect lives and property and prevent further extension of the fire.

**Interface Community.** (Defined in the Federal Register, January 4, 2001) The Interface Community exists where structures directly abut wildland fuels. There is a clear line of demarcation between residential, business, and public structures and wildland fuels. Wildland fuels do not generally continue into the developed area. The development density for an interface community is usually three or more structures per acre, with shared municipal services. Fire protection is generally provided by a local government fire department with the responsibility to protect the structure from both an interior fire and an advancing wildland fire. An alternative definition of the interface community emphasizes a population density of 250 or more people per square mile.

**Intermix Community:** (Defined in the Federal Register, January 4, 2001) The Intermix Community exists where structures are scattered throughout a wildland area. There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres. Fire protection districts funded by various taxing authorities normally provide life and property fire protection and may also have wildland fire protection responsibilities. An alternative definition of intermix community emphasizes a population density of between 28–250 people per square mile.

**Ladder Fuels:** Fuels which provide vertical continuity between strata and allow fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

**Large Fire:**

- 1) CAL FIRE defines a fire burning more than 300 acres as a large fire.
- 2) A fire burning with a size and intensity such that its behavior is determined by interaction between its own convection column and weather conditions above the surface.

**Level-of-service standard (LOS standard):** Quantifiable measures against which services being delivered by a service provider can be compared. Standards based upon recognized and accepted professional and county standards, while reflecting the local situation within which services are being delivered. Levels-of-service standards for fire protection may include response times, personnel per given population, and emergency water supply. LOS standards can be used to evaluate the way in which fire protection services are being delivered, for use in countywide fire planning efforts.

**Light Fuels:** See Fine Fuels.

**Litter:** Top layer of the forest, scrubland, or grassland floor, directly above the fermentation layer, composed of loose debris of dead sticks, branches, twigs, and recently fallen leaves or needles, little altered in structure by decomposition.

**Live Fuels:** Living plants, such as trees, grasses, and shrubs, in which the seasonal moisture content cycle is controlled largely by internal physiological mechanisms, rather than by external weather influences.

**Local Agency:** Pursuant to Government Code §56054 means a city, county, or district. For the purposes of the Fire Plan, a Local Agency refers to a city or special district that provides fire protection.

**Local Responsibility Area:** Lands in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the local jurisdiction.

**Mutual Aid Agreement:** A reciprocal aid agreement between two or more agencies that defines what resources each will provide to the other in response to certain predetermined types of emergencies. Mutual aid response is provided upon request.

**National Fire Protection Association (NFPA):** An international non-profit organization whose mission is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating scientifically-based consensus codes and standards, research, training and education.

**Peak Fire Season:** That period of the fire season during which fires are expected to ignite most readily, to burn with greater than average intensity, and to create damage at an unacceptable level.

**Personal Protective Equipment (PPE):** Equipment and clothing used and worn by all firefighting personnel in order to mitigate the risk of injury from, or exposure to, hazardous conditions encountered while working.

Structure PPE, or Bunker Gear, includes NFPA/OSHA compliant helmet, goggles, hood, coat, pants, boots, gloves, pocket tools, and Self Contained Breathing Apparatus.

Wildland PPE includes 8-inch laced leather boots with lug soles, fire shelter, hard hat with chin strap, goggles, ear plugs, aramid shirts and trousers, leather gloves, and individual first aid kits.

**Prescribed Fire:** A fire ignited under known conditions of fuel, weather, and topography to achieve specific objectives.

**Prevention:** Activities directed at reducing the incidence of fires. Include public education, law enforcement, personal contact, and reduction of fuel hazards.

**Resistance to Control:** How much time and effort it will take to control a fire, can be based on flame length, heat per unit (BTU), fuel loading and arrangement, vegetation type and slope

**Stand-Replacing Fire:** A fire that kills most or all of the trees in a section of forest.

**State Responsibility Area:** Defined in California Public Resources Code § 4125 – 4127 as lands in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the state. State Responsibility Areas are defined by code:

§ 4126. The board shall include within state responsibility areas all of the following lands:

(a) Lands covered wholly or in part by forests or by trees producing or capable of producing forest products.

