



LIVING WITH **WILDFIRE** IN NORTHWESTERN CALIFORNIA



3RD EDITION





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“Fire is the best of servants, but what a master!”

Thomas Carlyle

“Wildfire is the great consumer, and is a living entity. It breathes, it eats, it sleeps, it produces waste, and it has an equal-opportunity appetite.

Wildfire draws no distinction between, nor has any preference for, brush, trees, houses, firefighters, or any other fuel type.”

Rod Mendes, Hoopa Fire Chief

Welcome to the 2019 Edition of Living with Wildfire in Northwestern California

Both 2017 and 2018 were significant fire years in the state, producing unprecedented destruction, particularly in the north. In 2018, we experienced the Carr Fire near Redding, the Mendocino Complex (the largest fire on record in California), and the Camp Fire, which devastated the community of Paradise. These three fires alone destroyed 20,688 structures, burned over 842,000 acres, and left 94 dead. In October 2017, the North Bay Fire siege included the Tubbs, Atlas, and Redwood Valley Fires, which combined for almost 125,000 acres burned, 6,965 structures destroyed, and 37 fatalities. **These six incidents are amongst the largest, most destructive, and deadliest fires in the state's history.** Firefighters and equipment are overwhelmed when fires ignite under hot, windy weather with tinder-dry vegetation.

We strive to have a community that can live with and be resilient to fire. This publication has great information about how we can move toward that goal.

You can improve your home's survivability in a wildfire beyond the standard requirement to have 30 feet of space around the home cleared of flammable vegetation, and a reduced fuel zone to 100 feet. Consider the embers that are created by a wildfire. By limiting the places where these embers can lodge and get the structure burning, the chance of structure loss is reduced. Think about where embers could land in receptive materials by your house and clear this fuel away. Strive to have nothing flammable within the first 5 feet of your house. Look at the other great suggestions in this magazine for more information.

Fuel-management projects are underway by fire agencies and other interested groups. Roads that serve as main arteries into an area may be cleared to improve the egress and ingress—your ability to get out while emergency equipment is getting in. Some shaded fuel breaks have been done, providing firefighters better suppression

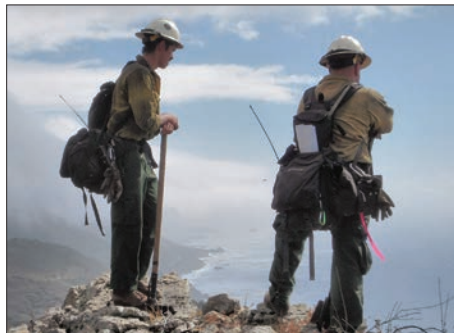
success with lower flame lengths and slower fire spread. And local groups such as the Humboldt County Prescribed Burn Association (page 43) are increasing prescribed fire use—good fire introduced at the right time—which changes the fuels available during a wildfire. Local capacity for prescribed burning is being enhanced through the Training Exchange (TREX) burns (page 45). Please help these efforts to be successful, with more good fire helping limit the unwanted wildfires.

Evacuation depends upon knowing that an emergency exists. Quick notification can be critical in a fast-moving fire. Many of the fatalities from wildfires are due to people being caught as they're evacuating. Emergency notification services are used in Humboldt, Del Norte, and Trinity counties. See page 49 of this publication to learn how to register for notifications. Mobile phones will not get emergency notifications unless you have signed up with these services.

When you get notice to evacuate, please don't delay. Be ready to pack up the irreplaceable items (photos, important documents, etc.) and leave. Think about where the fire is burning, and which direction the fire is going. Evacuate away from the fire area. Things can be replaced, but you are irreplaceable. Consider what to do if you can't evacuate. Sheltering in your home as a wildfire burns through is dangerous, but it may be your best opportunity for survival if you cannot evacuate to a safe area.

We live in challenging times. Making a community resilient to wildfire is no easy task. Your awareness and help are needed to prepare for the next wildfire. We hope this guide will help.

*Hugh Scanlon, Unit Chief, retired,
CAL FIRE's Humboldt – Del Norte Unit*



A Message from the Sponsors of this Publication

The goal of this publication is to raise awareness about wildfire hazards and provide tools and information that can help residents and visitors prepare their families, properties, and landscapes to survive and thrive in a wildfire-prone environment.

Welcome to Northwestern California, a great place to live and vacation. This area is known for many natural wonders including cool rivers, redwood forests, clean beaches, rugged mountain ranges, and abundant wildlife habitat. This region is also rich with culturally and spiritually significant areas. Pastoral landscapes are dotted with small cities and picturesque towns. Clusters of development and individual homes are sprinkled throughout rural areas, often alongside or intermixed within beautiful wildlands.

Each year, the threat of losses to natural and human-caused wildfire grows for residents and visitors, homes, infrastructure, and natural landscapes. The wildfires of 2018 broke records for the deadliest, most destructive, and largest wildfires in California history. In fact, over the past two years, more than 30,000 structures were destroyed. That's about six times more structures destroyed than in the previous three years combined.

Our group came together to sponsor this publication because we recognize that it will take a unified and informed public to prepare for the inevitability of wildfire—a critical component of our natural environment. There is much to be done individually and collectively to prepare ourselves to coexist with and ultimately survive wildfire. With a little guidance, every action can make a positive difference. The following pages contain information, checklists, testimonials, and activities intended to provide you with the information necessary to take action to prepare your home and community before a wildfire ignites. You will also find tips about what you can do to prevent unwanted, human-caused wildfires.

This area is fortunate to have a high-capacity combination of federal, tribal, state, and local fire services dedicated to protecting our communities. In addition, there are many local and tribal grassroots groups such as Fire Safe Councils, Firewise Communities, and cultural burn and prescribed fire associations, all committed to working independently and collaboratively with agency partners toward more wildfire-resilient landscapes and communities. This publication introduces you to these impressive professionals and volunteers and provides information about how you can get involved.

Each of us has a responsibility and a role in our collective efforts to reduce the potential negative impacts of wildfire on our communities and our cultural and natural resource values. The more we work together to make our homes and communities resilient to wildfire, the more we can accomplish toward this goal. Efforts to become fire safe benefit not only you and your family, but also your neighbors and our community as a whole.

Thank you for taking the time to read through the wildfire safety information provided in this magazine. We hope you find this information helpful. We encourage you to keep this magazine handy, so that you may reference it often as you work to prepare your home and property. Please feel free to contact the sponsors of this magazine for more information about how to *Live with Wildfire in Northwestern California*.

We would also like to express our gratitude to each of you who takes the time to prepare your home and property, as well as nearby natural landscapes, so they are resilient to damage from the next wildfire.

**Kurt McCray, Unit Chief,
CAL FIRE Humboldt-Del Norte Unit (HUU)**

**Thomas K. Mattson, Public Works Director,
County of Humboldt, Humboldt County
Fire Safe Council**

**Becky Barlow, Director,
Del Norte County Fire Safe Council**

**Rod Mendes, Chief, Hoopa Fire Department
and Office of Emergency Services**

**Ted O. McArthur, Forest Supervisor,
Six Rivers National Forest**

**Dean Baker, Director,
Yurok Tribe Wildland Fire Program**



Help Firefighters Help You

Did you know...

- ✓ Firefighters don't just fight fire – they are usually the first at the scene of medical emergencies and traffic accidents which, in many cases, make up over 50% of their emergency responses.
- ✓ Volunteers in Northwestern California are a huge asset to local fire departments and the communities they serve. Almost ALL fire departments in this region – even those associated with a special district – rely on volunteers. In fact, many of them have ONLY volunteers, without any paid staff.
- ✓ Most local fire departments are in urgent need of individuals interested in serving as volunteer firefighters, emergency medical responders, apparatus operators, and/or logistics and administration support.
- ✓ Firefighting resources are NOT cheap, and most departments rely on grants, community donations and fundraisers to survive. Here are some reasons why:
 - All costs are increasing: equipment, insurance, apparatus and facility maintenance and repair, fuel, medical supplies, training, and more...
 - A new fire engine can cost over \$450,000. Even a used engine can cost up to \$150,000.
 - Personal Protective Equipment costs to outfit a single firefighter can exceed \$3,500.

Local Fire Service Needs Your Support

Not sure if firefighting or emergency medical services are for you, but you still want to serve your community? There are many ways you can support your local fire department!

- ✓ Make a monthly, yearly, or one-time donation.
- ✓ Donate your time and abilities! Fire departments need volunteers for more than just firefighting. You can assist in: fundraising, administration, maintenance, logistics, traffic control, public education, and fire prevention.
- ✓ Remember to drive safe, stay healthy, and maintain your defensible space.
- ✓ Use the following Fire Protection Agencies directory pages to find a local fire department near you and find out how you can help.

Call today!

VOLUNTEER!

Make a difference and enrich your own life.

Volunteering for your local fire department can:

- Help you learn new skills.
- Fulfill a family tradition.
- Give you a sense of camaraderie as part of a team.
- Help you gain experience.
- Prepare you to pursue an exciting career as a firefighter.
- Increase your sense of community identity and pride.
- And much more!

Think you have what it takes to be a volunteer firefighter?

Get in touch with the local fire department nearest you and start your adventure.

No Experience Necessary to Apply!

Local fire departments establish different selection criteria; however, many departments require that volunteers:

- Be at least 18 years of age.
- Have a valid driver's license.
- Be healthy and in good physical condition.
- Complete basic fire and emergency medical service training (sometime within the first year of service).
- Meet the minimum ongoing training requirements.
- Respond to a certain percentage of calls.

IF YOU HAVE AN EMERGENCY, CALL 911

911 Calling Tips

- Know the phone number from which you are calling.
- Know where you are: Use an address, cross street, name of a business.
- If you don't know, ask someone or look for a piece of mail for the address.
- Latitude and longitude/GPS coordinates work great too.
- Communicate to 911 the nature of the emergency.
- Listen to the questions and instructions of the dispatcher.
- Do not hang up until instructed to do so.

CAL FIRE 911
Emergency Command Center
Fortuna, CA

FIRE PROTECTION AGENCIES IN HUMBOLDT COUNTY

For more information on Humboldt County Fire Agencies, visit:
humboldt.gov/fireprotectionservices

ALDERPOINT VOLUNTEER FIRE DEPARTMENT

POB 164, Alderpoint, CA 95511
707-926-5486

ARCATA FIRE PROTECTION DISTRICT

631 9th Street
Arcata, CA 95521
2149 McKinleyville Avenue
McKinleyville, CA 95519
707-825-2000
arcatafire.org

Fire Protection Services in Northwestern California



BLUE LAKE VOLUNTEER FIRE DEPARTMENT

POB 245, Blue Lake, CA 95525
707-668-5765

BRICELAND VOLUNTEER FIRE DEPARTMENT

POB 124
Briceland, CA 95560
707-923-7204

BRIDGEVILLE VOLUNTEER FIRE DEPARTMENT

POB 51, Bridgeville, CA 95526
707-777-3424

CARLOTTA VOLUNTEER FIRE DEPARTMENT

POB 33, Carlotta, CA 95528
707-768-1714

FERNDALE VOLUNTEER FIRE DEPARTMENT

POB 485, Ferndale, CA 95536
707-786-9909
ferndalefire.org

FIELDBROOK VOLUNTEER FIRE DEPARTMENT

4584 Fieldbrook Road
Fieldbrook, CA 95519
707-839-0931
fieldbrookfire.org

FORTUNA VOLUNTEER FIRE DEPARTMENT

320 South Fortuna Boulevard
Fortuna, CA 95540
707-725-5021

FRUITLAND RIDGE VOLUNTEER FIRE DEPARTMENT

POB 87, Myers Flat, CA 95554
707-932-1484

GARBERVILLE VOLUNTEER FIRE DEPARTMENT

POB 288, Garberville, CA 95542
707-923-3196

HONEYDEW VOLUNTEER FIRE COMPANY

POB 74, Honeydew, CA 95545
707-601-8688
honeydewfire.com

HOOPA VOLUNTEER FIRE DEPARTMENT

POB 1321, Hoopa, CA 95546
530-625-1118
hoopa-nsn.gov

HUMBOLDT BAY FIRE

533 C Street, Eureka, CA 95501
707-441-4000
hbfire.org

KARUK DEPARTMENT OF NATURAL RESOURCES

39051 Hwy 96, POB 282
Orleans, CA 95556
530-627-3446

KNEELAND VOLUNTEER FIRE DEPARTMENT

6201 Greenwood Heights Road
Kneeland, CA 95549
707-442-3252
kneelandfire.org

LOLETA VOLUNTEER FIRE DEPARTMENT

POB 766, Loleta, CA 95551
707-845-3090

MIRANDA VOLUNTEER FIRE DEPARTMENT

POB 160, Miranda, CA 95553
707-223-3246

MYERS FLAT VOLUNTEER FIRE DEPARTMENT

POB 131, Myers Flat, CA 95554
707-350-3813

ORICK VOLUNTEER FIRE DEPARTMENT

101 Swan Road
Orick, CA 95555
707-834-6162

ORLEANS VOLUNTEER FIRE DEPARTMENT

POB 312, Orleans, CA 95556
530-627-3344

PALO VERDE VOLUNTEER FIRE COMPANY

POB 1381, Redway, CA 95560
707-499-7570

PETROLIA VOLUNTEER FIRE DEPARTMENT

POB 169, Petrolia, CA 95558
707-629-3558

PHILLIPSVILLE VOLUNTEER FIRE DEPARTMENT

POB 39, Phillippsville, CA 95559
707-616-3107

REDCREST VOLUNTEER FIRE DEPARTMENT

POB 27, Redcrest, CA 95569
707-672-5840

REDWAY VOLUNTEER FIRE DEPARTMENT

POB 695, Redway, CA 95560
707-923-2617

RIO DELL VOLUNTEER FIRE DEPARTMENT

50 West Center Street
Rio Dell, CA 95562
707-764-3329
riodellfire.com

SALMON CREEK VOLUNTEER FIRE DEPARTMENT

POB 662, Miranda, CA 95553
707-322-6516

SAMOA PENINSULA VOLUNTEER FIRE DEPARTMENT

1982 Gass Street
Fairhaven, CA 95564
707-443-9042
samoafire.org

SCOTIA VOLUNTEER FIRE DEPARTMENT

145 Main Street
Scotia, CA 95565
707-764-4322

SHELTER COVE VOLUNTEER FIRE DEPARTMENT

9126 Shelter Cove Road
Whitethorn, CA 95589
707-986-7507
sheltercove-ca.gov/fire/fire.htm

SOUTHERN HUMBOLDT TECHNICAL RESCUE

POB 458, Redway, CA 95560
707-223-0042

SPROWEL CREEK VOLUNTEER FIRE DEPARTMENT

POB 2122, Redway, CA 95560
707-223-3399

TELEGRAPH RIDGE VOLUNTEER FIRE DEPARTMENT

POB 1152, Redway, CA 95560
707-986-7488



TRINIDAD VOLUNTEER FIRE DEPARTMENT

POB 390, Trinidad, CA 95570
707-677-0224

WESTHAVEN VOLUNTEER FIRE DEPARTMENT

446/460 6th Avenue
Westhaven, CA 95570
707-677-0388

WHALE GULCH VOLUNTEER FIRE DEPARTMENT

76850 B Usal Road
Whitethorn, CA 95589
707-986-1219

WHITETHORN VOLUNTEER FIRE DEPARTMENT

POB 485, Whitethorn, CA 95589
707-986-4103

WILLOW CREEK VOLUNTEER FIRE DEPT.

POB 51, Willow Creek
CA 95573
530-629-2229



FIRE PROTECTION AGENCIES IN TRINITY COUNTY

COFFEE CREEK FIRE DISTRICT

HC 2, POB 4659
Trinity Center, CA 96091
530-266-3955

DOUGLAS CITY FIRE DEPARTMENT

POB 10, Douglas City
CA 96024
530-623-5110

DOWNRIVER VOLUNTEER FIRE COMPANY

POB 608, Big Bar, CA 96010
530-623-5431 after 3 pm

HAWKINS BAR VOLUNTEER FIRE DEPARTMENT

POB 485, Salyer, CA 95563
530-629-2527, 530-739-2493

HAYFORK FIRE

POB 668, Hayfork, CA 96041
530-628-5126

HYAMPOM FIRE

POB 39, Hyampom, CA 96046
530-628-5755

JUNCTION CITY FIRE

POB 263, Junction City
CA 96048
530-739-9900

KETTENPOM-ZENIA VOLUNTEER FIRE DEPT.

POB 101, Zenia, CA 95595
707-496-1058

LEWISTON FIRE

POB 164, Lewiston, CA 96057
530-778-3869

POST MOUNTAIN FIRE

POB 1026, Hayfork, CA 96041
530-628-4645, 530-739-5989

SALYER FIRE

POB 235, Salyer, CA 95563
530-629-2778, 530-629-2073



SOUTH TRINITY FIRE

POB 16, Mad River, CA 95552
707-574-6353

TRINITY CENTER FIRE

POB 191,
Trinity Center, CA 96091
530-266-3420, 530-356-6756

WEAVERVILLE FIRE

POB 447,
Weaverville, CA 96093
530-623-6156

FIRE PROTECTION AGENCIES IN DEL NORTE COUNTY

CRESCENT CITY FIRE & RESCUE

255 West Washington Blvd.,
Crescent City, CA 95531
707-464-2421

FORT DICK FIRE PROTECTION DISTRICT

6534 Kings Valley Road
POB 369, Fort Dick, CA 95538
707-487-8185

GASQUET FIRE PROTECTION DISTRICT

100 Firehouse Road
POB 85 Gasquet, CA 95543
707-457-3332

KLAMATH FIRE PROTECTION DISTRICT

16081 Redwood Highway
Klamath, CA 95548
707-482-3311

PELICAN BAY STATE PRISON FIRE DEPARTMENT

5905 Lake Earl Drive
Crescent City, CA 95532
707-465-9105

SMITH RIVER FIRE PROTECTION DISTRICT

245 Haight Avenue
Smith River, CA 95567
707-487-5621

CAL FIRE FOREST FIRE STATIONS

CAL FIRE HUMBOLT-DEL NORTE UNIT – FORTUNA

118 South Fortuna Boulevard
Fortuna, CA 95540
707-725-4413

ALDERPOINT STATION

19545 Alderpoint Road
Alderpoint, CA 95511
707-926-5353

BRIDGEVILLE STATION

38737 Kneeland Road
Bridgeville, CA 95526
707-777-3636

CRESCENT CITY STATION

1025 Highway 101
Crescent City, CA 95531
707-464-5526

ELK CAMP STATION

Bald Hills Road, Orick
CA 95555
707-499-2240

GARBERVILLE STATION

324 Alderpoint Road
Garberville, CA 95542
707-923-2645

KLAMATH STATION

POB 278, Klamath, CA 95548
707-482-7355

MATTOLE STATION

44056 Mattole Road
Petrolia, CA 95538
707-629-3344



THORN STATION

13298 Briceland-Thorn Road
Whitethorn, CA 95589
707-986-7553

TRINIDAD STATION COUNTY SERVICE AREA #4

POB 749, Trinidad, CA 95570
707-677-3638

WEOTT STATION

370 Newton Road, Weott
CA 95571
707-946-2215

HOOPA INDIAN RESERVATION

HOOPA FIRE DEPARTMENT

POB 369, Hoopa, CA 95525
530-625-4366

REDWOOD NATIONAL PARK

WOLF CREEK FIRE STATION

Orick, CA
707-488-5125

SIX RIVERS NATIONAL FOREST RANGER STATIONS

SIX RIVERS NATIONAL FOREST HEADQUARTERS

1330 Bayshore Way
Eureka, CA 95501
707-442-1721

GASQUET, SMITH RIVER RECREATION AREA

10600 Highway 199
POB 228, Gasquet, CA 95543
707-457-3131

LOWER TRINITY

580 Highway 96
Willow Creek, CA 95573
530-629-2118



MAD RIVER

741 State Highway 36
Bridgeville, CA 95526
707-574-6233

ORLEANS

1 Ishi Pishi Road
Orleans, CA 95556
530-627-3291

YUROK INDIAN RESERVATION

YUROK TRIBE WILDLAND FIRE PROGRAM

POB 194, Hoopa, CA 95546
530-625-4130

Del Norte County Fire Chiefs' Association

The Del Norte County Fire Chiefs' Association (DNCFCA) is a non-governmental organization formed as a common venue for the fire departments within Del Norte County to work collectively on local, regional, state, and national issues related to fire and Emergency Medical Services (EMS) facing our departments and community. The participating members include Klamath Fire Protection District, Fort Dick Fire Protection District, Gasquet Fire Protection District, Smith River Fire Protection District, Crescent City Fire & Rescue, Pelican Bay State Prison Fire Department, CAL FIRE, Redwood National Park, and the United States Forest Service.