(b) Lands covered wholly or in part by timber, brush, undergrowth, or grass, whether of commercial value or not, which protect the soil from excessive erosion, retard runoff of water or accelerate water percolation, if such lands are sources of water which is available for irrigation or for domestic or industrial use.

(c) Lands in areas which are principally used or useful for range or forage purposes, which are contiguous to the lands described in subdivisions (a) and (b).

§ 4127. The board shall not include within state responsibility areas any of the following lands:

(a) Lands owned or controlled by the federal government or any agency of the federal government.

(b) Lands within the exterior boundaries of any city, except a city and county with a population of less than 25,000 if, at the time the city and county government is established, the county contains no municipal corporations.

(c) Any other lands within the state which do not come within any of the classes which are described in Section 4126.

**Structure Fire:** Fire originating in and burning any part or all of any building.

**Suppression:** All the work of extinguishing or containing a fire, beginning with its discovery.

**Surface Fuels:** Loose surface litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed enough to lose their identity; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branchwood, downed logs, and stumps interspersed with or partially replacing the litter.

**Vegetation Type:** A standardized description of vegetation. The type is based on the dominant plant species and the age of the forest. It also indicates how moist a site may be and how much fuel is likely to be present.

**Wildland Agency:** Any federal, tribal, state, or county government organization participating in wildland fire protection with jurisdictional responsibilities.

**Wildland Fire:** Any non-structure fire, other than prescribed fire, that occurs in the wildland.

**Wildland-Urban Interface (WUI):** The zone where structures and other human developments meet, or intermingle with, undeveloped wildlands.

**Woody biomass:** Trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment, that are the by-products of management, including restoration and hazardous fuel reduction treatments.

**Appendix H –Trinity County Resolution on National Forest Fuels and Vegetation Ordinance, and associated documents**



## TRINITY COUNTY

Board of Supervisors  
P.O. BOX 1613, WEAVERVILLE, CALIFORNIA 96093  
PHONE (530) 623-1217 FAX (530) 623-8365

March 1, 2011

Trinity County has developed and commented on many fire and fuels projects proposed for the Shasta-Trinity and Six Rivers National Forest and are in the process of updating our Community Wildfire Protection Plans countywide. A major concern for the County is the increasing amount of fuel on National Forest Lands as a result of fires, windfall, insect and disease outbreaks, and other events.

We find that fuel loads on much of the landscapes in the county greatly exceed the natural range of variability and pose a tremendous risk to our communities and natural resources. With in this assessment area these events have left a significant fuel problem primarily on National Forest landscapes. If untreated these problems will only grow worse over the next several decades and will remain significant risks for up to 80 years or more.

When assessing fuel treatment, these areas should be given priority due to the risk they pose to adjacent values at risk including communities, associated infrastructure and adjacent forest resources.

Resistance to control of fire in these areas is extreme and will tax limited national, state and local resources and put local fire forces at risk until the conditions are improved. Many communities are starting to use resistance to control factors to focus on priority areas for fuel treatments.

Please reference Trinity County Resolution on National Forest Fuels and Vegetation Ordinance attached.

A handwritten signature in cursive script, appearing to read "Judy Morris", is written over a horizontal line.

JUDY MORRIS, Chairman  
Trinity County Board of Supervisors

JUDY PFLUEGER  
DISTRICT 1

JUDY MORRIS  
DISTRICT 2

ROGER JAEGEL  
DISTRICT 3

DEBRA CHAPMAN  
DISTRICT 4

WENDY OTTO  
DISTRICT 5

IN THE BOARD OF SUPERVISORS  
COUNTY OF TRINITY, STATE OF CALIFORNIA  
5th day of February 2008

RESOLUTION NO. 2008-006  
DECLARING A STATE OF EMERGENCY RELATED TO THE EXTREME  
WILDFIRE RISK IN TRINITY COUNTY

The following Resolution is now offered and read:

WHEREAS, the Trinity County Board of Supervisors has previously adopted local statutes for vegetation management due to our topography, climatology and the unnatural accumulation of fuels within our boundaries; and

WHEREAS, the accumulated fuel load on National Forests in Trinity County is a threat to public safety, health and economic stability due to the probability of catastrophic fires; and

WHEREAS, for the past several years the air quality in many portions of Trinity County posed significant health hazards to our citizens due to wildland fires within the County and adjoining counties; and

WHEREAS, exorbitant amounts of money are spent each year fighting fires in our national forests; and

WHEREAS, research and modeling has revealed that in 1999 during the Megram Fire in Trinity and Humboldt Counties, the carbon emissions (CO<sub>2</sub> equivalents) were 12,379,000 metric tons. This is the equivalent of 2,254,000 passenger vehicles on the road per year; and

WHEREAS, it is the duty of the Trinity County Board of Supervisors to protect and promote the safety and wellbeing of our residents; and

WHEREAS, the Trinity County Board of Supervisors has a fiduciary responsibility to protect the private property of our constituents bordering the national forests; and

WHEREAS, the Trinity County Board of Supervisors believe that measures must be taken to alleviate the fuel loads and lessen the danger of wildland fires;

NOW, THEREFORE, BE IT RESOLVED that in order to protect the citizens of Trinity County from further harm both physical and economic, and restore the natural balance of our forest lands, the Trinity County Board of Supervisors hereby declares an ongoing state of emergency within Trinity County with respect to the extreme fire dangers occurring on our public lands and the lack of progress in mitigating these risks;

BE IT FURTHER RESOLVED that the Trinity County Board of Supervisors hereby requests that the U.S. Forest Service develop forest management plans consistent with Trinity County ordinances, resolutions and policies and that strategies be developed and implemented to reduce the fuel loads on the National Forest lands within Trinity County.

Upon motion of Supervisor Jaegel, seconded by Supervisor Morris, and on the following roll call vote, to-wit:

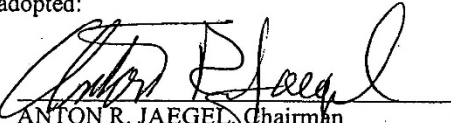
AYES: Supervisors Morris, Jaegel, Pflueger, Freeman and Reiss

NOES: None

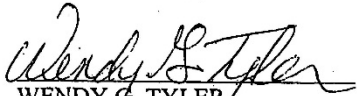
ABSENT: None

ABSTAINING: None

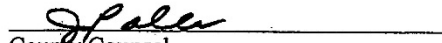
The foregoing resolution is hereby adopted:

  
ANTON R. JAEDEL, Chairman  
Board of Supervisors

ATTEST:

  
WENDY G. TYLER  
Clerk of the Board of Supervisors

APPROVED AS TO FORM AND LEGAL EFFECT:

  
County Counsel

Dated: 2/13/08



ORDINANCE NO. 1300  
AMENDING TITLE 8 OF THE TRINITY COUNTY CODE  
PERTAINING TO HEALTH AND SAFETY, FOR VEGETATION MANAGEMENT,  
AND DECLARING CERTAIN VEGETATION,  
AND CERTAIN WASTE MATERIALS A PUBLIC NUISANCE,  
AND PROVIDING FOR THE REMOVAL THEREOF

WHEREAS, Health & Safety Code Section 17958.7 requires that the County of Trinity before making any changes or modifications pursuant to Section 17958.5 make express findings that such changes or modifications are needed due to climatic, geographic, or topographic conditions; and

WHEREAS, the National Environmental Policy Act of 1969 ("the Act") requires that the responsible federal official issuing an Environmental Impact Statement obtain the comments and views of the appropriate Federal, State, and local agencies,

WHEREAS, the Board of Supervisors of the County of Trinity does herewith find that the County has certain climatic, geologic, and topographical features that can have a deleterious effect on emergency services such as fire protection and emergency medical services, and

WHEREAS, the Board of Supervisors finds that the modifications and changes to the Uniform Codes are reasonably necessary because of the following local climatic, geological, and topographical conditions, with an emphasis on public safety and community protection;

1. Trinity County is situated in south-central Klamath Mountains. Elevations range from 440 to 9025 feet above sea level. The climate is characterized by warm, dry summers and cool, wet winters. Thunderstorms occur in the dry season and lightning is a common cause of fire in the Klamath Mountains. The terrain is steep, deeply dissected, and complex.