Our ultimate goal is to provide the best level of customer service to our communities, citizens, and visitors in Del Norte County. With collaboration of the member agencies, we are able to increase our response capabilities through automatic and mutual aid (departments helping other departments during emergencies), training, and planned common communications on emergency incidents.

DNCFCA encourages our community members to learn how to prepare for disasters: take a CPR class, become fire safe in your home, have two ways out, practice home-escape drills, and establish a family meeting place during emergencies. Have smoke detectors in your home—and

make sure they work! Be prepared for earthquakes and tsunamis; have emergency supplies and know your evacuation routes. Maintain fire clearance and defensible space around your home. Mark your address on your home and driveway to help us find you when you experience an emergency. Help your community by joining your local volunteer fire department.

The DNCFCA typically meets on the fourth Wednesday of each month at 10 AM, with locations spread among the participating member departments. For more information, contact any one of our participating agencies listed above (see page 7).



Humboldt County Fire Chiefs' Association



The primary objective of the Humboldt County Fire Chiefs' Association is to improve the level of service throughout the county by increasing coordination,

communication, standardization, and support. The desire to work together to improve interoperability is the driving force behind the efforts of the Fire Chiefs. The Association is composed of local government (volunteer fire companies, fire districts, and municipal fire), tribal, and state agencies.

Humboldt County fire service faces numerous challenges inherent to the rural nature of the area in which we live. We continually struggle with financial hardship, volunteer recruitment and retention, and providing services beyond jurisdictional boundaries. However, the Humboldt County Fire Chiefs and the departments they serve are determined to continue to work with the Board of Supervisors and County staff to find solutions.

As Humboldt County's fire service, we do not take lightly the responsibility of providing high-quality emergency services to our communities. We appreciate and value the opportunity to provide these services.

The Fire Chiefs coordinate and sustain several programs and innovations that work together to support an ever-increasing level of fire service in Humboldt County. Cooperation and communication among various groups both within and outside the Association allow for the continual advancement of local fire service. These sub-groups and other agencies include Southern Humboldt Fire Chiefs, Eel River Valley Fire Chiefs, Humboldt County Fire Instructors, Fire Prevention Officers, Fire Arson Task Force, North Coast EMS, Southern Humboldt Technical Rescue, Eel River Valley Technical Rescue, Humboldt Fire Safe Council, and CAL FIRE.

Visit HumboldtGov.org/FireChiefsAnnualReport for more information on the Association and its component organizations.

Hoopla Fire Department and Office of Emergency Services



Since 1987 the Hoopa Fire Department—the first compacted tribal fire department in the nation —has been the showcase for other tribal fire departments throughout the United States. (“Compacted” means the tribe has a contract with the US government allowing it to manage the program via self-governance.) The Hoopa Fire Department is a national resource, and it is the only Tribal Fire Department that has Direct Protection Area Responsibility (DPA) for the Hoopa Indian Reservation. As a leader in tribal fire programs, it is our responsibility to maintain a high level of professionalism and dedication within our organization.

The Hoopa Fire Department operates under the umbrella of the Bureau of Indian Affairs as a parent agency, and it is considered a federal resource when assigned to incidents. We take pride in working alongside our federal, state, and local government and NGO partners. Our goal for the Fire Department is very simply put: *“Continue to seek and utilize new technologies to meet the dynamic needs of our community by providing support, training, and encouragement to individuals within our fire organization. We will actively participate in our community, serve as role models, and strive to have all the services we provide deemed excellent by the people we serve.”*

Fire Department and OES staff include:

- Chief of Fire and OES
- Division Chief of Fire
- Battalion Chief of Fire and Fuels
- Assistant Chief of OES
- 4 Fire Captains
- Administrative Officer
- Administrative Assistant
- Office Technician
- 18 Firefighters including WUI crew members

Response and WUI Equipment:

- Three Type 3 Engines
- Two Type 4 Engines
- One Type 2 Water Tender
- Three Track Skid Steer Units

The Hoopa Fire Department under the command of Rod Mendes, Chief of Fire and OES, is composed of all levels and components of a comprehensive Fire Management Program, with additional functions in Emergency Management with the integration of the Hoopa Office of Emergency Services (OES). Although the primary mission of the Fire Department is to respond to vegetation fires, we also have an all-risk component as a result of the integration of OES. Responses to fires constitute only a small part of the day-to-day operations of the Fire Department and OES. We provide assistance to cooperators through the California Mobilization Guide and the National Mobilization Guide. The Fire Department also has a Fuels Management program and is responsible for all prescribed fire and cultural burning on the reservation, as well as comprehensive work in the wildland-urban interface (WUI).

Responses to fires occur approximately 250 to 300 times per year, along with the provision of support and management during local and national disaster operations. The WUI program targets about 500 acres per year on the valley floor and provides mitigation of vegetation removal by means of mowing, chipping, mastication, and burning. Our target for prescribed fire is about 200 acres per year of activity fuels from logging operations.

For more information contact the Hoopa Fire Department/Office of Emergency Services at 530-625-4366.



Yurok Wildland Fire Program



The Yurok Wildland Fire Program (YWFP) is based out of the Tulley Creek station approximately seven miles northeast of Weitchpec, along the Klamath River. The program currently staffs up to two wildland fire engines when responding to a wildland fire assignment. The Type-6 wildland

fire engine is a four-wheel-drive Ford F-550, holding 350 gallons of water with foam capability. The Type-4 wildland fire engine is a two-wheel-drive International, holding 750 gallons of water with foam capability. Both are powered by a Vanguard V-twin 23-horsepower water pump.

The YWFP is an integral part of the Yurok Office of Emergency Services, serving their local communities in a variety of ways during times of disaster.

In addition to the Yurok Wildland Fire Program, the Yurok Volunteer Fire Department (VFD) has worked with upper-reservation citizens to establish fire programs and awareness efforts to mitigate fire danger. The Yurok VFD was formed in 2004 with supporting grant funding to build two fire stations in the upper Yurok Reservation area. They are in the process of rebuilding and working to recruit more volunteers, secure much-needed additional equipment, and improve response communications.



Fire and rescue response is challenging within the Upper Yurok Reservation due to a variety of factors. Many access roads off the main roadways are in poor condition and cannot support larger fire-suppression and emergency response vehicles. Response times can be long because of road conditions, travel distances, and limited and fluctuating numbers of available firefighters.

To learn more about the Yurok Wildland Fire Program, contact: Edward Mann, Yurok Tribe Forestry Director, 707-482-2841, ext. 1032, 707-954-1409, emann@yuroktribe.nsn.us; or Blaine McKinnon, Yurok Tribe Fire Management Program Battalion Chief, 530-625-1900, bmckinnon@yuroktribe.nsn.us; or Kim Mamaradlo, Program Administrator, 707-482-2841 ext. 1034, kmamaradlo@yuroktribe.nsn.us.

For questions regarding the Yurok Office of Emergency Services, contact Dean Baker, Director of Yurok Office of Emergency Services and Public Works, 707-954-5603, 707-482-1350 ext. 1324, or dbaker@yuroktribe.nsn.us.

To learn more about the Yurok VFD, call Yurok Tribal Police at 707-482-8185.



CAL FIRE Humboldt–Del Norte Unit



The California Department of Forestry and Fire Protection (better known as CAL FIRE), Humboldt–Del Norte Unit (HUU), is one of 21 CAL FIRE administrative units statewide. There is a diverse and expansive list of duties that include emergency response, fire suppression, fuel-reduction

projects, timber harvest administration, forest and fire law enforcement, and fire-prevention planning. These duties are carried out by 11 fire stations, three fire crew conservation camps, one air attack base, one helitack base, and one emergency command center. HUU maintains 14 frontline engines, two reserve engines, two dozers, 12 inmate fire crews, 1 helicopter, 1 air attack, and 1 air tanker. There are 100 permanent fire-suppression personnel and 11 clerical personnel to staff these efforts. Additionally, approximately 90 limited-term and seasonal personnel supplement permanent staff during fire season. There are also 15 resource management foresters who evaluate timber-harvesting practices and permitting.

The Unit's goals are to reduce ignitions and resultant fires through education, information, planning, and enforcement. Increasing public awareness helps focus efforts by individuals and communities to reduce human loss and property damage from wildland fire. This mission is carried out through defensible-space inspections, hazardous-fuel-reduction projects, fire-prevention education, and fire-safe regulations and building standards. Fire-prevention programs are coordinated with Fire Safe Councils (FSCs)

and local fire departments. While striving to achieve these goals, the Unit's objective is to see reduced fire ignitions, property loss, and damage to the environment.

CAL FIRE is one of the largest fire departments in North America. We respond to more than 340,000 incidents statewide annually. In Humboldt and Del Norte counties, CAL FIRE responds to over 1,500 incidents annually. Over the past several years, emergency response to wildfire has increased due to drought, land ownership fragmentation, and increasing human activity in the wildland fire environment. In Humboldt and Del Norte counties, calls for emergency service have increased dramatically. Most of Humboldt and Del Norte counties are served by volunteer fire departments. On average, each volunteer department is committing to thousands of human-power hours each year. There are 44 volunteer fire departments between Humboldt and Del Norte counties. There are also three full-time career fire departments in the two counties. Over the last three years, local-agency volunteers and career staff between both counties have responded to more than 15,000 calls for service annually. CAL FIRE works with all the fire departments in both counties.

CAL FIRE is a signatory agency to several cooperative agreements. These are reciprocal, which allow CAL FIRE to receive and give mutual aid with state, local, and federal agencies. CAL FIRE's local federal cooperators are the US Forest Service, Bureau of Land Management, National Park Service, US Fish and Wildlife Service, and Bureau of Indian Affairs.



Consider a Career with the US Forest Service



Challenge Yourself to NEW LIMITS!

Be a Wildland Firefighter for the US Forest Service

- Free Training
- No Experience Required
- Temporary and Permanent Jobs Available
- Must be 18 Years Old

 #WorkForNature

fs.fed.us/working-with-us/jobs/events

To view upcoming employment opportunities, visit the following Forest Service websites:
fsoutreach.gdcii.com/Outreach • fs.fed.us/managing-land/fire/careers
fs.fed.us/working-with-us/jobs

For more information about the Six Rivers National Forest, go to:
fs.usda.gov/srnf • facebook.com/SixRiversNF
twitter.com/SixRiversNF



We Live in a Wildfire Environment

The scenic natural landscapes of northwestern California make this area an enticing place to live. The intermingling of human developments—roads and houses—with these undeveloped wildlands is known as the wildland-urban interface (or “WUI” for short). It is critical that people who live in the WUI be aware of their increased vulnerability to wildfire damage, know what can be done to reduce their risk, and prepare their homes for the possibility of wildfire.

Fire has traditionally been, and will continue to be, an integral part of northwestern California’s landscapes. These ecosystems evolved with fire. Consequently, many native plants are adapted to burn periodically—they need fire to be healthy, reproduce, and survive. Native American tribes often used fire as a tool to improve food and cultural resources, such as acorns, basketry material, and grasses. Settlers in the 1800s also used fire to improve and maintain grasslands for livestock.

These more frequent, low-intensity fires helped keep forest ecosystems healthy by burning away dead vegetation and brush. These fires replenished soil nutrients and prevented forests and shrublands from becoming overcrowded, which can lead to less vigorous trees that are more vulnerable to insects and diseases.

Beginning in the early 1930s, the practice of fire suppression interrupted the region’s natural fire cycle, allowing the accumulation of vegetation and dead fuels in forest understories. Large amounts of combustible materials usually mean higher fuel loads, contributing to wildfires burning more severely.

Catastrophic wildfires are on the rise, with California experiencing some of the largest and most damaging wildfires in our nation’s history. Climate change is contributing to swinging between too little and too much precipitation and extreme temperatures. In addition to decades of accumulated fuel loads in the forests, abundant rain can lead to more grass and other flashy fuels (those that burn quickly). Combine these fuels with increasing human development in the WUI, and the risk of destructive wildfire increases greatly. Add in a hot, dry, windy spell, and it only takes a spark to create the next wildfire conflagration.

SUDDEN OAK DEATH

A significant increase in hazardous fuels occurred in the last two decades as a result of the introduction of sudden oak death (SOD), a plant disease caused by the invasive forest pathogen *Phytophthora ramorum*. The disease was introduced to California in the mid-1990s through the horticultural plant trade (e.g. rhododendron, camellia, and viburnum species). This pathogen became established in our native forests and has caused widespread dieback of tanoak and several true oak species throughout coastal California counties. Bay laurel is a common host, infecting nearby oak stands. Warm wet conditions help the disease spread; this can lead to high levels of tanoak mortality. These dead trees increase the already high levels of woody forest fuels.

General land-management practices that are beneficial for fuel-hazard reduction may help reduce the infestation and spread of sudden oak death. These include but are not limited to:

- Thinning the understory of tanoak forests.
- Removing dead and dying trees.
- Reducing ladder fuels.
- Reintroducing fire through prescribed burning.
- Facilitating more air flow through forest stands to reduce their humidity.



Sudden oak death can lead to widespread tanoak mortality.

Fire Regimes and You: Learning About Fire Isn't Optional

Increasing your local fire knowledge—including fire history—is critical to learning to live with wildfire. In places where most residents have a high degree of fire knowledge, the impacts from wildfires are drastically reduced, and the benefits increase from prescribed fire and even properly managed wildfire, resulting in resilient, diverse, and productive forests. Learning about your local fire regime and actively participating in how fire is managed is the single most important factor in creating a positive fire future—for you, for Northwestern California, for the entire state, and beyond.

A 2016 review of fire-history studies across the Sierra* poignantly showed that humans have caused all recent major fire-regime shifts in the region.

Before the early 1700s, fires moved frequently across these landscapes—a pattern that served to limit the size of future fires. Whatever fuels that lightning didn't take care of were burned by Native Americans' land-management practices.

The first transition came when Spaniards occupied the region with millions of livestock. The grasses that covered the open forest floor were so heavily grazed that fires were not able to spread, and thus fuels accumulated in pockets and fires became more sporadic, and more severe. Fast forward to the Gold Rush era, where prospectors intentionally set high-severity fires to expose ore veins, while further decimating native peoples still managing landscapes with fire where they could. Then in 1911, Congress passed the Weeks Act, launching the fire-suppression era we are still in today. These shifts in human management overshadowed all other variables in defining how fire shaped the landscape.

Here in Northwestern California, especially in forests shaped not just by fire but by coastal fog, it has been relatively easy to extinguish most wildfires before they get really big. This has caused a huge increase of fuel on the forest floor, with extreme levels of fuel accumulation across the landscape. And the forests themselves, in the long absence of fire, have shifted so drastically that they no longer support the same kind of lower-level "maintenance" fires they once did. Instead, during drought periods these dense forests can spawn explosive wildfires. As we enter this period of rapidly changing climate, never-before-seen extreme wildfire behavior is becoming an annual phenomenon.

Still, fire is grounded in place, and asking the right questions about your fire regime and finding the answers could save your home, your forest, even your life. These include:

- Where have fires occurred in recorded history in my area? You can view this data at CAL FIRE FRAP's website: frap.fire.ca.gov/data/frapgismaps/pdfs/firep_17_map.pdf.
- What lessons were learned from these individual fires? What caused them? What impacts and benefits did they have?
- How did these fires, or lack thereof, affect forests in my area? Where are there fuel jackpots and contiguous, even-aged forests that could support extreme wildfire behavior?
- What specific work can I do to reduce risk from wildfires—on my own property, my access route, working with neighbors, FSCs, NGOs, CAL FIRE, and others?
- How can we manage recent fire footprints to maintain them in a reduced-fuel state?
- What actions over time will reduce risks and potentially increase benefits from wildfires?

This last question could involve updating local Community Wildfire Protection Plans, collaboratively mapping networks of existing fuel breaks, defining where wildfire under certain conditions might provide resource and community benefits, and planning new strategic fuel breaks that create the decision space for fire managers to not always choose rapid suppression as the only response. By now, we know where this full-suppression path leads: straight to Paradise, CA. It is up to us, to you, to choose a new path.

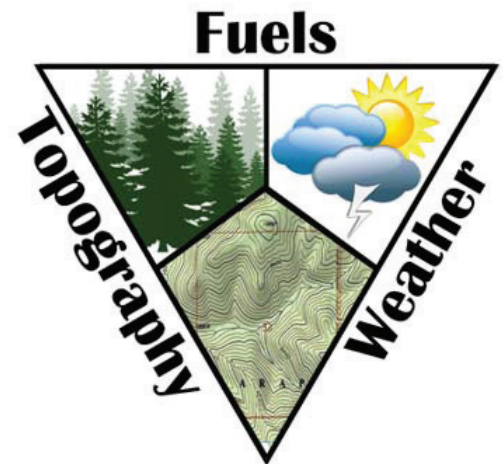
**Taylor et al. (2016), "Socioecological transitions trigger fire regime shifts and modulate fire-climate interactions in the Sierra Nevada, USA, 1600-2015 CE," PNAS 113(48): 13684-89*



Fire Behavior: Do Fires Really Behave?

How quickly a fire spreads (rate of spread) and in which direction, how hot it burns (heat output), fire intensity, flame length, residence time (the time for a flame to pass), and whether it is a surface or a crown fire—these are all aspects of what’s known as fire behavior. The faster, hotter, and bigger a fire becomes, the more difficult it is to control and the more destructive it can be.

Knowing the attributes of fire behavior is important in order to communicate the various threats from any fire and the benefits of mitigation. This information helps us to understand fire’s resistance to control, the potential for damage, and the positive impacts of fire in nature’s balance.