2. The majority of homes in Trinity County are within the Wildland-Urban Interface (WUI), and are considered high risk for fire hazard.

3. The seasonal climatic conditions during the late summer and fall create numerous serious difficulties regarding the control of and protection against fires in Trinity County. The hot, dry weather typical of this area in summer and fall, often accompanied by high winds, frequently results in wildfires that threaten or could threaten Trinity County. Natural vegetation occurring in our region is extremely flammable.

4. The topography of Trinity County presents problems in delivery of emergency services, including fire protection. Some of those problems include hilly terrain with narrowed, winding roads, preventing rapid access and orderly evacuation. Many of these hills are covered with highly combustible or flammable natural vegetation. In addition to access and evacuation problems, the terrain makes delivery of water extremely difficult. Many areas are served by water pump systems subject to failure in fire, and other power failure situations.

WHEREAS, Section 50022.1 through 50022.10, inclusive, of the Government Code provide authority for the adoption by reference of codes, or portion of such codes; and

WHEREAS, the Knutson-Vanderberg Act of 1930 enabled the creation of a trust fund that collects a percentage of money from timber sales. Money from the fund can be used for reforestation, timber stand improvements, wildlife habitat work, and other resource improvements; and

WHEREAS, the health and safety of Trinity County and the residents thereof require the adoption of the following Ordinance; and

WHEREAS, the formation of this Ordinance is as directed by the Health and Safety Code of the State of California, Division 12, Part 5, Abatement of Hazardous Weeds and Rubbish Sections 14875 and 14876, and Part 6, Abatement of Hazardous Weeds and Rubbish, Alternative Procedures Section 14930 through 14931.

NOW THEREFORE, the Board of Supervisors of the County of Trinity State of California, ordains as follows:

SECTION I: That Title 8 County Code be amended by adding a new Chapter 8.68 as follows:

**8.68.010 Title** This chapter shall be known and cited as the "vegetation management ordinance" of the county.

**8.68.020 Findings** The Board finds that the County has certain climatic, geologic, and topographical features that can have a deleterious effect on emergency services such as fire protection and emergency medical services.

**8.68.030 Definitions** For the purposes of this chapter the following words and phrases shall have the meanings as described in this section:

- (a) "VEGETATION" is material that in its natural state will readily ignite, i.e., burn and transmit fire from native or landscape plants to any structure or other vegetation. Vegetation includes dry grass, brush, weeds, dead or dying timber, fire-prone trees, litter or other flammable vegetation that creates a fire hazard.
- (b) "DEAD, DYING OR DISEASED TREES" include pest or pathogen infested trees, that have been severely damaged or killed by fire, abandoned or neglected groves or other trees, which are in a dying condition or no longer living, if such conditions increase fire hazards.
- (c) "PARCEL" means any contiguous quantity of land in the possession of, or owned by, or recorded as the property of, or under management of, the same person or entity and which is located in the unincorporated area of the County of Trinity.
- (d) "WILDLAND-URBAN INTERFACE (WUI)" WUI is an area within or adjacent to an at-risk community that is identified in the recommendations to the Secretary of Agriculture or Secretary of the Interior in a Trinity County Community Wildfire Protection Plan.
- (e) "WASTE MATERIAL" is unused or discarded matter having no substantial market value, which is exposed to the elements and is not enclosed in any structure or otherwise concealed

from public view, and which consists of such matter and material as rubble, asphalt, other combustible material, and stock piled dead vegetation.

(f) "HAZARDOUS FIRE AREA" is land which is covered with grass, grain brush or forest, whether privately or publicly owned, which is so situated or is of such inaccessible location that a fire originating upon such land would present an abnormally difficult job of suppression or would result in great and unusual damage through fire or resulting erosion.

**8.68.040** **Certain Vegetation, And Other Items Declared a Public Nuisance** The following items are hereby declared a public nuisance:

(a) Excessive amounts of dry grass, stubble, brush, litter, dead or dying trees, or other flammable material, or overly dense forests which endangers the public safety by creating a fire hazard in a wildland-urban interface area.

(b) Cultivated areas and useful vegetation, and pasture will not be declared a public nuisance. However, if the Board's designee determines it necessary to protect adjacent improved property from fire exposure, an adequate firebreak may be required.

(c) Any accumulation of dry grasses or other flammable vegetation within one hundred (100) feet of any occupied structure, as required by Public Resource Code section 4291.

(d) Any accumulation of dry grasses or other flammable vegetation within thirty (30) feet of any aboveground flammable liquid or combustible gas vessel.

(e) Trees, if determined to increase the fire hazard, due to mortality, insect infestation, disease, excessive density or lack of maintenance standing or on the ground.

(f) Dead and/or dying groves and/or forests, standing or on the ground.

(g) Concentrations of vegetation as described in this ordinance of greater than 20 tons per acre.

**8.68.041** **Waste Material, Vegetation, Dead, Dying or Diseased Trees Declared a Public Nuisance** Waste material, vegetation, and dead, dying or diseased trees as herein defined, which by reason of its location and character would materially hamper or interfere with the prevention or the suppression of fire upon the premises or adjacent premises, or the abatement of a nuisance as defined by Sec. 12510, Health and Safety Code, is hereby declared a public nuisance.

**8.68.050** **Notice to Abate Hazard** If it is determined that a public nuisance or fire hazard as herein defined exists on any property, lot or premise, vacant or occupied, the Board's designee will cause a notice to be issued to abate such nuisances.

Such notice will be headed: "NOTICE TO ABATE HAZARD" which shall, in legible characters, direct the abatement of the nuisance or fire hazard and refer to this article and section for particulars. Notice to Abate Hazard served by means other than posting as provided by this article will contain a description of the property in general terms reasonably sufficient to identify the location of the nuisance.

For parcels owned or controlled by public agencies, the County shall provide Notice to said entity, require the area be included in the county Community Wildfire Protection Plan and request that the nuisance be abated in accordance with the Healthy Forest Restoration Act of 2003.

When appropriate, the County may request cooperating agency status on federal actions regarding this ordinance.

**8.68.051 Service of Notice to Abate Hazard** The notice required by Health and Safety Code sections 14890-14896 may be served in any of the following manners:

- (a) By personal service on the owner, occupant or entity in charge or control of the property.
- (b) By regular first class postage prepaid mail addressed to the owner or entity in charge and control of the property, at the address shown on the last available assessment roll, or as otherwise known.
- (c) By posting at a conspicuous place on the land or abutting public right-of-way and insertion of an advertisement at least once a week for a period of two weeks in a newspaper of general circulation in Trinity County. Such newspaper advertisement will be a general notice that property in Trinity County has been posted in accordance with this article and contains a general statement of the effect of such posting. The date of such newspaper advertisements will not be considered in computing the appeal periods provided by this article, which shall not commence until 14 days after the date of the last such newspaper advertisement.

**8.68.060 Right of Appeal to Board of Supervisors** Within thirty (30) days from the date of posting, mailing or personal service of the required notice, or end of publication period as stated above, the owner or entity occupying or controlling such property affected may appeal to Trinity County Board of Supervisors. Such appeal will be in writing and will be filed with the Clerk of the Board of Supervisors. At the regular or adjourned meeting of the Board, not less than five (5) days nor more than thirty (30) days thereafter, it will proceed to hear and pass upon such appeal, and the decision of the Board of Supervisors thereupon will be final and conclusive.

**8.68.070 Time Limit for Removal of Nuisance** It will be the duty of the owner, the agent of the owner, or the entity in possession of any property in Trinity County to abate the nuisance or fire hazard as stated within thirty (30) days from the date of notification as provided herein, or in case of an appeal to the Board of Supervisors, within thirty (30) days from the determination thereof, unless the same is sustained. For parcels owned or controlled by public agencies, the entity shall issue a Notice of Intent to prepare an environmental assessment or categorically exempt the abatement within thirty (30) days of notification or Board determination. If available, Knutson-Vanderberg trust funds shall be used for such abatement work.

**8.68.080 Abatement of Nuisance** If the owner or entity in possession of the property fails or neglects to abate the nuisance as herein defined, within the time specified in the article, the Board's designee may cause such nuisances or fire hazard to be abated. Private contractors may do the abatement work. A report of the proceedings and an accurate account of the cost of abating the nuisance or fire hazard on each separate property will be filed in the Board of Supervisors' Office.