There are three major contributing factors that affect fire behavior: Fuels, Topography, and Weather

Fuels are any combustible materials. For wildfire, fuels generally consist of living vegetation (trees, shrubs, grass) and dead plant material (dead trees, dried grass, fallen branches, pine needles, etc.). Homes in the path of a wildfire can become fuel too. The amount, size, moisture content, and arrangement of fuels have an influence on fire behavior. Drier fuels ignite more easily, and the more dense and continuous the distribution of fuels is, the more extreme the fire’s behavior will be. Grass is a light, flashy fuel that burns quickly, while heavier fuels such as downed trees take longer to ignite and burn for longer periods of time. A fire burning through fuels that are spaced farther apart will not burn as quickly, while a fire burning through fuels that are crowded and continuous will tend to burn hotter and more rapidly.

Topography refers to characteristics of the landscape, including slope, aspect, and surface configurations such as mountains, valleys, canyons, and drainages. Fire behavior tends to increase the steeper the slope, and is particularly rapid and erratic in narrow canyons and drainages, which can create a chimney effect whereby a convection column of heat drives the fire quickly upwards. Fire behavior also tends to be greater on slopes with south and southwest aspects, because they receive more sun during the hottest part of the day, drying out fuels and making them more ignitable.

Weather has the greatest influence on fire behavior. Characteristics such as wind, temperature, and relative humidity (i.e., moisture in the air) will influence fuels, making them more or less receptive to fire, and often creating conditions for increasing fire behavior. In general, winds, high temperatures, and low relative humidity will increase fire behavior.

Extreme Fire Behavior

“Extreme” implies a level of fire-behavior characteristics that largely precludes methods of direct control. One or more of the following behaviors are usually involved: high rate of spread, prolific crowning and/or spotting ahead of the main fire, presence of fire whirls, and a strong convection column. Predictability is difficult because such fires often exert some degree of influence on their environment and behave erratically, sometimes

dangerously. Fire suppression and control is almost impossible when a fire exhibits extreme behavior. In recent years, some fires in California have exhibited extreme fire behavior. This is in large part due to weather and fuel conditions in California aligning to support rapid and extreme fire growth. It is imperative that anyone living in these conditions be prepared to evacuate quickly.

For information about fire weather, fire danger, fire analysis, fuels conditions, and more, visit: gacc.nifc.gov/oncc/predictive/weather.

Ignition Sources: How Do Fires Start?

Fire is a chemical reaction, resulting from an ignition source, with the necessary combination of heat, fuel, and oxygen. When enough heat is applied to a fuel, the result is fire. Heat is required to begin the reaction. Once started, fire produces its own combustion-sustaining heat, and the chain reaction continues until any one of the elements of fuel, heat, or oxygen is removed.

Natural ignition sources such as summer thunderstorms can produce lightning strikes, which have long been the most common natural fire ignition source in Northern California. Many lightning-caused fires occur in remote, forested areas; however, a single storm can generate numerous lightning strikes, resulting in multiple fires that occur simultaneously. Multiple wildfires within the same geographic region can spread firefighting resources thin and limit suppression capabilities. Sometimes when these fires are ignited in remote areas, human detection may not happen right away, allowing fires to grow large.

Most wildfires in California are caused by humans!

Most human-caused fires are started by accident. This means that the number of wildfires started by humans can be significantly reduced with some prevention education and by increasing awareness of the actions and conditions that tend to spark accidental wildfires.



Humans Accidentally Cause Wildfires By...

Vehicles and Towing: For many of us, the vehicles we drive become second nature, and it is easy to forget that they are potentially dangerous machines that require maintenance. Vehicles can easily create sparks that can lead to wildfires, and it's the driver's responsibility to be mindful of and take action to prevent that from occurring. For example, never let a chain drag on the ground when towing since it can trigger flying sparks. *See page 21.*



Equipment and Machinery Use: Lawn mowers, weed whackers, chainsaws, and other machinery are useful tools for managing vegetation on your property. However, it is critical to always be mindful of fire hazard conditions when operating equipment and machinery outside. Weather conditions that are hot, dry, and windy cause low moisture levels in vegetation, making them highly receptive to a single spark from your equipment and igniting a fire. Early morning, when the air is cooler and moister and the wind is calmer, is the best time to use equipment during fire season.



Campfires: Campfires are an all-time favorite part of the camping experience, but it's important to remember that summer—the most popular time for camping—is also fire season. Campfires are the third leading cause of human-caused wildfires. Safe and responsible management of campfires is crucial to protecting yourself and others, as well as the natural surroundings you're there to enjoy. *See pages 18 to 19.*



Debris Burning: Debris or pile burning is an effective way to dispose of debris from vegetation management on your property. However, there are sensible regulations on how and when this is done, and for good reason. Unattended or oversized burn piles can “escape” and cause wildfires that put homes and people directly at risk. *See page 42.*

Not all human-caused fires start by accident...

Arson is a serious problem for some communities in this region. Grave consequences ensue for perpetrators who endanger countless lives and properties and cause potentially millions of dollars in damages. If you have information about arson behavior, or suspect someone of arson, don't hesitate... Make a report!

Call the CAL FIRE Arson Hotline: 1-800-468-4408



OPEN CAMPFIRE SAFETY RULES

Campfire Safety to Prevent Wildfire

LEARN HOW TO BUILD AN OPEN CAMPFIRE, MAINTAIN IT DURING THE BURN TIME AND HOW TO EXTINGUISH AN OPEN CAMPFIRE WHEN FINISHED:

BUILD

TO BUILD AN OPEN CAMPFIRE



SELECT A LEVEL, OPEN LOCATION AWAY FROM HEAVY FUELS SUCH AS LOGS, BRUSH OR DECAYING LEAVES AND NEEDLES.

5 FT



CLEAR AN AREA AT LEAST 5 FEET FROM FIRE'S EDGE (LOCAL REGULATIONS MAY VARY).



SCRAPE AWAY GRASS, LEAVES OR NEEDLES DOWN TO THE MINERAL SOIL.



CUT WOOD IN SHORT LENGTHS, PILE WITHIN CLEARED AREA AND LIGHT THE FIRE.



SCOOP A DEPRESSION IN THE CENTER OF THE CLEARED AREA IN WHICH TO BUILD THE FIRE AND PUT A RING OF ROCKS AROUND IT.



THE FIRE SHOULD BE BUILT NO LARGER THAN NECESSARY FOR COOKING OR PERSONAL WARMTH.



YOUR FIRE MUST NEVER BE LEFT UNATTENDED AND THE FIRE MUST BE EXTINGUISHED COMPLETELY BEFORE LEAVING.

BURN

THE FIRE IS BURNING



KEEP A SHOVEL AND BUCKET OF WATER NEARBY AT ALL TIMES.



WHILE THE FIRE IS BURNING, BE SURE THERE IS A RESPONSIBLE PERSON IN ATTENDANCE OF THE FIRE AT ALL TIMES.



NEVER LEAVE CHILDREN AROUND A FIRE UNATTENDED.

OUT

COMPLETELY EXTINGUISH AN OPEN CAMPFIRE



USE THE "DROWN, STIR AND FEEL" METHOD: DROWN THE FIRE WITH WATER, THEN STIR AROUND THE FIRE AREA WITH YOUR SHOVEL TO WET ANY REMAINING EMBERS AND ASH.



FEEL THE AREA WITH THE BACK OF YOUR HAND TO ENSURE NOTHING IS STILL SMOLDERING.



TURN WOOD AND COALS OVER AND WET ALL SIDES.



MOVE SOME DIRT ONTO THE FIRE SITE AND MIX THOROUGHLY TO FULLY SMOTHER IT.

ONE LESS SPARK
ONE LESS WILDFIRE

FOR MORE INFORMATION AND A PRINT-READY CAMPFIRE PERMIT VISIT:
PREVENTWILDFIRECA.ORG
#PREVENTWILDFIRE #ONELESSSPARK

BROUGHT TO YOU BY THE CALIFORNIA WILDLAND FIRE COORDINATING GROUP (CWCG)

CAMPFIRE SAFETY

Visitors – Please Be Safe When Enjoying Our Backyard!

How to Pick Your Spot

Follow these steps when picking your burning site to promote wildfire safety:

- DO NOT build a fire at a site in hazardous, dry conditions.
- DO NOT build a fire if the campground area or event rules prohibit campfires.
- FIND OUT if the campground has an existing fire ring or fire pit, and if there are any current campfire restrictions.

If there is not an existing fire pit, and pits are allowed, look for a site that is at least 15 feet away from tent walls, shrubs, trees or other flammable objects. Beware of low-hanging branches overhead.

Building Your Campfire Pit from Scratch

Whether building a campfire pit yourself, or preparing a pit that you found on your campsite, there are some important safety tips you should follow. Some campsites have unsuitable pits or may not offer pre-made pits at all. If this is the case:

- Choose a spot that is downwind, protected from wind gusts, and at least 15 feet away from your tent and gear.
- Choose a 10-foot-diameter area around the site. Remove any grass, twigs, leaves and firewood. Make sure there aren't any tree limbs or flammable objects hanging overhead.
- Dig a pit in the dirt, about a foot deep.
- Circle the pit with medium-large rocks.
- Your pit is built and ready for your campfire!
- Remember to always keep a bucket of water and a shovel ready.

Note: In some areas, digging pits is not allowed because of archaeological or other concerns. Please find out the rules in your area before digging.

Extinguishing Your Campfire

When you're ready to put out your fire and call it a night, follow these guidelines:

- Allow the wood to burn completely to ash, if possible.
- Pour lots of water on the fire, drown ALL embers, not just the red ones.
- Pour water on fire until all hissing sounds stop.
- Stir the campfire ashes and embers with a shovel.
- Scrape the sticks and logs to remove any embers.
- Stir and make sure everything is wet and cold to the touch.
- If you do not have water, use dirt. Mix enough dirt or sand with the embers, and stir until all material is cool, adding more dirt or sand, as needed.
- Do NOT bury the fire as the fire will continue to smolder and could catch roots on fire that will eventually get to the surface and can start a wildfire.

REMEMBER: If It's Too Hot To Touch, It's Too Hot To Leave!

Do Not Burn Dangerous Things!

- **NEVER** burn aerosol cans or pressurized containers; they may explode.
- **NEVER** put glass in the fire pit. It is unlikely that it will get hot enough to melt and more likely that it will heat up and shatter, creating broken slivers of glass that are dangerous.
- **DO NOT** put aluminum cans in the fire pit. They are unlikely to break down completely and inhaling aluminum dust can be harmful to your lungs.

Get Your California Campfire Permit Free Online at:

PreventWildfireCA.org/Campfires

ONE LESS SPARK ONE LESS WILDFIRE



CAUSED BY: HOMEOWNERS

Use the Right Equipment

Use string vegetation trimmers to cut tall, dry grass.



Remove Rocks

Remove rocks from dry grass or weeds. Metal mower blades hitting rocks start wildfires.



Be Ready!

Have water and a fire extinguisher readily available.



Only You Can Prevent Wildfires.

HAVE WATER AND/OR A FIRE EXTINGUISHER AVAILABLE AND KNOW HOW TO USE THEM.



California Wildfire Coordinating Group
Produced in cooperation with the USDA Forest Service, which is an equal opportunity service provider and employer.
Photography by Forest Service: Mark Thibideau and Ron Hodgson July 2013



EQUIPMENT SAFETY

Practice Using Equipment Safety

LEARN HOW TO USE OUTDOOR EQUIPMENT PROPERLY TO HELP KEEP FROM SPARKING A WILDFIRE:

MOWING

MOW BEFORE 10 A.M., BUT NEVER WHEN IT'S WINDY OR EXCESSIVELY DRY.

LAWN MOWERS ARE DESIGNED TO MOW LAWNS, NOT WEEDS OR DRY GRASS.

METAL BLADES STRIKING ROCKS CAN CREATE SPARKS AND START FIRES.

SPARK ARRESTERS



IN WILDLAND AREAS, SPARK ARRESTERS ARE REQUIRED ON ALL PORTABLE GASOLINE-POWERED EQUIPMENT. THIS INCLUDES TRACTORS, HARVESTERS, CHAINSAWS, WEEDEATERS AND MOWERS.

KEEP THE EXHAUST SYSTEM, SPARK ARRESTERS AND MOWER IN PROPER WORKING ORDER AND FREE OF CARBON BUILDUP.



USE THE RECOMMENDED GRADE OF FUEL AND DON'T TOP IT OFF.

EQUIPMENT USE

KEEP A SHOVEL AND A FIRE EXTINGUISHER READY TO USE.



10 FT

IN WILDLAND AREAS, GRINDING AND WELDING OPERATIONS REQUIRE A PERMIT AND 10- FEET OF CLEARANCE.



DON'T DRIVE YOUR VEHICLE ONTO DRY GRASS OR BRUSH. HOT EXHAUST PIPES AND MUFFLERS CAN START FIRES THAT YOU WON'T EVEN SEE—UNTIL IT'S TOO LATE!



KEEP A CELL PHONE NEARBY AND CALL 911 IMMEDIATELY IN CASE OF FIRE.

TERRAIN

TO PROTECT WATER QUALITY, DO NOT CLEAR VEGETATION NEAR WATERWAYS TO BARE SOIL.



VEGETATION REMOVAL CAN CAUSE SOIL EROSION, ESPECIALLY ON STEEP SLOPES.



KEEP SOIL DISTURBANCE TO A MINIMUM.

ONE LESS SPARK
ONE LESS WILDFIRE

FOR MORE INFORMATION AND A PRINT-READY CAMPFIRE PERMIT VISIT:
PREVENTWILDFIRECA.ORG
#PREVENTWILDFIRE #ONELESSSPARK

BROUGHT TO YOU BY THE CALIFORNIA WILDLAND FIRE COORDINATING GROUP (CWCG)

ONE LESS SPARK ONE LESS WILDFIRE



CAUSED BY: VEHICLES

Safe Towing

Dragging chains will throw sparks. Never substitute parts when towing. Only use appropriate safety pins & hitch ball.



Nothing Dragging

Make sure your vehicle is properly maintained, with nothing dragging on the ground.



Be Wheel Safe

Check tire pressure. Driving on an exposed wheel rim throws sparks.



Only You Can Prevent Wildfires.



California Wildfire Coordinating Group



Produced in cooperation with the USDA Forest Service, which is an equal opportunity service provider and employer.

Photography by Forest Service: Mark Thibideau and Ron Hodgson
RS-PR-030

June 2013

PreventWildfireCA.org

How Homes Catch Fire



Home and building loss during wildfires occurs as a result of some part of the building igniting from one or more of the three basic wildfire exposures: 1) embers, 2) radiant heat, and 3) direct flame contact.

Embers cause the majority of wildfire home ignitions by directly igniting a structure, or by igniting vegetation or materials on or near a structure, resulting in flames touching the house or creating a high-heat exposure that may break window glass.

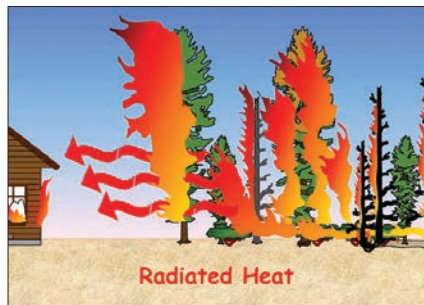
Embers that land on or near your home can accumulate (like hail), and easily ignite plants, mulch, dry leaves, and/or lawn furniture. They can also land on the roof, deck, or porch and depending on the condition of each, may find a gap to enter the house or catch accumulated dry leaves on fire. Embers can also commonly enter your home or attic through a vent or open window, easily igniting the contents of the house and burning the home, seemingly from the inside out. When embers enter the house directly, there is often little damage to the surrounding vegetation, and many people are left puzzled as to what caused the home to burn.

Three Ways Your Home Can Be Exposed to Fire



Burning Embers

Embers are burning pieces of vegetation (i.e. needles or branches) or parts of a neighboring home that travel via wind, creating a “hail storm” of burning materials. These embers can travel more than a mile in front of a wildfire and create spot fires when they land on combustible materials on or near the home. They can also enter the home via an open window or door, or through vents.



Radiant Heat

Radiant heat, generated from burning structures or vegetation, may be hot enough to directly ignite a house. A fire in an outbuilding or your neighbor’s home can ignite your home without direct flame contact through radiant heat transfer.



Direct Flame

Depending on the time and exposure, direct flame contact can ignite your home. Eliminating combustible materials next to your home can reduce the ability of flames to touch your house.

Preparing Your Home for the Eventuality of Wildfire

“Hardening” your home and creating “defensible space” are essential to improve your home’s chance of surviving a wildfire. Recent research shows that eliminating ignitable fuels from the house itself and the first five feet surrounding it are critical for reducing the probability of home ignition.

The vast majority of homes burned in wildfires ignite from windblown embers landing in a “receptive fuelbed,” or vulnerable spot(s), not from a wall of flames. Proper defensible space (managing the vegetation and other fuels surrounding the structures) will preclude the likelihood of a wall of flame reaching the house, which

allows firefighters the option to evaluate defending the home. It will also allow them to stick with the defense longer if they feel threatened and consider evacuating themselves.

Creating and maintaining defensible space around your home can dramatically increase your home’s chance of surviving a wildfire and improves the safety of firefighters defending your property. One hundred feet of defensible space is required by law. Defensible space, in conjunction with home hardening, is your property’s front-line defense against wildfire!

Defensible Space Basics

You will learn how to create your defensible space in the following pages.

Some of the basics to keep in mind include:

- ✓ Keep your gutters and roofs clean of all leaves and needles.
- ✓ Focus on what is immediately around your home. Surround your home and deck with a 5-foot zone that will not support ignition from wind-blown embers. This zone can include noncombustible materials such as rock mulch, stone pavers, cement, bare earth, gravel, or sand. Low-combustibility materials can work, such as an irrigated and maintained lawn (less than 5 inches in height), or irrigated, non-woody herbaceous plants under 5 inches in height. Leaves, needles, or other vegetation that falls in this 5-foot zone must be removed during fire season.
- ✓ Keep all flammable material (e.g. firewood or propane tanks) at least 30 feet from homes or structures. During a wildfire event, also move anything else that can burn—such as patio furniture—beyond this zone.
- ✓ For landscaping within 5 to 30 feet of your home, consider the combustibility of your plant choices. While no plant is immune to fire, certain plants are less flammable. Choose and maintain plants that have:
 - Leaves that are moist and supple.
 - Little dead wood, and tend not to accumulate dry, dead material within the plant.
- ✓ Within 100 feet be sure to maintain clearance between vegetation branches and prune each individual plant. Clearance does not mean dirt or gravel—it’s about flammability—so remove things that are easily ignitable from this area. If you live on a hill, you might extend this up to 200 feet, depending upon the steepness of the slope, and the presence of surrounding fuel.
- ✓ In order to reduce the intensity and rate of spread of an approaching wildfire, reduce the overall volume of fuel, and modify their structure (by focusing removal on the smaller, kindling-like fuels) and arrangement (by breaking up their continuity both horizontally and vertically).
- ✓ Remember the other species that share the land. Leave a vegetation buffer around streams and other sensitive areas.

Know the Law for Defensible Space and Protecting Your Home

CAL FIRE defines defensible space as: “...the buffer you create between a building on your property and the grass, trees, shrubs, or any wildland area that surrounds it. This space is needed to slow or stop the spread of wildfire and it protects your home from catching fire—either from direct flame contact or radiant heat. Defensible space is also important for the protection of firefighters defending your home.”