**8.68.090 Expense of Abatement Report and Hearing** The County Auditor will keep an account for the costs of abatement plus an administrative fee for each parcel abated as defined in the Trinity County Fee ordinance. A written itemized Abatement Report showing the cost of removal and abatement of hazards shall be prepared for the Board's approval. At least three (3) days prior to the date of the hearing a copy of the report will be posted in a public place at the offices of Trinity County Board or Supervisors, showing the date and time of the hearing. A copy of the report and notice of hearing date will be sent to the last known owner of the parcel as listed in the County Assessor's Office.

At the specified date and time, the Board will receive the report. In considering the report, the Board will hear it and any objections of the property owners or entity in control of the property liable to be assessed for the work of abatement. After receiving the report and hearing the objections, if any, the Board may make such modifications in the report, as it deems necessary, after which, by Board action, the report shall be confirmed. After the report has been confirmed, the County will seek cost recovery from the property owner entity in control of the property prior to implementing the provisions of Section 8.68.100 of this Ordinance.

**8.68.100 Government Code Provisions Adopted, and Collection of Assessments** The provisions of Section 39580 through 39586, inclusive, of the Government Code of the State of California are incorporated by reference and made a part of this Ordinance and shall be followed in determining the existence of a nuisance and need for and cost of abatement thereof. The County Auditor shall enter each assessment in the County Tax Roll opposite the parcel of land. The amount of the assessment shall be collected at the time and in the manner of ordinary property taxes. If delinquent, the amount is subject to the same penalties and procedure of foreclosure and sale as is provided for ordinary property taxes.

**8.68.110 Forest Practice Act and County Plan Compliance** Any project undertaken to comply with the requirements of this ordinance, whether by the landowner or on behalf of the County as a nuisance abatement, shall comply with the California Z'berg-Nejedly Forest Practice Act, Public Resources Code sections 4511 et seq., as amended from time to time, as well as the Trinity County General Plan, applicable community plans and their goals, objectives and policies, as amended from time to time.

**8.68.120 Violation** The owner, occupant, entity in control of the property, or their agent of any property within Trinity County who will permit or allow the existence of a public nuisance as defined in this Ordinance, upon any lot or premise owned, occupied, or controlled by him or her, or who shall violate any of the provisions of this Ordinance, shall be guilty of a misdemeanor and upon conviction thereof be subject to a fine of not more than Five Hundred Dollars (\$500.00), or to imprisonment for a period not exceeding six (6) months, or both."

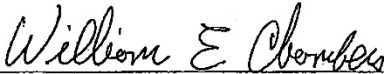
SECTION II: This ordinance shall take effect and be in full force and effect thirty (30) days after its passage and before the expiration of fifteen (15) days after passage of this ordinance, it shall be filed with the California Building Standards Commission and it shall be published once with the names of the members of the Board of Supervisors voting for and against the ordinance in the Trinity Journal, a newspaper of general circulation published in the County of Trinity State of California.

Introduced at a regular meeting of the Board of Supervisors held on the 19th day of September 2006, and passed and adopted by the Board of Supervisors of the County of Trinity State of California, on the 3rd day of October 2006, by the following roll call vote, to-wit:

AYES: Supervisors Reiss, Jaegel, Freeman and Morris

NOES: None

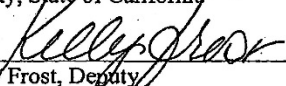
ABSENT: Supervisor Chambers

  
WILLIAM E. CHAMBERS  
Chairman of the Board of Supervisors  
of the County of Trinity, State of California

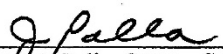
ATTEST:

WENDY G. TYLER

Wendy G. Tyler  
Clerk of the Board of Supervisors, County of  
Trinity, State of California

By   
Kelly Frost, Deputy

APPROVED AS TO FORM AND LEGAL EFFECT:

  
Jeanette Palla, County Counsel

Dated: 10.10.06

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## **Appendix J – Trinity County CWPP 2010 Update Divisions - Project Maps and Tables**