California is divided into areas where local, federal, or the State of California (via CAL FIRE) has primary financial responsibility for the prevention and suppression of wildland fires. If you live in a “State Responsibility Area” (SRA) there are important requirements to protect yourself and your property from wildfire.

Defensible Space: California law (Public Resources Code 4291) requires that property owners control and maintain vegetation around their buildings to 100 feet (or the property line if less than 100 feet). Reducing the combustible live and dead vegetation in this zone will help slow the progress of an approaching wildfire and provide a safe place for firefighters to defend your home. It also helps to keep a fire that starts on your property from

spreading to your neighbors. To achieve this reduced-fuel zone, start by managing the fuels closest to your home and work outward toward the 100-foot zone (or further on steep slopes) or the property line.

Building Codes: If you live in an SRA-designated area classified as moderate, high, or very high fire severity, there are building codes specifically designed for building homes to resist wildfire. These codes are informed by recent wildfires and published by the Office of the State Fire Marshal. The codes are designed to help homeowners build homes to resist both embers and flames. The codes give specific guidance about construction materials and installation techniques for roofs, ventilation, windows, decking, and other important components of a wildfire-resistant home.

Make sure to check with your local fire station and building department about laws in your area, as many local jurisdictions may have more stringent requirements.

Want to know more? Visit:

osfm.fire.ca.gov/codedevelopment/wildfireprotection and PreventWildfireCA.org

Fuels Management Should Protect Water and Wildlife

Creating and maintaining defensible space does not mean that you need to clearcut your property. Rather, your goal is to remove the most flammable materials and create islands of vegetation for shade and other values. Balance your fire-safety actions with general ecosystem health.

Don't disturb the ground around streams or you could cause erosion that will harm fish. If you live near a stream, stay at least 100 feet away from it—or outside of the streamside management area—in your clearing activities, unless you are working directly with a resource professional like a Registered Professional Forester. It's okay to remove some dead vegetation in a stream area (like pruning in your garden). Don't take out live vegetation—especially trees—near streams or rivers. Always maintain a shaded canopy for fish. Finally, many species of wildlife—such as bear, fox, bobcat, songbirds, and others—use streams as corridors to move from one area to another. Leave them some cover to be able to do this without disturbing you, and vice versa.

If you believe that more intensive treatment is necessary near a stream, contact your Planning or Building Department to determine if a special permit is required for work within a streamside management area:

Del Norte County:

707-464-7254

Co.Del-Norte.CA.US/Departments/Community-Development-Department/Planning-Division

Humboldt County:

707-445-7245

HumboldtGov.org/156/Planning-Building

Trinity County:

530-623-1351

TrinityCounty.org/Planning

Hardening Your Home to Survive Wildfire

What is a Hardened Home?

“Fire hardened” means your home is as secure as possible from wildfire threats. It does NOT mean fireproof; rather, you have protected the weakest parts of your home, or your home’s vulnerabilities, with proven building materials and/or techniques to resist some heat and flame along with the ember storm that accompanies wind-driven wildfires. A common misconception is that buildings burn randomly during wildfire events, but this is not the case. It is the most vulnerable homes, those built or retrofitted without consideration for fire-safe construction, that have the greatest likelihood of burning.

Part of learning to live with wildfire is cultivating an understanding that we have some control regarding how we address this vulnerability, and how we can prepare for and manage fire in our individual communities. Some hardened-home features are mandatory for new construction, and these suggested standards are also useful when remodeling or making improvements to your home to enhance its fire safety.

Three priority considerations and target areas for hardening your home to wildfire are: the roof, the vents, and materials immediately surrounding the home.

Visit **Wildfire Protection Building Construction** for detailed legal requirements in California.:
OSFM.Fire.CA.gov/CodeDevelopment/WildFireProtectionBuildingConstruction

Ignition-Resistant Building Materials

Ignition-resistant building materials are those that resist ignition or sustained burning when exposed to embers and small flames from wildfires. Examples of ignition-resistant materials include “non-combustible materials” that don’t burn, such as fiber cement siding, composition tile roofing, or other retardant-treated wood lumber that is listed by the Office of the State Fire Marshal (SFM) and any material that has been tested in accordance with SFM Standard 12-7A-5.

Additional Home Fire-Safety Steps Are Available At:

ReadyForWildfire.org/Hardening-Your-Home

DisasterSafety.org/IBHS/IBHS-Wildfire-Publications

UCANR.edu/Sites/Fire/Prepare/Building

ANRCatalog.UCANR.edu/pdf/8393.pdf

Being Ready—Preparing Your Home and Property for Wildfire

Homes survive wildfire through a combination of the following factors: 1) careful landscape selection, placement, and maintenance, 2) awareness and management of combustible materials on the property (e.g. leaf litter or lawn furniture) during fire season, and 3) incorporation of fire- and ember-resistant construction materials, installation details, and maintenance. Use the suggestions below to “harden” your home by reducing its vulnerability. Keep in mind that developing wildfire resilience is more than having a metal roof or stucco siding. Ember-resistant construction relies on awareness of the small details that can make your home vulnerable to embers, in addition to building with appropriate materials and carrying out regular home and property maintenance. It takes the combination of both defensible space and hardening of your home to give your house the best chance of surviving a wildfire.

Here are some things you can do to harden your home and make it more fire resistant. Your top 3 priorities should be your roof, vents, and near-home vegetation.

Roof

The roof is the most vulnerable part of your home and has the greatest exposure to embers.

- Inspect and repair, or replace your roof with materials that meet “Class A” standards such as asphalt shingles or metal.
- Plug gaps between your roof covering and sheathing to prevent ember entry.

Vents

Vents are important for moisture management, but they can also allow embers to enter the attic, soffit, or foundation.

- Upgrade all vent openings with 1/8-inch metal mesh, or install new vents that resist embers and/or flames.

Eaves and Soffits

With open-eave construction, inspect and plug gaps around rafter roof tails and blocking.

- Upgrade to soffit eave design if possible.



This newly constructed home utilized a soffit eave with a baffle vent that helps resist both flame and ember penetration.

Windows

Heat from a wildfire can cause windows to break even before the home ignites. This allows burning embers or flames to enter and start fires inside. Single-paned and large windows are particularly vulnerable.

- Install or upgrade to multi-pane tempered glass.
- Remove vegetation or other combustible materials outside a window.

Siding

Siding is vulnerable if exposed to flames or radiant head for extended periods of time.

- Inspect all siding and plug or caulk gaps and joints.
- Maintain 6 inches of vertical noncombustible space above the ground, in addition to the horizontal 5-foot noncombustible zone around your home to reduce flame penetration.



The vertical and horizontal noncombustible zone helped this house survive the 2018 Carr Fire.

- ❑ Replace shingle or shake siding with something ignition resistant.
- ❑ Where a neighboring home or outbuilding is less than 30 feet away, use of noncombustible or ignition-resistant materials is recommended.

Decks

Decks are vulnerable to fires from embers igniting vegetation or materials stored below the deck.

- ❑ Ensure that all combustible items are removed from underneath, on, or next to your deck.

Rain Gutters

Embers can easily ignite leaves and needles caught in a gutter. These fires often get under the roof and enter the attic.

- ❑ Inspect and clean gutters regularly to reduce accumulations of leaves or needles.
- ❑ Use gutter guards to reduce caught debris.

Chimney

- ❑ Cover your chimney and stovepipe outlets with a non-combustible screen.

Garage

Have a fire extinguisher and tools such as a shovel, rake, bucket, and hoe available for fire emergencies.

- ❑ Install weather stripping around and under the garage door to prevent embers from blowing in.
- ❑ Store all combustible and flammable liquids away from ignition sources.
- ❑ Know how to operate your garage door when the power is out.

Fences

- ❑ When a fence or gate connects to a house or outbuilding, use metal fence materials within 5 feet of the building to prevent the fence from burning right up to your home during a wildfire.



This cabin has good defensible space, though a perimeter foundation would improve the design.

Driveways and Access Roads

Driveways should be built and maintained in accordance with state and local codes to allow fire and emergency vehicles to reach your home. Maintain access roads with a minimum of 10 feet of clearance on either side, allowing for two-way traffic.

- ❑ Ensure that all gates open to accommodate emergency equipment.
- ❑ Trim trees and shrubs overhanging the road to allow emergency vehicles to pass.

Address

- ❑ Make sure your address is clearly visible from the road.

Water Supply

Consider having multiple garden hoses that are long enough to reach all areas of your home and other structures on your property.

- ❑ If you have a pool or well, consider getting a pump.
- ❑ Best practices are to provide a 2½-inch water line from your tank to a standpipe fitted with 1½-inch fire hose fittings coordinated with your local department.



The combination of defensible space and hardening will provide your house the best chance of surviving a wildfire. This newly constructed home utilized fire resistant construction materials and incorporated an essential noncombustible zone.

Defensible Space Zones

Several zones make up the required 100 feet of defensible space around a structure.

Zone 1A — extends 5 feet out from buildings, decks, and other structures

- The goal is to reduce ignition from wind-blown embers.
- Use noncombustible materials such as rock, mulch, stone pavers, cement, bare earth, gravel, or sand.
- Use low-combustibility materials such as an irrigated and maintained lawn (<5 inches in height) and/or irrigated non-woody, fleshy plants (<5 inches in height).
- Leaves, needles, or other vegetation that falls in this 5-foot zone must be removed during fire season.

Zone 1 — extends 30 feet out from buildings, decks, and other structures

1. Remove all dead plants, grass and weeds.
2. Remove dead or dry leaves and pine needles from your yard, roof, and rain gutters.
3. Trim trees regularly to maintain a minimum of 10 feet clearance between branches of adjoining trees or shrubs.
4. Remove dead branches that hang over your roof. Keep branches 10 feet away from your chimney.
5. Relocate woodpiles outside of this zone.
6. Remove flammable plants and shrubs near windows.
7. Remove vegetation and items that could catch fire from around and under decks.

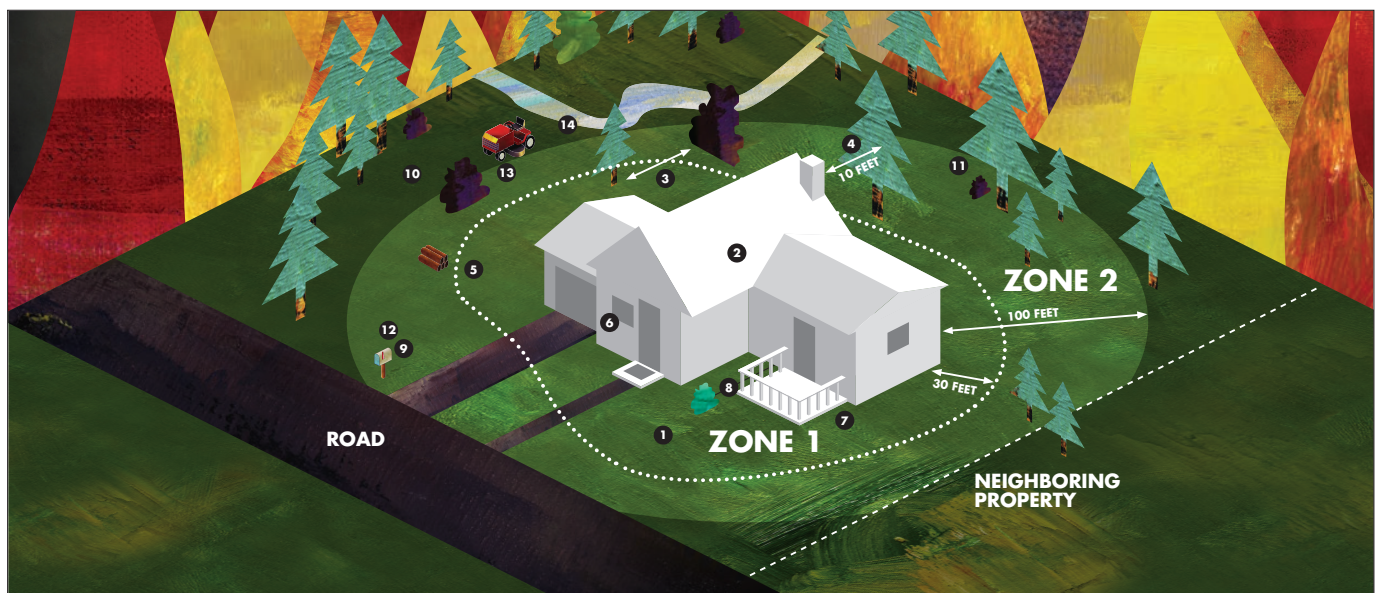
8. Create separation between trees, shrubs and other flammable items. Patio furniture and swing sets can also burn. Prior to evacuation pull these items as far away from the house or outbuildings as possible.

Zone 2 — extends 30 to 100 feet out from buildings and other structures

9. Cut or mow annual grasses down to a maximum height of 5 inches.
10. Create horizontal spacing between shrubs and trees. (See graphic page 29.)
11. Create vertical spacing between grass, shrubs, and trees. (See graphic page 29.)
12. Limit fallen leaves, needles, twigs, bark, cones, and small branches to a depth of 2-4 inches.

All Zones — 0 to 100 feet from buildings and other structures

13. Generally mow before 10 AM. Pay attention to humidity levels; do not mow when its very dry and windy.
14. Protect water quality. Do not clear vegetation near waterways to bare soil. Vegetation removal can cause soil erosion—especially on steep slopes.



Plant and Tree Spacing in Your Defensible Space

The spacing between grass, shrubs, and trees is crucial to reduce the spread of wildfire. The spacing needed is determined by the type and size of brush and trees, as well as the slope of the land. For example, a property on a steep slope with larger vegetation requires greater spacing between trees and shrubs than a level property that has small, sparse vegetation.

Vertical Clearance

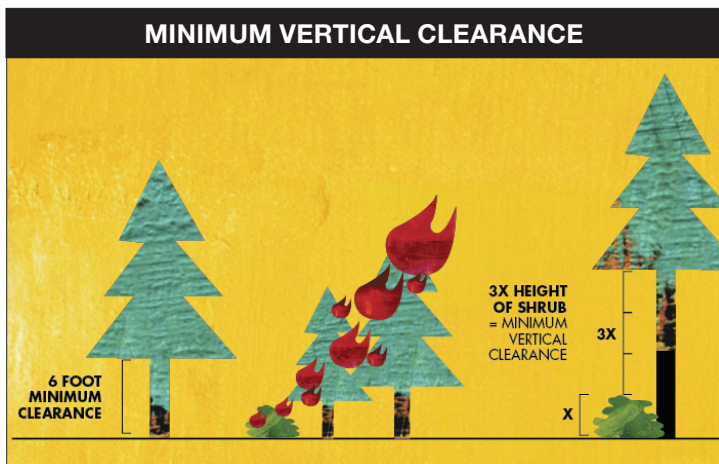
- ✓ Remove all tree branches less than 6 feet from the ground, or higher if you can reach them safely.
- ✓ Allow extra vertical space between shrubs and trees. Lack of vertical space can allow a fire to move from the ground to the brush, to the tree tops, like a ladder.

Minimum Vertical Clearance Between Trees and Shrubs

- ✓ For the proper vertical spacing between shrubs and the lowest branches of trees, create at least three times the shrub height in space between the top of the shrub and the bottom of the tree.

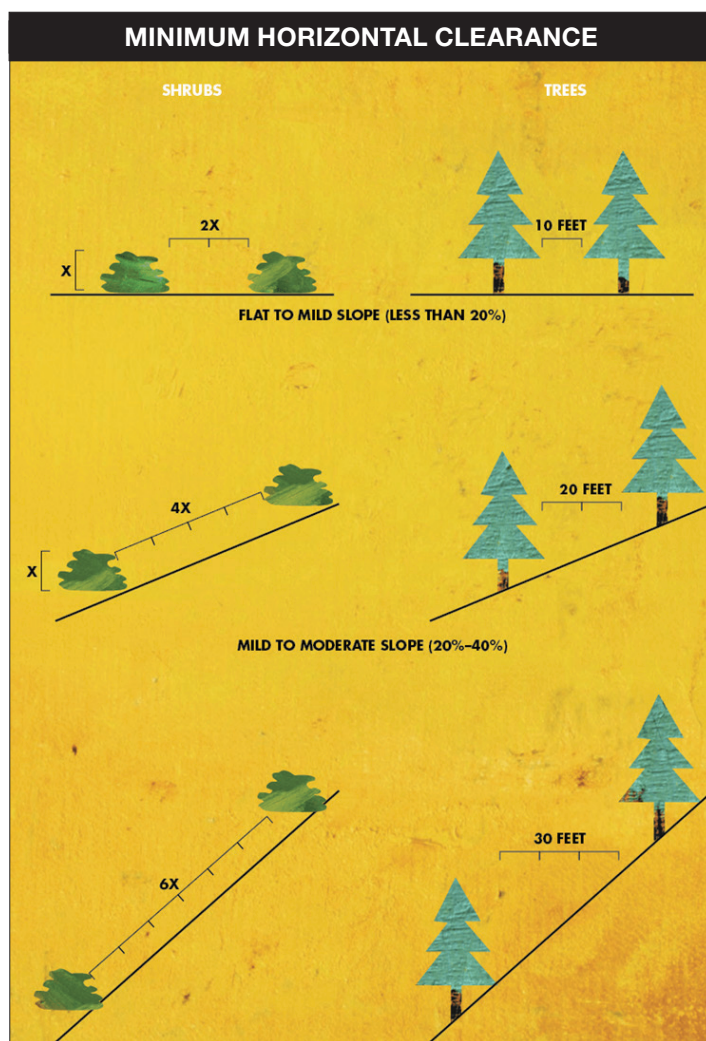
Example: A five-foot shrub is growing near a tree.

$3 \times 5 = 15$ feet of clearance needed between the top of the shrub and the lowest tree branch.



Minimum Horizontal Clearance for Trees and Shrubs

Horizontal spacing depends on the slope of the land and the height of the shrubs or trees. Check the diagram below to determine spacing distance.



Fire-Resistant Landscaping

A fire-resistant landscape isn't necessarily the same thing as a well-maintained yard. A fire-safe landscape uses plants that are strategically placed to reduce the spread of fire to your home. The good news is, you don't need a lot of money to make your landscape fire-safe. You will find that a fire-safe landscape can increase your property value and conserve water while beautifying your home. **Maintenance is key to your fire safety.**

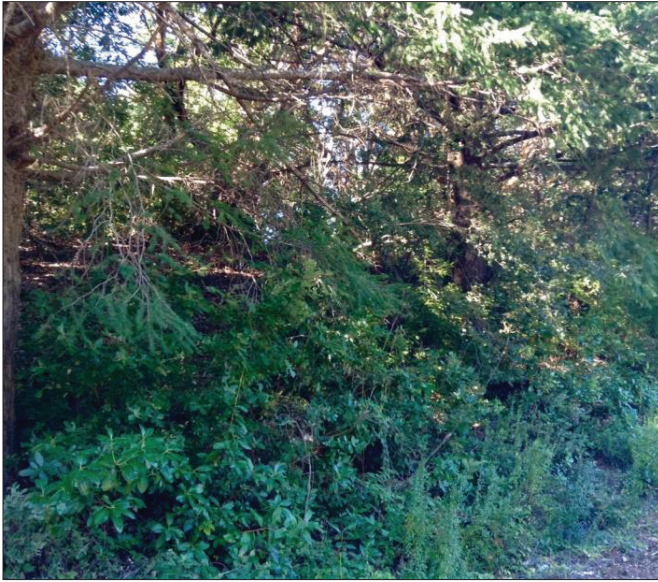
Proper Placement Makes a Difference

- ✓ From right outside your door in the first 5 feet surrounding your house, use rock, mulch, pavers, and other noncombustible materials in this area immediately adjacent to your home. This is especially important around windows and vents, as the heat from a spot fire can easily break a window and/or create more embers to enter your home via vents.
- ✓ Break up the continuity of fuels by having a maintained lawn 5 to 30 feet around your home.
- ✓ Gardens and landscape plants are best placed in islands to reduce the potential that flames will spread to your home.
- ✓ Create fire-safe zones with stone walls, patios, or driveways to act as effective firebreaks.
- ✓ For your flower beds and gardens select high-moisture, open-structured plants that grow close to the ground and have a low sap or resin content.
- ✓ Keep in mind that there are no “fire-proof” plants. It is more about the “right plant, right place” concept. Regardless of your plant choices, maintenance is key to reduce woody development and manage dead growth.
- ✓ Many native plants, if maintained, can be excellent choices in your defensible space zone.
- ✓ Hardwood trees are less flammable than conifers. Make sure the trees in the yard do not overhang your house, and that you can manage the leaf and needle litter that trees drop.
- ✓ Check your local nursery, landscape contractor, or your county's University of California Cooperative Extension service for advice on plants that are suited for your area.

Remember, any plant can burn under the right conditions. For all plants, maintenance is key. Regularly trim back and remove any dead vegetation and litter. When choosing species to plant in your 5- to 30-foot defensible space zone, look for plants with these characteristics:

- Able to store water in leaves and stems.
- Produce limited dead and fine material.
- Maintain high moisture content with limited watering.
- Low-growing or open form.
- Open loose branches with a low volume of total vegetation.
- Low levels of volatile oils or resins.
- Slow growing with little maintenance needed.
- Not considered invasive.

The moisture content of plants is important because high levels of plant moisture can lower fire risk and act as a heat sink, reducing the intensity and spread of fire. Consider removing plants from your property and avoid purchasing new plants that tend to retain large amounts of dead material within the plant, produce a large volume of litter, and contain volatile substances such as oils, resins, wax, or pitch.



What Are Ladder Fuels?

A fuel ladder is a continuous line of vegetation from the ground into the canopy (or upper branches) of trees, which allows fire to climb up into the tree canopy.

Defensible space is best achieved when your vegetation-management actions remove the lower live and dead fuels (e.g. limbs, shrubs, grass, etc.) so a wildfire cannot easily climb, or step up to, the canopy of trees, or even directly to your home. If your deck extends out over vegetation such as thick grass, shrubs, or limbs, wildfire can progress to ignite the deck and eventually your home.

Breaking up the continuity of fuels in both vertical and horizontal directions is a very important aspect of your defensible-space preparation.

What Can I Do About My Neighbor's Property?

Contact your local fire department, Fire Safe Council, and neighbors to develop a strategy to ensure that unmaintained vegetation is abated on parcels that pose a wildfire threat to nearby homes.

- Start by reaching out to the property owner(s) with the goal of helping them understand the fire danger and the importance of working across property lines to reduce wildfire hazards. If there are many properties of concern, consider organizing a neighborhood meeting to discuss the issue; invite CAL FIRE, local fire department representatives, and/or Fire Safe Council/Firewise® community representatives to help educate property owners.
- Request assistance from the local fire agency (for vacant properties, if there is a local ordinance) or CAL FIRE (for properties with a structure) and ask for an inspection.
- As a last resort, send a certified letter that describes the hazard, including photos, and states that if a fire originates on their property and spreads to yours, they could be legally liable.
- Contact your countywide Fire Safe Council for more details and examples of how to address this situation.

Defendable and Non-Defendable Homes

“Defendable” and “non-defendable” are terms used to distinguish between those houses that might survive a wildfire versus those that likely won’t.

If your home is difficult to find, surrounded by dense vegetation, and/or densely vegetated along its access route, it may be designated as too dangerous to attempt to save, or “non-defendable.” Firefighters have to make quick and difficult decisions about which homes are defendable. The more you do to provide an inviting condition by hardening your home and providing adequate defensible space, the more likely your home will survive a wildfire.

Fire engines have become larger over the years creating access to narrow, overgrown driveways more difficult than ever. Homeowners need to have sufficient clearance on both sides of the driveway, including removing low hanging limbs overhead to ensure safety for the firefighters while trying to access or depart your home during dark, smoky conditions.

If it is too dangerous for firefighters to get in and out of an area (including very slow travel on rough road surfaces), they are instructed not to risk their lives and equipment to save that home.

A Do-It-Yourself Primer to Thinning a Young Forest



If you have experience with a chainsaw, it shouldn't be daunting to start improving your young second-growth forest stands, reducing their potential fire hazard, and enhancing the health of the forest you leave behind. Begin by cutting the smaller surface brush before pruning limbs or felling trees. Remember that if you don't cut or pluck tiny seedlings, they will fill your understory quickly and necessitate retreatment sooner than otherwise. In addition, start at the low point and zigzag your way uphill, so as not to bury your work.

Next look at the understory trees. Remove everything that is dead, as well as any suppressed trees that have been out-competed by the taller trees. Conifer vigor can be gauged by the distance between whorls of branches; if the distance declines for several years, it's likely to not "release," or respond to being freed by cutting overtopping trees. Other symptoms of suppression include dead leaders and branches groping for sunlight that became the new leader. Another rule of thumb is if there is not room in the overstory for the tree to grow into, it's a candidate for removal. Visualize the stand in 10, 20, 50, 80 years and beyond. Focus more on what is left behind than what is removed. Consider the likelihood of repeated treatments. With sprouted clumps of hardwoods or redwoods, if space exists in the upper canopy you can select the healthiest and most vigorous individuals and remove the rest.

Beyond your defensible space zone, leaving a closed overstory will reduce the vigor of sprouting due to the shade and guard against windthrow of the residual trees. Inside that zone calls for separation between crowns. Consider maintaining the sprouts inside that zone with a weedwhacker with plastic blades.

If time and budget allow, target the intermediate trees in the canopy hierarchy. They are often quite brushy, growing

more horizontally than the dominant and co-dominant individuals. If there's not space for the tree in the upper canopy and you don't anticipate it occurring, remove it. This will achieve a large discontinuity in the vertical (ladder) fuels, which is key to mitigating crown fires. Be sure to achieve competence (incrementally) and humility in tree felling before attempting to do so without a mentor present; never work above your skill level, learn to anticipate hazards, remember that complexity is often more of a hazard than tree size, and expect the unexpected.

Carefully prune the remaining trees. Leave half the tree's height in live crown if concerned about its growth rate. Proper pruning technique (especially on smaller trees) is one of the most difficult skills to master, but one of the most important. It's essential not to tear the bark of the trunk as each limb falls. One method is to notch the underside of the limb first. Alternatively, you can cut right through the limb a foot or two from the trunk, and then cut off the remaining stub. The desired result is for the cuts to be flush with the branch collar, the thickening at the base of the limb. Better to leave a short stub than to damage the collar or trunk. If time and budget allow, prune higher with a pole saw. Remember that the nature of pole sawing involves aerial hazards.

The resulting cuttings need to be chipped, pile burned, or lopped and scattered to avoid increasing the fire hazard. Each has pros and cons. Chippers depend on good road access, usually require dragging brush uphill, and are costly to rent or buy. Burning can usually avoid this, but the practice requires more knowledge and skill than chipping.

Burning the cuttings is usually the cheapest option, assuming the skills are present to be efficient. Make sure to locate the piles in openings and not near smaller trees.





Left: You can often do a surprising amount of fire-hazard reduction work with this basic set of hand tools. Top right and bottom right: Before and after fuel reduction.

Feed them gradually to avoid damaging residual trees. Too hot a fire can fry the cambium layer at the base of a tree trunk. Don't forget your burn permit from Air Quality year round, and CAL FIRE between May 1 and the declared end of fire season.

To lop and scatter, cut the material so it lies in contact with the ground as much as possible, and spread it over the forest floor. CAL FIRE standards are no higher than 30 inches, but the lower the better to minimize the time it will take to decompose. This method increases one aspect of fire hazard in the short term, but the decomposed debris adds carbon and nutrients to the soil. Pile burning generally creates enough heat that most of the nutrients go up in smoke. If lopped and scattered correctly, brush will rot and cease to function as kindling within 5 to 10 years or so. Do not lop/scatter within 100 to 200 feet of buildings.

It's easiest to treat each branch or sapling as it comes down. Keep the chain snug on the bar and sharp. Rev up the engine and sweep the saw along each side of each major branch or stem. This way—with the engine RPMs higher than if you were cutting each branchlet individually—instances of “throwing the chain” off the bar should be rare. Stay aware of the relationship between the chain and your toes. As much as safety and comfort allow, trim the branchlets while the limb or trunk is still attached so the chain doesn't toss the branch around. Then drop the larger piece of wood on top of the brush to weigh down the pile and increase its contact with the ground.

Focus on disposing of the smaller, flashier fuels: less than firewood size, about the size of your arm or leg. Whatever larger fuels are not gathered for utilization should be arranged in one layer with maximum ground contact for quicker decomposition.

After one round of thinning, the stand will be more open, allowing a better look at the battles for dominance underway in the upper canopy. Shake adjoining trunks to see how the crowns interact. If you choose to enter and thin again, criteria such as species diversity, spacing, and wildlife habitat may play a bigger role in your choice of what to take or leave. The more crowded the trees, the better the lumber they will eventually produce, as they will have tighter grain and fewer lower limbs. Likewise, clear lower trunks means less ladder fuel, which helps protect against crown fires.

Quality pruning, working precisely in crowded clumps of sprouts and minimizing operator fatigue calls for a smaller saw (2.5 to 3 ci engine) with a 16- to 20-inch bar. Safety tips include considering why OSHA mandates that sawyers help protect their legs with chaps. In addition, protocols advise against using a chainsaw above shoulder height. Hardhats are de rigueur (plastic offers more resistance to shattering but aluminum is harder to cut through), and Cordura hiking shoes do little to protect your toes, so leather is recommended.

Dave Kahan has managed Full Circle Forestry, a restorative forestry crew, since 1987; they have cleared more than 20 miles of regionally strategic shaded fuel breaks, and created defensible space for many dozens of homes and homesteads.

Water Considerations to Be Prepared to Put Out Fires Fast!

If you find yourself faced with a fire emergency, be it a barbecue tipped over into dry grass, a nearby vegetation fire, an ember storm from a wildfire, or a fire in your home, you need to be prepared to act fast. Always call 911 first to alert firefighters. Then, if it's safe and you have the skills and proper gear, you can try to put the fire out on your own.

Water is your best weapon when you need to quickly put out a wildfire. To save precious time it's a good idea to have $\frac{5}{8}$ - or $\frac{3}{4}$ -inch garden hoses attached to faucets with enough hose length to reach both inside and around your home and outbuildings. Good-quality, variable-stream garden hose nozzles are adequate; a high-flow "fireman's" nozzle is better.

A nearby hose with a nozzle can quickly be grabbed to put out a small grass fire caused by a tipped-over barbecue. This could prevent a fire that could easily get out of control if time had to be spent finding a hose and hooking it up.

In addition to water, always keep strategically placed fire extinguishers in your home.



High-flow fire nozzle.

Ensure Firefighters Can Make Good Use of Your Emergency Water Supply

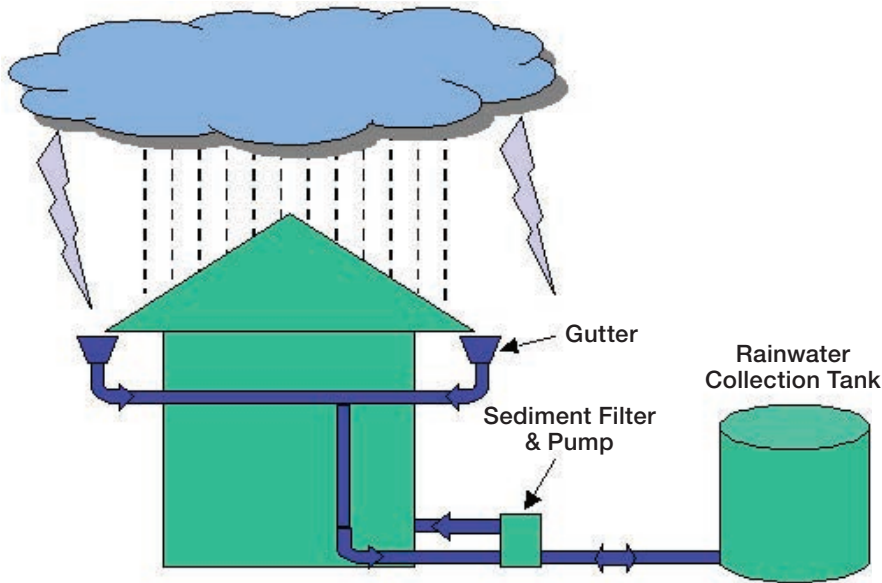
A fire engine's water tank will often need to be filled several times during a firefighting event. If your home is not included in a community water/hydrant system, it is important to maintain a water supply reserved **ONLY** for fire protection.

Firefighters need to be able to quickly and safely find your water source and get close enough to transfer the water from your tank to theirs. Some basic guidelines for fire water storage are:

- **Have a clearly marked source of firefighting water near your home or driveway.** If you are not on a community water system, the law requires you have a water tank with at least 2,500 gallons of water available for fire suppression. The two common installations of fire water storage are: 1) an elevated tank with a water line delivering pressurized water to the home site, or 2) a fire water "suction tank" near the home that can be pumped out of by a fire truck.
- An elevated pressure tank should ideally be at least 100 feet in elevation above the home to give adequate pressure at the standpipe to directly connect fire hoses to fight the fire or fill a fire engine. The supply line from the tank to the house site is usually a 1½- or 2-inch-diameter pipe leading to a standpipe located 50 feet or more from the house. The standpipe/hydrant is equipped with a "fire valve" with a 1½-inch or 2½-inch National Hose Thread discharge outlet. Some landowners buy their own lightweight 1½-inch fire hose, usually 100 feet or more, with a variable-stream fire nozzle: 100 feet of such hose with a nozzle fits nicely into a 5-gallon waterproof bucket. For isolated rural residents, this can give serious firefighting capacity until a local fire department engine can arrive. In some areas it can take a half hour or more for a fire engine to arrive—long enough for a fire to dramatically increase in size and intensity.
- A "suction" tank should be sited no closer than 50 feet from the house, and 4 to 12 feet from a place where a fire engine can park, to effectively pump water from the tank. For maximum flow to the fire engine, 3- to 4-inch pipe should be used for the short distance to connect between the 2½-inch fire valve standpipe/hydrant and the tank.
- Clean water from nearby streams, ponds, and swimming pools can also be used for firefighting, as long as a fire truck can get close enough to pump water (the water source must be 7 to 12 feet from a firm parking surface).
- Make sure the area around your water source is clear of flammable vegetation.
- Finally, make sure that your emergency water system is maintained and tested several times a year. Finding an empty water tank or water that cannot be easily accessed can seriously hinder firefighters' ability to save your home!

Fill Your Tanks in the Rainy Season

Do your part to keep water flowing in streams and rivers during the critical dry season. Fill your tanks during the rainy season. You may want to consider installing a rainwater harvesting system to replenish your emergency water supply.



Find Out About Emergency Water Standards

Consult your local fire department, CAL FIRE, and your local county planning and building department when developing water supplies for firefighters to ensure that you are complying with local building standards and your system's fittings are compatible with the needs of local fire engines. Some types of new development require emergency water supplies to meet very specific local standards.

Contact your local planning and building department for details:

Co.Del-Norte.CA.US/Departments/Community-Development-Department/Planning-Division

HumboldtGov.org/156/Planning-Building

TrinityCounty.org/Planning

Help Firefighters Find Your Water!

Emergency water supplies must be easily seen and visibly signed from the nearest road. Here are some tips:

- Install **round blue reflectors** on your address post and leading to your water supply.
- Paint the word **FIRE** or **FIRE WATER** in large letters on a sign near where firefighters can hook up their hoses. You can even write FIRE right on your water tank. For odd-sized tanks and underground cisterns, mark how many gallons they hold.
- Let your local fire department and CAL FIRE personnel know where your water supply is, long before they might need to use it.



Fire valve

Bury Your Water Lines!

Ensure that you will have water for firefighting when you need it by burying any unprotected plastic water supply lines at least six inches deep.

Water Theft

Water theft is a sad reality, especially in times of drought. If you feel it is necessary to hide, fence, or lock up your firefighting water supply, please consult with your fire department and CAL FIRE to make sure they can still find and access your water.

Insurance Considerations

A devastating wildfire can strike any time of year.

Don't wait to prepare for the possibility of loss. Take out a homeowner's or renter's insurance policy. Ensure that it provides adequate coverage of your assets: speak with an insurance agent, research what it would cost to replace your home, and create an inventory of your home and possessions to help evaluate how much coverage you need. You might consider "over-insuring" your home, as construction prices are usually higher after a large-scale disaster. This can help you understand the value of your physical assets and prevent potential disputes with your insurer by serving as a record of ownership in the absence of a receipt.

- Take time-stamped photographs or record a narrated video of your home.
- Maintain a record of items, price and date when purchased, and the brand name/model/serial number, if applicable. After purchasing a major item, take a picture of the receipt.
- Review your insurance policy to be sure your personal property is covered at replacement cost. While Actual Cash Value coverage will reimburse you for your loss, you will likely not receive enough to replace all damaged personal property.
- Make sure you list everything, even if it's above and beyond the policy limit, because this is considered a loss and can be claimed as such on your taxes.
- The California Department of Insurance publishes a Home Inventory Guide that can be downloaded and printed by visiting their 2017 Wildfire Resources page: insurance.ca.gov/01-consumers/140-catastrophes/WildfireResources.cfm.
- The National Association of Insurance Commissioners has launched a phone app which allows users to create a home inventory: [myHOME Scr.APP.book](http://myHOME.Scr.APP.book).
- Be sure your insurance policy covers long-term rental in the event you lose your home and have to work through the recovery process.

Keep this information up to date and stored in at least two secure locations. Have thorough documentation on hand (either as a hard copy or electronic file) to help streamline the claim process.

What to Store

- ✓ Contact information for your insurance agent or company (phone, email, mailing address).
- ✓ Policy number and information.
- ✓ Home inventory, complete and up-to-date.
- ✓ Receipts for renovations and valuable items.
- ✓ For businesses, have all accounting information backed up to cloud storage or an off-site hard drive. Information, such as payroll and outstanding accounts receivable, will be needed if a business income claim is filed.

Where to Store It (In at Least Two Locations)

- ✓ With a family member, close friend, or relative.
- ✓ At your place of employment in a locked cabinet.
- ✓ With your accountant and/or lawyer.
- ✓ Keep a copy in cloud storage (e.g.: Dropbox, iCloud, Google Drive, etc.).
- ✓ Safety deposit box.
- ✓ Fire-resistant box in your home, such as a safe (*but note that many people who lost homes in the 2017 Santa Rosa fires reported that their "fireproof" safes did not hold up*).

***Insurance Never Sleeps.
Make Sure You Have Some.***

Prescribed Fire & Controlled Burning: Using Fire as a Tool

Prescribed fire, or the use of fire to meet specific management objectives, is a versatile tool used to reduce fuels, restore habitat, tend cultural resources, improve rangelands, and eradicate invasive species, among other goals.

A burn plan is driven by the specific objectives that the land manager is trying to meet. The burn planning process helps identify the desired conditions and fire behavior needed to meet objectives, as well as the resources required to successfully manage the fire. Depending on the particular objectives of a project, burns can occur under a range of weather and fuels conditions.

In the North Coast region, prescribed fire is used to meet a number of important objectives. Some examples include:

- Reducing fuels in forests and around communities.** These burns tend to occur in the fall and spring when surface fuels are dry enough to burn. Winter is often too wet to burn in forested areas, and summer is too dry, so burners take advantage of these “shoulder seasons” to reduce fuels and make forests more resilient to wildfire.
- Restoring and maintaining oak woodlands.** These burns target young conifers that invade oak woodlands in the absence of natural disturbances like fire. These burns are usually implemented in the fall and winter, taking advantage of dry grass and oak litter to carry the fire.
- Eradicating non-native invasives like medusahead and star thistle.** To be effective, these burns must be carefully timed for late spring/early summer, when other plants have gone to seed and the invasives have yet to mature.



- Reducing shrub cover in coastal grasslands.** Burns in late summer and fall can help control coyote brush and other woody species that take over coastal grasslands in the absence of a natural disturbance.

Permits are required for implementation of prescribed fire. Air quality permits are required year-round, and smoke management plans must accompany air quality permits for bigger projects (see pages 40-41). CAL FIRE requires permits during declared fire season, which typically extends from May 1 until mid to late fall (see pages 38-39).

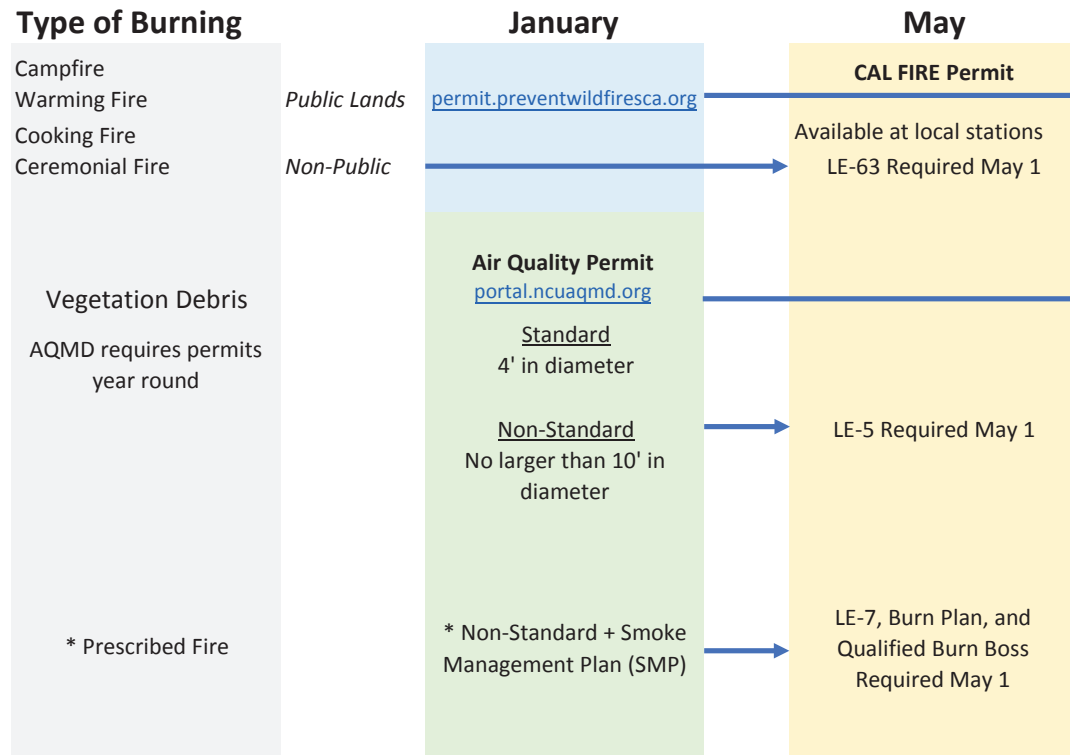
North Coast landowners have several options for implementing prescribed burns, many of which are covered in other sections of this publication. CAL FIRE’s Vegetation Management Program (VMP) is a good option for landowners with large, complex projects. Alternatively, the Humboldt County Prescribed Burn Association is a cooperative burning group made up of landowners, volunteer fire departments, and other community members, and it is open to anyone who wants to participate. Landowners can also work with private contractors or complete projects on their own, depending on the complexity and budget of the project.

For more information on prescribed fire, contact Lenya Quinn-Davidson, Fire Advisor with University of California Cooperative Extension: lquinndavidson@ucanr.edu or 707-445-7351.



Clockwise, from left: Prescribed fire is one of the most effective tools for reducing fuels. Shelter Cove, October 2018; Prescribed fire is very effective at killing small conifers that are overtaking North Coast oak woodlands. Bridgeville, December 2017; Spring burning can be used to target invasive species like medusahead and star thistle. Bridgeville, June 2017; Prescribed fire can be used to kill brush and trees that are taking over coastal rangelands. Bear River, fall 2018.

Burn Permits



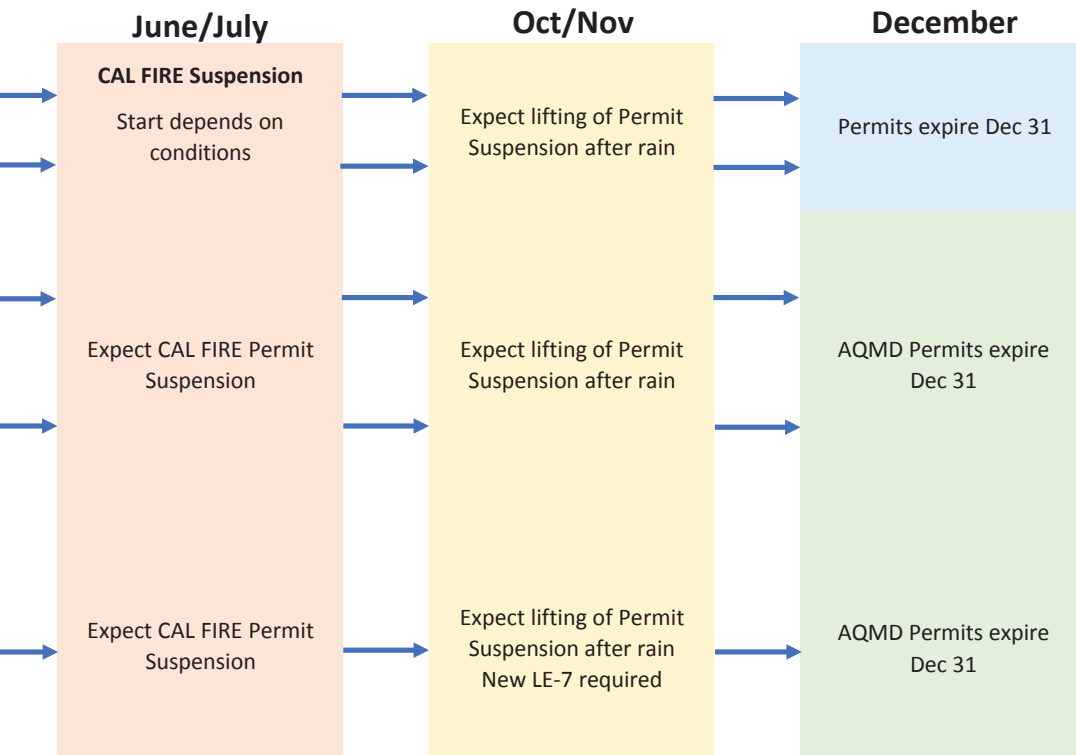
CAL FIRE Humboldt – Del Norte Unit Burn Permit Administration Matrix

Applicable to areas outside municipal boundaries.

	Camp Fire Warming Fire Cooking Fire Ceremonial Fire	Debris Piles Small, 4'x4' or less	Large Piles (less than 10' diameter) Hazard Reduction Agricultural Right-of-way	Multiple Large Piles Broadcast Burns Project Burns Logging Slash
CAL FIRE Permits (No Cost)	LE-63	None	LE-5 NON –STANDARD	LE-7 PROJECT BURNING
Permit Period	Calendar year	Calendar year	May 1st through end of declared fire season	May 1st through end of declared fire season
Duration of permit	Annual Permit	Annual Permit	Duration of need	Duration of need
Variance	No	No	With Battalion Chief Approval	With Battalion Chief Approval
Special Conditions	Must have landowner's permission. No permit required for legal landowner.	AQMD permit required year-round.	Issued only by Battalion Chief designee. Notify CAL FIRE before burn: 707-726-1280	Issued only by Battalion Chief designee. Notify CAL FIRE before burn: 707-726-1280
AQMD Permits (Required year round, must be a permissive burn day, cost varies)	None	Standard Permit \$20.00	Non-Standard Permit Cost varies by burn size	Non-Standard Permit with Smoke Management Plan (\$65.00 application fee)

Note: Burns with a Smoke Management Plan may apply for a No Burn Day Permit (application fee: \$65 per day).

at a Glance



* Contact CAL FIRE and NCUAQMD for details

Hoopa Valley Burn Permit System



The Hoopa Valley Tribe through the Hoopa Fire Department maintains a year-round Burn Permit system, requiring a valid burn permit year-round for all fires, including “dooryard” trash or burn barrels.

All burning must be done with an approved “Dooryard Trash Burn Permit,” from the Hoopa Fire Department, weekdays from 8 AM-noon and 1-5 PM. Dooryard Trash permits are valid for burn barrels and 4x4-foot piles of green material. If you have larger waste piles and need an inspection to obtain an LE5 Ag Burn permit, contact the Hoopa Fire Department at 530-625-4366.

Please burn responsibly. Make sure you have clearance around any dooryard trash piles and burn barrels, as outlined in your Burn Permit. Always have a hose and shovel available. All burning shall be done within compliance requirements for air quality by contacting the North Coast Unified Air Quality Management District to determine if it is a valid burn day at 707-443-3093.

Be aware that Hoopa Valley Tribal Ordinances, Title 49–Solid Waste ordinance, and Title 71–Arson/Negligence, support the requirement of a valid Burn Permit on the Reservation. Both ordinances are citable and enforceable. Copies of these ordinances are available at the Hoopa Fire Department.

Burn Permits and Air Quality

Planning to do any burning of vegetation on your property in Humboldt, Del Norte, or Trinity County?

If so, you will need a burn permit issued by the North Coast Unified Air Quality Management District (NCUAQMD), 707 L Street, Eureka CA 95501. Burn permits can be obtained online at ncuaqmd.org or by calling 707-443-3093.



Standard Burn Permits

For residents with less than a 1/2 acre, this permit allows burning of one 4-foot-diameter burn pile at a time, during burn hours from 6 AM to noon on Permissive Burn Days in Humboldt and Del Norte counties, and 6 AM to one hour before sunset in Trinity County, until CAL FIRE declares fire season. During declared fire season, all fires must be extinguished before noon. This type of permit currently costs \$20.

Non-Standard Burn Permits

This permit is typically for residents with larger properties (> 1/2 acre), businesses, commercial burners, and land managers. At a minimum, it allows the burning of one 10-foot-diameter burn pile at a time, during burn hours from 6 AM to one hour before sunset on Permissive Burn Days. Larger, multiple piles, and bigger burns are allowed in conjunction with a submitted Smoke Management Plan. If you are burning more than 1 acre of material, have a Timber Harvest Plan, or 3-acre exemption, contact the NCUAQMD. Typically these permits cost \$40 or more.

Permissive Burn Days

Call the District's Burn Day Status line at **866-BURNDAY** or **866-287-6329**. The days when burning is allowed are determined for each of the three burn zones designated within the NCUAQMD. Burn days are determined by the California Air Resources Board's Meteorological Branch.

Smoke Effects from Open Burning and Wildfires

Smoke from wildfires and structure fires contains harmful chemicals, especially fine particulate matter (PM2.5) that can affect your health. Smoke can cause eye and throat irritation, coughing, and difficulty breathing. People who are at greatest risk of experiencing symptoms due to smoke include those with respiratory disease (such as asthma), heart disease, young children, and older adults.

To be included on the daily PSA list-served during a wildfire event, contact NCUAQMD staff at 707-443-3093 or support@ncuaqmd.org.

Smoke Management Plan (SMP)

Non-standard permit holders may be required to have an SMP per Regulation II (Rule 206) of the District's Open Burning rules and regulations and under Title 17 of the California Health and Safety Code. Following are the types of burning that require an SMP:

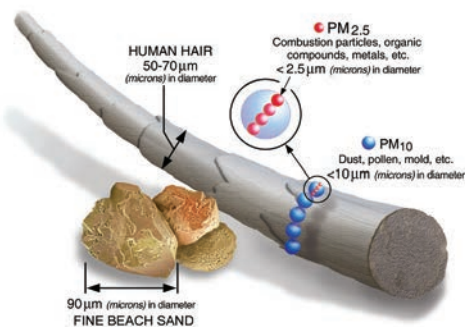
- Burning more than 1 acre of vegetation in a day.
- Burning vegetation from a 3-acre property conversion, or if you have logged your property.

- Burning near a "sensitive receptor" (hospital, school, subdivision, major road, etc.).
- Broadcast burning, burning larger than a 10-foot-diameter burn pile, or more than one pile at a time.

An SMP must be submitted at least 30 days prior to your burn to allow for review and approval by the NCUAQMD. There is a \$65 application fee for each SMP. The SMP application and forms can be found online at ncuaqmd.org.

For more information on burn permits, see the charts on the preceding pages.

If you have additional questions or require further assistance, contact Debra Harris, Burn Program Coordinator, at 707-443-3093, ext. 122, or support@ncuaqmd.org.



Top: Demonstration of an Inversion Layer.
Bottom: Particulate matter size comparison.

How to Protect Yourself from Wildfire Smoke

1. Pay attention to local air quality reports. Watch for NCUAQMD Public Service Announcements (PSA), Air Quality Advisories, and Alerts. For regional Air Quality Index notifications, go to ncuaqmd.org or call 1-866-BURNDAY (1-866-287-6329).

- **Public Service Announcements** provide general information regarding air quality and alert the public to the potential for decreased air quality.

- **Air Quality Advisories** may be issued when the air quality in certain areas is forecast to be in the “Unhealthy” range.

- **Air Quality Alerts** may be issued when the air quality in certain areas is forecast to be “Hazardous.”

2. **Children, the elderly, pregnant women, and people with heart and lung problems are most vulnerable to wildfire smoke.** These sensitive populations should stay indoors and avoid prolonged activity. Those with lung (including asthma) or heart disease, should regularly monitor their health and follow any medical plans closely.

3. **Recommendations for schools and others responsible for children during a wildfire smoke event.** For health recommendations for schools, coaches, and event coordinators regarding student exposure to fine-particle (smoke and dust) air pollution, check out the Wildfire Activity Guide for Schools at ncuaqmd.org/index.php?page=wildfire.

4. **Keep indoor air as clean as possible.** Close all windows and doors. Use the recirculation setting for air conditioning in the home or car. Avoid using swamp coolers if smoke is visible outside.

5. **Use common sense.** If it is smoky outside, minimize or stop outdoor activities, especially exercise. Consider leaving the area until smoke conditions improve if you have repeated coughing, shortness of breath, difficulty breathing, wheezing, chest tightness or pain, palpitations, nausea, unusual fatigue, or lightheadedness.

6. **Air cleaners can help—but buy them before a wildfire!** Indoor air cleaners with HEPA filters can help reduce particulate levels indoors. For more information about air cleaners, go to epa.gov/iaq/pubs/residair.html.



7. **Dust masks aren’t enough!** Use a mask called a “particulate respirator” and make sure it is labeled NIOSH “N95” or “P100” to protect you from fine particulates in smoke. Dust masks, surgical masks, or bandanas are not designed to protect your lungs from wildfire smoke.

Use the table below to identify the range of actions to consider to reduce smoke exposure.

Air Quality Guide		
Air Quality Index (AQI Value)	PM 2.5 24hr avg (ug/m3)	Actions to Protect Yourself
Good (0-50)	0-12	None
Moderate (51-100)	12-35	Sensitive individuals should consider limiting prolonged or heavy exertion
Unhealthy for Sensitive Groups [USG] (101-150)	35-55	People within USG should reduce prolonged or heavy outdoor exertion
Unhealthy (151-200)	55-150	People within USG should avoid all prolonged or heavy outdoor exertion
Very Unhealthy (201-300)	150-250	Everyone should avoid prolonged or heavy exertion
Hazardous (>300)	250-500	Everyone should avoid any outdoor activity



LANDSCAPE DEBRIS BURNING

Proper Debris Burning Prevents Wildfire

LEARN THE HOW, WHAT AND WHEN OF PREVENTING WILDFIRES FROM IMPROPER BURNING:

HOW



DON'T BURN UNLESS WEATHER CONDITIONS (PARTICULARLY WIND) ARE SUCH THAT BURNING CAN BE CONSIDERED SAFE.



KEEP A WATER SUPPLY AND SHOVEL CLOSE TO THE BURNING SITE.



A RESPONSIBLE ADULT IS REQUIRED BY LAW TO BE IN ATTENDANCE UNTIL THE FIRE IS OUT.

LANDSCAPE DEBRIS PILES MUST BE IN SMALL 4-FOOT BY 4-FOOT PILES.

4 FT



10 FT

CLEAR ALL FLAMMABLE MATERIAL AND VEGETATION WITHIN 10-FOET OF THE OUTER EDGE OF PILE.

WHAT



NO HOUSEHOLD TRASH OR GARBAGE CAN BE BURNED OUTDOORS AT RESIDENCES.



DRY, NATURAL VEGETATION, GROWN ON THE PROPERTY CAN STILL BE BURNED OUTDOORS IN OPEN PILES, UNLESS PROHIBITED BY LOCAL ORDINANCES.

OK

WHEN



DON'T BURN IF IT IS WINDY AND THE SURROUNDING VEGETATION IS VERY DRY.

PERMITS

BURNING CAN ONLY BE DONE AFTER OBTAINING REQUIRED PERMITS FOR PERMISSIVE BURN DAYS. CHECK BURN DAYS BY CONTACTING YOUR LOCAL AIR DISTRICT.

ONE LESS SPARK
ONE LESS WILDFIRE

FOR MORE INFORMATION AND A PRINT-READY CAMPFIRE PERMIT VISIT:
PREVENTWILDFIRECA.ORG
#PREVENTWILDFIRE #ONELESSPARK

BROUGHT TO YOU BY THE CALIFORNIA WILDLAND FIRE COORDINATING GROUP (CWCG)

How to Safely Burn Landscape Debris

Burning landscape debris is unfortunately a cause of many uncontrolled wildland fires in our region. The information below can help to safely burn yard waste.

- Obtain a required burn permit and read the permit's requirements carefully.
- Ensure it is a burn day and that burn permits are not suspended due to fire danger.
- Clear all flammable material and vegetation within 10 feet of the outer edge of the debris pile.
- Keep a water supply and shovel close to the burning site.
- A responsible adult is required by law to be in attendance until the fire is out.
- Only burn between sunrise and sunset, and fully extinguish the fire before leaving it.
- Know the current and expected weather conditions before burning. **Burning should never be done during hot, dry, and/or windy conditions.**

To find out if it is a **Permissive Burn Day** or to get your permit, contact your local Air Quality District at 707-443-3093.

For more information, visit:

preventwildfireca.org/Debris-Burning

and see pages 38-40.

Humboldt County Prescribed Burn Association



Landowners throughout the state are increasingly interested in using prescribed fire on their properties, but we've had to look outside California for some of our inspiration and models to carry out this work. One of the most promising models of landowner-led burning is the Prescribed Burn Association (PBA) model, through which landowners and other interested partners can work together to burn each other's properties. In 2015, there were 62 PBAs, almost all of which were in the Great Plains and Texas. The PBA model has spread into parts of the Southeast too, but these types of efforts have been noticeably absent in the West—until now.



The Humboldt County Prescribed Burn Association (HCPBA), formed in March 2018, is forging a new path for prescribed fire on private lands in California. The HCPBA is open to anyone, with members having access to training opportunities, grant funds, and a burn trailer full of tools and equipment; members can also put their projects on the list to be burned. The HCPBA is a neighbors-helping-neighbors approach, and everyone has a role, whether it's hiking with a drip torch, taking weather observations, making lunch, or taking pictures. In its first year, the HCPBA burned more than 700 acres on eight different properties, reducing fuels, restoring habitat, improving rangelands, and eradicating invasives. HCPBA has received grants to support burn planning, fire department training, and other workshops and events. Many more projects are planned for the coming years.

To learn more and/or become a member, find the Humboldt County Prescribed Burn Association on Facebook, or email [Lenya Quinn-Davidson at lquinndavidson@ucanr.edu](mailto:lquinndavidson@ucanr.edu).



Clockwise, from top left: Honeydew and other volunteer fire departments have been critical to the HCPBA; The HCPBA has three portable slip-in units and many other tools that are available for members to borrow; It's not a good burn without a fire dog on site; The PBA empowers landowners to safely use prescribed fire on their properties.



CAL FIRE Vegetation Management Program (VMP)

CAL FIRE's Vegetation Management Program (VMP) is a cost-sharing program with landowners that focuses on the use of prescribed fire and mechanical means to address wildfire fuel hazards and other resource management issues on State Responsibility Area (SRA) lands. Acres treated under the program have increased in recent years due to the renewed interest in promoting healthy fire-adaptive landscapes, and as a means of decreasing hazardous fire fuels, controlling invasive weeds, improving wildlife habitat, and maintaining strategic fuel breaks where the practice is physically possible and socially acceptable.

How is a VMP prescribed burn planned?

After an interested landowner contacts CAL FIRE, the Department takes the following steps:

1. Evaluates the feasibility of the project. Will it meet our goals? What is the size of the project? What are the potential problems, such as homes in the area? What type of vegetation and terrain is in the area? What are the expected weather conditions, costs, etc.?
2. Gathers information from other involved agencies.
3. Designs a prescription, or detailed burn plan, for the project.

4. Signs a contract with the landowner.
5. Notifies the community of the project.
6. Submits smoke management plan to local air quality district and obtains approval.
7. Implements the burn when conditions meet the prescription.

Because there is a risk of prescribed fires escaping control, the state assumes liability for an escaped fire when conducting prescribed burns with private landowners through the VMP. Landowners who contract with CAL FIRE for prescribed burns are thoroughly briefed on the potential for an escape. This includes an assessment of risk of an escape compared to the risk of leaving hazards untreated on the landscape.

All prescribed burns are developed in compliance with state and federal rules and regulations including the California Environmental Quality Act (CEQA), and California and Federal Clean Air and Rare and Endangered Species Acts. Pages 40-41 contain additional information regarding required air quality burn permits for all burn projects.



Northern California Prescribed Fire Council



In the fall of 2009, the Northern California Prescribed Fire Council held its first meeting at Humboldt State University. Since then, the Council—a collaborative group that includes federal and state fire management agencies, tribes, non-governmental organizations, researchers, and others interested in prescribed fire—has hosted conferences and workshops all over the northern part of the state. Part of its work involves helping develop important policy issues with partners throughout California. The Council also focuses on providing innovative training opportunities for fire practitioners, including not only fire professionals but also private landowners and others.

In 2013, the Council hosted California’s first-ever prescribed fire training exchange (TREX), a two-week, hands-on workshop that brought participants from all over the country to learn and burn together. This “Nor Cal TREX” allowed participants to implement burns with local partners in the mid-Klamath, in Trinity County with the Watershed Research and Training Center and the USDA Forest Service, and near Redding with the Bureau of Land Management and the National Park Service. Four Nor Cal TREXs have taken place since 2013. Similar TREX events are now popping up across California, offering critical training opportunities for a wide range of fire professionals, students, community members, and others.

Council members have been closely involved with policy work in the last several years, directly informing and contributing to legislation. In 2018, three important

bills were signed into law in California, supporting and enhancing prescribed fire efforts across the state. Senate Bill 901 notably set aside \$200 million per year for the next five years for forest health and fire-prevention activities, including prescribed fire. Senate Bill 1260 focused explicitly on prescribed fire, enabling development of a state-level burn boss standard and opening doors for further agency cooperation and partnership on prescribed-fire projects. Assembly Bill 2091 will enable new insurance options for prescribed fire. These policy developments should increase the pace and scale of prescribed fire in California in the coming years, helping agencies and other partners to meet their prescribed-fire goals.

The Council hosts annual meetings in various locations across the state. The 2018 meeting brought people to Mt. Shasta, where they gathered for two days of presentations, discussions, and field tours of local Forest Service projects. The 2019 meeting is in Humboldt County, focusing on options for prescribed fire on private lands and tours of recent projects on local ranches.

Council events are supported by the Fire Learning Network, a partnership of the US Forest Service, Department of the Interior agencies, and The Nature Conservancy.

For more information on the Council’s events and trainings, visit NorCalRXFireCouncil.org or email [Lenya Quinn-Davidson, council director, at \[nwcapfc@gmail.com\]\(mailto:nwcapfc@gmail.com\)](mailto:Lenya.Quinn-Davidson@nwcapfc@gmail.com).



Top: Group photo at the Council’s spring meeting, Mt. Shasta, 2018. From left: Nor Cal TREX participants learn about ignition techniques in a ponderosa pine stand near Hayfork; The 2017 meeting brought folks to Pt. Reyes to learn about fire in bishop pine stands.

Cultural Fire Management Council

The Cultural Fire Management Council (CFMC), composed of Yurok tribal and community members, is a non-profit 501c3 organization based on the upper Yurok Reservation. The CFMC's mission is to facilitate the practice of cultural burning on the Yurok Reservation and ancestral lands, which will lead to a healthier ecosystem for all plants and animals and long-term fire protection for residents, while providing a platform that will in turn support the traditional hunting and gathering activities of the Yurok.

The CFMC is helping to guide the implementation of a long-term plan for fire restoration with support from: The Nature Conservancy, the Yurok Tribe, the Karuk Tribe, Mid-Klamath Watershed Council, CAL FIRE, and the US Forest Service. The CFMC conducts two prescribed burns a year, known as TRES training events, which are conducted as a Type III incident under the National Incident Management System. Participants serve in National Wildfire Coordinating Group (NWCG)-qualified and trainee firefighting positions, gaining entry-level fire training and opportunities to increase fire qualifications at all NWCG levels.

The CFMC joined the Indigenous People's Burn Network at its inception in 2015. Members of the Yurok, Karuk, and Hoopa tribes agreed to work together as a pilot project to bring traditional fire practices back to their ancestral territories. The CFMC and members of the Karuk and

Hoopa tribes developed a Yurok, Hupa, Karuk Healthy Country Plan outlining multiple strategies to achieve this long-term goal. Educating the next generation of fire practitioners and enabling local communities to reclaim their right to use fire are two of the strategies being implemented. A fire curriculum in the schools and field trips to observe prescribed burns help ensure intergenerational transfer of knowledge. Controlled-burn workshops are offered to the community annually to reinforce safe burning practices. The goal of the workshops is to help families assume responsibility for safely burning their own private land.

Returning fire to the land in a good way enables us to continue the traditions of our ancestors. Yurok and other tribes across the country have used fire for thousands of generations in local ecosystems to enhance the quality and quantity of culturally desirable species, such as traditional food sources, medicinal plants, cordage, and basket-weaving materials. Fire improves animal habitat, controls unwanted pests, and protects communities from wildfire.

Visit CulturalFire.org for more information.





GET READY, GET SET, GO!

Wildfire Is Coming. Are You Ready?

GET PREPARED FOR WILDFIRE BEFORE IT STRIKES BY FOLLOWING THE READY, SET GO! GUIDE:

BEING READY



CREATE DEFENSIBLE SPACE. 100-FEET OF DEFENSIBLE SPACE IS REQUIRED AROUND YOUR HOME. LEARN HOW TO MAINTAIN THE TWO ZONES OF DEFENSIBLE SPACE NEEDED.

HARDEN YOUR HOME. FLYING EMBERS CAN DESTROY HOMES UP TO A MILE FROM WILDLAND AREAS. LEARN HOW TO PROTECT AND HARDEN YOUR HOME FROM A WILDFIRE THREAT.

GETTING SET



PREPARE YOUR HOME AND FAMILY FOR THE POSSIBILITY OF HAVING TO EVACUATE.

1. WHAT
2. HOW
3. WHO
4. WHEN

CREATE A WILDFIRE ACTION PLAN.



ASSEMBLE AN EMERGENCY SUPPLY KIT.



FILL OUT A FAMILY COMMUNICATION PLAN.

BEING READY TO GO



PRE-EVACUATION STEPS: PREPARE BOTH THE INSIDE AND OUTSIDE OF YOUR HOUSE FOR EVACUATION. GET THE CHECKLISTS.



REVIEW YOUR EVACUATION PLAN CHECKLIST.

GO!

EVACUATION STEPS: WHEN IMMEDIATE EVACUATION IS NECESSARY, GET READY TO GO!



ENSURE YOUR EMERGENCY SUPPLY KIT IS IN YOUR VEHICLE.



COVER-UP TO PROTECT AGAINST HEAT AND FLYING EMBERS. WEAR LONG PANTS, LONG SLEEVE SHIRT, HEAVY SHOES/BOOTS, CAP, DRY BANDANNA TO COVER FACE, GOGGLES OR GLASSES. 100% COTTON IS PREFERABLE.



LOCATE YOUR PETS AND TAKE THEM WITH YOU.

ONE LESS SPARK
ONE LESS WILDFIRE

FOR MORE INFORMATION AND A PRINT-READY CAMPFIRE PERMIT VISIT:
PREVENTWILDFIRECA.ORG
#PREVENTWILDFIRE #ONELESSPARK

BROUGHT TO YOU BY THE CALIFORNIA WILDLAND FIRE COORDINATING GROUP (CWCG)

Wildfire Is Coming: Are You Ready?



The geography, weather patterns, and number of wildland-urban interface (WUI) communities in California make it a state particularly threatened by devastating wildfires. To help educate property owners and residents in areas most at risk, CAL FIRE has developed a communications program called "Ready, Set, Go!" that breaks down the actions needed to be ready for wildfire.

Get prepared for wildfire before it strikes by following **Ready, Set, Go!**

✓ **Be Ready:** Create and maintain your defensible space and harden your home against flying embers, as shown in the Be Prepared section, pages 22-36.

✓ **Get Set:** Prepare your family and home ahead of time for the possibility of having to evacuate.

✓ **Be Ready to GO!** Take the evacuation steps necessary to give your family and home the best chance of surviving a wildfire.



You can dramatically increase your safety and the survivability of your property by preparing well in advance of a wildfire!

Go Bags and How to be Ready for Anything



A Go Bag contains essential items that can be easily grabbed on your way out the door during an emergency evacuation—saving precious minutes. A small backpack is ideal, but a rolling bag works too. Each member of the family should have one, if possible. Be sure to store your Go Bag(s) in an easily accessible location such as your car or a closet at the front of your house. Make sure your bag contains the basics you'll need such as medications, a change of clothes, whistle, emergency mylar blanket, water and nonperishable food, plus comfort items or a toy for children. Don't forget pet supplies. Most items are inexpensive and easy to find. Any one of them could be essential to your survival. Get a head start—get a Go Bag!

See the Go Bag Checklist on the inside back cover to prepare your kit today.

CERT Wants You! Help Your Neighbors As Well As Your Family



The nationwide Community Emergency Response Team (CERT) program educates volunteers about disaster preparedness, raising awareness of hazards

that can affect their area and providing training in basic disaster-response skills. CERT offers a consistent approach to volunteer education and organization that allows professional responders to rely on CERT-trained volunteers during situations when they must focus on the most demanding issues.

The CERT concept was developed and implemented by the Los Angeles City Fire Department in 1985. Training was made available nationally by FEMA in 1993. Today CERT programs are established in all 50 states, as well as many tribal nations and US territories, with more than 2,700 local CERT programs and 600,000+ individuals trained to respond safely, responsibly, and effectively to emergency situations.

CERT volunteers can also support their communities during non-emergency times by hosting and participating in various educational and fundraising events. They are primarily affiliated with local fire departments, and there are teams in northwestern California that YOU can become part of—increasing your knowledge and ability to contribute to or lead response efforts when needed. Be a hero or at least save yourself!

FEMA's CERT 23-hour course involves hands-on practice and realistic exercises covering:

- Disaster preparedness for local hazards
- Fire safety and suppression
- Medical operations
- Light search and rescue operations
- Disaster psychology for responders
- Team organization, and
- Course review and disaster simulation

Each team is unique to its community, and all are essential to building a culture of preparedness, promoting neighbor helping neighbor.

For more information, visit:

HumboldtCert.com

PrepareDelNorte.com

Ready.gov/Community-Emergency-Response-Team

Evacuation: Stay Alert and Act Quickly

Receiving information about a wildfire as soon as possible can make a big difference in your ability to keep yourself and your family out of harm's way. To receive this important information, you must sign up to receive local alerts. Each county's system is a little different so it's important to find out early how to register for emergency notifications. Notifications can be sent by text message, email, and voice calls to landlines and cell phones. You may also want to download relevant hazard alert and warning apps such as CAL FIRE's Ready for Wildfire app and the Everbridge app for Humboldt County alerts. During an emergency, it is possible that all of those forms of communication could become unavailable. If this happens, you will need to depend on other means to get information. A battery-operated NOAA Weather Radio could be indispensable if the power goes out. In addition,

learning about wildfire behavior and what to look out for is critical to your safety, especially if all other means of receiving information are unavailable to you.

Why It's Important to Evacuate Early

Once you receive an evacuation order, it is imperative that you evacuate as soon as possible. If you notice smoke, call 911 to report a fire and seek more information about your safety and what action should be taken. Don't wait until the last moment to evacuate. Many wildfire casualties were the result of people getting stuck in their cars while trying to evacuate during unsafe conditions. It is not recommended that you stay and defend your home. See page 52 for what to do if you get trapped.

**Sign up to receive
EMERGENCY NOTIFICATIONS
from your County Office of Emergency Services (OES).**
Services may vary by county.

Del Norte County OES

PrepareDelNorte.com • 707-465-0430 Ext. 1135

Humboldt County OES

HumboldtGov.org/OES • 707-268-2500



Siskiyou County OES

Co.Siskiyou.ca.us/EmergencyServices/page/CodeRed-Emergency-Alert-System

Trinity County Sheriff's Department

TrinityCounty.org/Sheriff-Department • 530-623-2611

Always Call 911 for Emergencies

Evacuation Considerations

When wildfires have the potential to become disasters by threatening life and safety, procedures are initiated to support the safe evacuation of people, domestic animals, and livestock from potentially hazardous areas. During such events, community evacuation sites will be established where residents can go to survive a wildfire. Evacuation sites will be established in different locations depending on the anticipated path of the wildfire and location of the affected population. The determination for the location of these sites is normally made by the Emergency Operations Center, in cooperation with an Incident Management Team, and/or fire and law enforcement personnel. Depending on the location and scale of the incident, mass communication systems, phone lists, and door-to-door methods will be used to inform residents about the threat and where residents should go to take shelter.

The importance of being prepared and evacuating early during extreme wildfire events cannot be overemphasized. Increase your chances of surviving an extreme event by taking the following steps:

- Understand the situation at the time of evacuation (situational awareness).
- Have confidence in the actions of emergency personnel.
- Communicate clearly with emergency personnel.
- Prepare your personal evacuation plan and supplies ahead of time.
- Plan for teens and children who may be home alone and unable to drive.
- Go to evacuation sites designated by emergency personnel.

Two-Tier Evacuation System: Voluntary Advisory and Mandatory Evacuation

Generally, emergency notifications are issued in two tiers: voluntary advisory and mandatory evacuation. A mandatory evacuation order is a clear signal to the public that danger is imminent; it is imperative that residents leave the area immediately.

A voluntary advisory is meant to advise the public that danger is close-by; residents should be prepared to evacuate. If any of the conditions below apply to you or your household, you are advised to evacuate before a mandatory evacuation order is issued.

You or members of your household:

- Are senior citizens and/or have disabilities
- Have access and/or functional needs

You have:

- Small children
- Livestock or pets

Your home is in an area with:

- No alternate egress (one way in/ one way out)
- Very high fire risk

Keep These Six “P’s” Ready in Case Immediate Evacuation is Required!

6

- ✓ People and pets
- ✓ Papers, phone numbers, and important documents
- ✓ Prescriptions, vitamins, eyeglasses
- ✓ Pictures and irreplaceable personal items
- ✓ Personal computers and hard drives
- ✓ “Plastic” (credit cards and ATM cards) and cash

Plan Ahead

Create an Evacuation Plan that includes the following:

- Designate emergency meeting locations – at least one close to your home and at least one in a further location familiar to all members of your household.
- Locate several different escape routes from your home and community. Practice these often so everyone in your family is familiar with them in case of emergency.
- Have an evacuation plan for pets and large animals such as horses and other livestock.
- Develop a Family Communication Plan that designates an out-of-area friend or relative as a point of contact to act as a single source of communication among family members in case of separation. (It is easier to call or message one person and let them contact others than to try and call everyone when phone, cell, and Internet systems can be overloaded or limited during a disaster.)

See the form on the back page of this magazine to create your own plan.

Preparing Seniors and People with Disabilities

Seniors and people with functional needs require special consideration when preparing for a disaster. It's important to be prepared to evacuate these people and anyone else with special needs early. Please see [ready.gov/individuals-access-functional-needs](https://www.ready.gov/individuals-access-functional-needs) to help you plan and prepare to assist individuals and families with special needs.

For a helpful evacuation checklist, see <https://disastersafety.org/ibhs/ibhs-last-minute-wildfire-checklist/>.



Go Early!

By leaving early, you give your family the best chance of surviving a wildfire. You also help firefighters by keeping roads clear of congestion, enabling them to move more freely and do their job.

When to Leave

- Leave early enough to avoid being caught in fire, smoke, or road congestion.
- Don't wait to be told by authorities to leave. In a quickly moving wildfire, they may not have time to knock on every door.
- If you are advised to leave, don't hesitate!

Where to Go

- Go to a predetermined location (it should be a low-risk area, such as a well-prepared neighbor or relative's house, a Red Cross shelter or evacuation center, motel, etc.).

How to Get There

- Have several travel routes in case one route is blocked by the fire or by emergency vehicles and equipment.
- Choose an escape route away from the fire whenever possible.

What to Take

- Take your Go Bag containing your family and pet's necessary items. **See the Go Bag checklist on the inside back cover.**

Give your family the best chance of surviving a wildfire by being ready to go and evacuating early. Remember: When immediate evacuation is necessary, follow these steps as soon as possible to get ready to GO!

- Review your Evacuation Plan.
- Ensure your Go Bag is in your vehicle.
- Cover up to protect against heat and flying embers. Wear long pants, long-sleeve shirt, heavy shoes/boots, cap, dry bandana for face cover, goggles or glasses. 100% cotton is preferable.
- Call 911 as early as possible if you are unable to evacuate without assistance.
- Locate your pets and take them with you.

For a helpful evacuation checklist, see:

DisasterSafety.org/ibhs/ibhs-last-MinuteWildfire-Checklist/

If You Are Unable to Evacuate Safely

In a catastrophic event, residents and visitors may not be able to reach designated evacuation sites and must make decisions on their own about seeking shelter to try to survive the passage of a wildfire. Seeking shelter should be a last resort—when evacuation is not an option. It can be very difficult to determine the right thing to do as the fire approaches, which is why it is so critical to have a plan and to evacuate early, if possible. Research options individually and as a neighborhood or community before a wildfire threatens, and talk to fire and emergency-service personnel about evacuation procedures, expected fire behavior in your neighborhood, and what to do when trapped (see the links below for suggestions).

SURVIVAL TIPS

While in your home:

- Stay calm, keep your family together.
- Call 911 and inform authorities of your location.
- Fill sinks and tubs with cold water.
- Keep doors and windows closed, but unlocked.
- Stay inside your house.
- Stay away from outside walls and windows.
- Wear long sleeves and long pants made of natural fibers, such as cotton.
- Place wet towels under doors to keep smoke and embers out.

While in your vehicle:

- Stay calm.
- Park your vehicle in an area clear of vegetation.
- Close all vehicle windows and vents.
- Cover yourself with wool blanket or jacket.
- Lie on vehicle floor.
- Use your cell phone to advise officials—call 911.

More tips and detailed instructions about what to do if you become trapped are provided by CAL FIRE and Idaho Firewise:

ReadyForWildfire.org/What-To-Do-If-Trapped
IdahoFirewise.org/Evacuation/If-You-Get-Trapped

SAFETY TIP:

Look for the newest constructed home possible. Avoid staying in your vehicle. Retreat to the building as the fire comes, exit as the fire passes to evaluate conditions.

Evacuation Planning for Pets and Large Animals

For many of us, our pets and other animals are important members of our family. Here are some steps you can take to ensure your four-legged friends survive the next disaster.

- Plan ahead. Know where you will take or leave your pets. In case you are not home when disaster strikes, arrange in advance for a neighbor to check on or transport your pets. Make sure your neighbors have your contact numbers (cell phone, work, home, etc.). In the event of evacuation, pets may not be allowed inside human emergency shelters—have an alternate prearranged location to take your animals.
- Make sure your pets are always wearing properly fitted collars with personal identification, rabies, and license tags. Get them chipped—it's the best way to ensure you are reunited if you are separated.
- Each animal should have its own pet carrier. Birds, rodents and reptiles should be transported in cages. Cover cages with a light sheet or cloth to minimize their fear.
- Clear defensible space around your barns and pastures, just as you do your home. California law (PRC 4291) requires clearance around all structures on your property.
- Plan ahead, know where you would evacuate large animals. Contact your local fairgrounds, stockyards, equestrian centers, friends, etc., about their policies and ability to take livestock temporarily in an emergency. Have several evacuation routes in mind. If you don't have your own truck and trailer, make arrangements with neighbors or local companies before disaster strikes. Make sure your neighbors have your contact numbers.
- Have vaccination/medical records, veterinary contact information, registration papers, and photographs of your animals (proof of ownership) in your Go Bag.
- Contact your local Disaster Animal Response Team (DART).

Leaving your pets, horses, and livestock behind is never recommended and should only be done as the last possible resort. If it's not safe for people, it's not safe for animals.

If You Must Leave Your Animals Behind:

- ✓ Bring them indoors. NEVER leave pets chained outdoors!
- ✓ Use a room with no windows and adequate ventilation, such as a utility room, garage, bathroom, or other area that can be easily cleaned. DO NOT tie pets up!
- ✓ Leave only dry foods and fresh water in non-spill containers. If possible, open a faucet to let water drip into a large container or partially fill a bathtub with water. Do not leave vitamin treats, which could be fatal if over-eaten.
- ✓ House cats and dogs separately, even if they normally get along.
- ✓ Leave large animals in a preselected, cleared area.
- ✓ Leave enough hay/feed and water for 48 to 72 hours. DO NOT rely on automatic watering systems. Power may be lost.

**The time to do your planning is now.
Do not wait until the last minute
to start evacuating your animals!**

Disaster Animal Response Teams (DART) assist communities when emergencies affect or threaten domestic animals, including household pets, farm animals, and livestock. DART capabilities and resources vary by county, and volunteers may be trained to provide basic care and feeding of evacuated animals, or to perform complex large animal rescue. Del Norte County currently has an active DART, and this resource is being developed in Humboldt County. Contact your county Office of Emergency Services for more information!

What to Expect Immediately After a Wildfire Passes

Returning Home

Coming home after a wildfire can be difficult. The damage is often unknown until the homeowner returns days or weeks later. Once home, check for the following:

- Listen to authorities to find out when it is safe to return, and whether water is safe to drink.
- Avoid hot ash, charred trees, smoldering debris, and live embers. The ground may contain heat pockets that can burn you or spark another fire. Consider the danger to pets and livestock.
- Send text messages or use social media to reach out to family and friends. Phone systems are often busy following a disaster. Make calls only in emergencies.
- Wear a NIOSH-certified respirator dust mask and wet debris down to minimize breathing dust particles.
- Document property damage with photographs. Conduct an inventory and contact your insurance company for assistance.
- Wildfires dramatically change landscape and ground conditions, which can lead to increased risk of flooding due to heavy rains, flash flooding, and mudflows. Flood risk remains significantly higher until vegetation is restored—up to 5 years after a wildfire. Consider purchasing flood insurance to protect the life you've built and to ensure financial protection from future flooding.

Watershed Impacts After a Wildfire

The after-effects of a wildfire on a watershed can be drastic, causing immediate issues and long-term effects. Rates of erosion and runoff can increase to dangerous levels following wildfires. Normally trees, shrubs, grass and other protective groundcover help prevent soil detachment and allow rainfall to infiltrate into the soil. The extreme heat of a wildfire can bake the soil to the point that water is unable to penetrate, which later can cause excessive run-off in a post-wildfire area.

Before leaving a burned area, CAL FIRE and other agencies will implement post-fire repair efforts. This work includes:

- ✓ Installing waterbars (ridges installed at an angle across the road to divert water).
- ✓ Removing soil and organic debris from streams where fire lines crossed.
- ✓ Bringing road drainage structures back to pre-fire condition.
- ✓ Removing hazards like burned trees from roads and power lines.
- ✓ Installing straw-waddle dams on hillsides.
- ✓ Straw-mulching to help stabilize soil and reduce stormwater runoff.
- ✓ Creating structural protection using sandbags and K-walls.

Learn more at:

AlbertaWater.com/How-Wildfires-Impact-a-Watershed

FS.Fed.us/pnw/research/fire/fire-effects.shtml

Working with your neighbors is important before, during, and after a wildfire. See the next section on *Communities Working Together* for more information and examples of how your neighbors are collaborating to prepare for wildfire.

A Trusted Translator: The Role of the Community Liaison in Creating Better Wildfire Outcomes

If you've lived in the rural West for long, chances are you've been affected by a major wildfire. Nearly every year, many communities experience the impacts of large wildfires in their backyards (or atmosphere); this isn't likely to change any time soon. Add drought and climate change to the mix and we have a seemingly ever-increasing fire season—in duration, area burned, and intensity.

We need to learn to live with fire; it is critically important that we find ways of creating best outcomes for communities during wildfires. Along with the necessary wildfire preparedness steps, it is essential to create better tools for living with fire when it is at our door. One such tool is ensuring communities, agencies, and fire management teams have a clear understanding of what to expect, and a process for honest communication throughout the event. The Salmon River is doing this via the creation of a Community Liaison program.



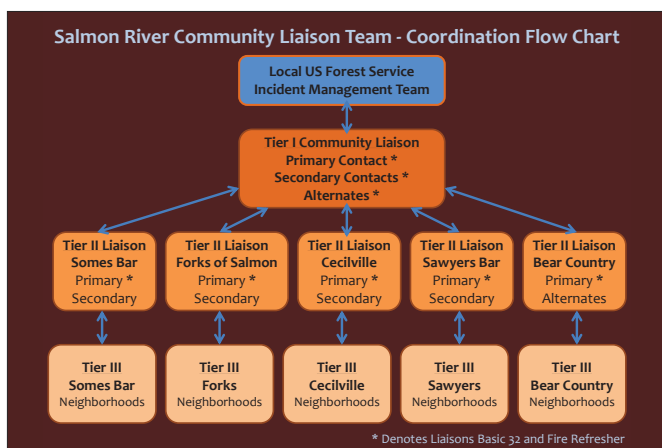
Community and fire personnel watching the Whites Fire, 2014. Photo: Karuna Greenberg.

were the inadequate and inconsistent two-way communication during the fires, and the need to get place-based knowledge to incoming IMTs in a useful and trustworthy form. The Klamath National Forest leadership listened to the community's concerns and supported the FSC in creating the CLP.

The CLP facilitates timely and transparent communication and information exchange between incoming IMTs, local Forest Service staff, and the affected communities during and after a wildfire. Liaisons are often trusted community members with ample fire, natural resource, and/or community knowledge. They can be effective at getting real-time information out to local and interested audiences; ensure that accurate place-based information is available for teams; and ease tensions during stressful situations. When embraced and skillfully implemented, CLPs have huge benefits to communities, governing agencies like the USFS, BLM, and CAL FIRE, and IMTs.

Since its creation the CLP has been tested during 2013, 2014, and 2017 wildfire events, with profound results. Despite these fires threatening several towns and neighborhoods, residents felt listened to, and had access to accurate information. Important local knowledge was also integrated into fire management strategy. Local Forest Service leaders set the stage for open, honest communication and mutual respect, and liaisons worked directly with IMTs to share information and ease tensions as they arose. Liaisons embraced social media, creating the Salmon River & Orleans Complexities Facebook group, serving as an important source of real-time information and providing a safe space for dialogue during fires. Due to its success and utility, the Klamath National Forest has requested all communities adjacent to the forest apply the CLP model, and communities adjacent to the Six Rivers National Forest have followed suit.

For more information, contact Karuna Greenberg, karuna@srcc.org



Community Liaison Program coordination flow chart.

The Salmon River Community Liaison Program (CLP) arose from the ashes of the 2008 wildfires, a particularly long and hard fire season for northern California. Wildfires burned over 80,000 acres on the Salmon River, threatened numerous neighborhoods and towns, and smoked out the region for four months. Through this long fire we endured six Incident Management Team (IMT) transitions! These turnovers led to dramatic changes in strategy, communications, and suppression tactics, which in turn resulted in strained communications and tensions throughout the campaign. As a result, the Salmon River Fire Safe Council (FSC) requested an after-action review of the fires. The main issues identified

Humboldt County Fire Safe Council



The Humboldt County Board of Supervisors formed the Humboldt County Fire Safe Council (HCFSC) in 2002, recognizing that community-based fire-planning efforts assist residents in making their homes, neighborhoods, and communities fire safe.

The HCFSC's mission is to serve as a forum for the implementation of Humboldt County's Community Wildfire Protection Plan (CWPP), to share fire-safety information, assess fire risk, promote community fire-safe planning and coordination, link fire-prevention programs, and support the fire service and local Fire Safe Councils (FSCs). It promotes community preparedness by developing educational materials and bringing together agencies and organizations that work with the public to prepare for and mitigate the impacts of disasters.

The HCFSC membership is made up of individuals representing federal, state, and local fire service agencies and organizations, along with local FSCs, the Hoopa Valley Tribe, the Humboldt County Office of Emergency Services, and the insurance industry. The HCFSC strives to prepare communities across the county for wildfire by systematically implementing the priority actions identified in the CWPP.

The third edition of the CWPP was completed in early 2019 and celebrates accomplishments and outlines a robust and ambitious plan for wildfire preparation and mitigation over the next five years. The members of the HCFSC are organized into CWPP implementation working groups that will work together on projects and activities aimed at making progress under six goal categories: wildfire ignition prevention, wildfire preparedness, disaster preparedness, fire protection, restoration of beneficial fire, and integrated planning. *See the next page.*



Above: HCFSC Members in Attendance at August 2018 Meeting.
Top right and left: FLASH Program Project: Before and After Fuel Reduction in Southern Humboldt.

Accomplishments include:

- Developing and implementing a cost-share program for treating flammable vegetation (Fire-adapted Landscapes and Safe Homes, or FLASH, Program)
- Assisting local FSCs with their CWPPs and Firewise® activities
- Maintaining a Web GIS tool showing the current level of fire service and community-identified fire-planning features, such as values and assets, hazards, protection resources, and proposed projects: WebGIS.co.Humboldt.ca.us/HCeGIS2.6_cwpp
- Assisting with planning for sustainable local fire and rescue services

The HCFSC meets quarterly at varying locations in the county from 10 am to 1 pm, to share ideas and discuss the successes and challenges of ongoing projects. Content experts are often invited to present on the major themes of wildfire mitigation and management or community preparedness. These meetings are open to the public and all are welcome.

For more information:

HumboldtGov.org/FireSafeCouncil, 707-267-9542
 1106 Second Street, Eureka, CA 95501
cimmitt@co.humboldt.ca.us



Humboldt County Community Wildfire Protection Plan Implementation



The 2019 Humboldt County Community Wildfire Protection Plan (CWPP) is the culmination of two years of collaboration among the members of the Humboldt County Fire Safe Council (HCFSC). In addition to the broad range of fire protection and prevention entities represented by the HCFSC, the CWPP update process included extensive communication and coordination with local fire departments and Fire Safe Councils (FSCs), state and federal agencies, personnel from various county departments, and the general public. Keeping this plan current and actionable is more important than ever as California faces unprecedented losses of life, property, and ecological values to wildfire.

The CWPP is intended to raise awareness about wildfire risk and provide guidance for addressing it. An enhanced understanding of wildfire's role in the environment helps distinguish situations where wildfire is undesirable due to unacceptable risks, from situations where fire can be beneficial for reducing fuel loads and creating more fire-resilient landscapes. The risk analysis and identified action steps embedded within the CWPP can be used as tools for residents, local FSCs, tribes, wildfire management and protection agencies, county policy makers and planners,



and other partners. Working together, Humboldt County can prepare for wildfire and avoid disastrous impacts to communities and the environment.

Over the next five years, the HCFSC will work with partners to implement the CWPP, using identified objectives, metrics, and priority action recommendations to meet each of the following six goal areas:

- 1. Wildfire Ignition Prevention:** Reduce human-caused wildfire ignitions.
- 2. Wildfire Preparedness:** Increase community resilience and adaptation to wildfire.
- 3. Disaster Preparedness:** Increase residents' ability to effectively prepare for and survive wildfire.
- 4. Fire Protection:** Support fire protection for people, property, communities, and natural resources.
- 5. Restoration of Beneficial Fire:** Restore beneficial fire at the landscape scale.
- 6. Integrated Planning:** Maximize integration of planning efforts to improve community and ecosystem resilience to wildfire.

The CWPP also contains Planning Unit Action Plans, which act as "mini-CWPPs" for each of the county's 14 planning units. Each mini-plan can be used to guide and support community-based wildfire preparedness. Additionally, anyone who is developing projects and/or seeking funding can use their area's action plan as a resource for grant applications. These plans are intended for use by community members, organizations, and agencies working and living within each unit. Ideally, one or more local groups can be sustained within each planning unit to lead action. It is understood that some units have more capacity than others. As much as possible, members of the HCFSC will provide guidance for building capacity where needed.

You can find the CWPP at:
HumboldtGov.org/FirePlanFinal

Direct questions to:
 Cybelle Immitt
 707-267-9542

cimmitt@co.humboldt.ca.us

Del Norte Fire Safe Council



The Del Norte Fire Safe Council (DNFSC) is a nonprofit organization based in Del Norte County. Its mission is to alert, protect, and empower the people of Del Norte County to protect themselves and their property from the effects of catastrophic wildfire through fire

prevention and education, multi-agency cooperation, and assisting with action to reduce risks and hazards from wildfire in Del Norte County.

Background

Since its inception in 2002, the DNFSC has implemented a number of fire-mitigation projects, including the creation of strategically placed fuel breaks and defensible space throughout the county. The DNFSC works closely with CAL FIRE and the US Forest Service to provide fire protection and community fire-safety education.

DNFSC is now a part of the Smith River Collaborative, a joint venture of the Six Rivers National Forest, Elk Valley Rancheria, the Tolowa Dee-ni' Nation, Del Norte County, local and regional environmental groups (Friends of Del Norte, Klamath Forest Alliance/EPIC, Smith River Alliance, Klamath Siskiyou Wildland Center), and the American Forest Resource Council. Cooperatively, these groups share the common goal of advancing habitat restoration and improving fire safety (through fuels treatments) on the Smith River National Recreation Area within Del Norte County.

Current Grants

The DNFSC recently coordinated two federal grants that will enhance fuel-reduction efforts across Del Norte County.

FSC Tank Project: DNFSC coordinated a Del Norte County Resource Advisory Committee (RAC)-funded grant for the purchase and installation of nine new 2,500-gallon fire water-storage tanks positioned on private lands in critical neighborhoods adjacent to and on federal lands throughout the county. Along with existing tanks already strategically placed in key areas throughout the county, the total number of tanks will increase to more than 50 for use in an emergency wildland fire.

Community Wildfire Protection Plan: An additional grant via the California Fire Safe Council Clearinghouse has provided funding to update the existing Community

Wildfire Protection Plan (CWPP). As with the existing CWPP, the update will be a collaborative effort between interested parties and federal land management agencies in Del Norte County. The plan identifies and prioritizes areas for hazardous fuel-reduction treatments and provides recommendations for the types and methods of treatment that will protect the county. The updated plan will recommend measures to reduce the ignitability of structures throughout the area. The updated CWPP will be completed in 2020.

Community Assistance Programs

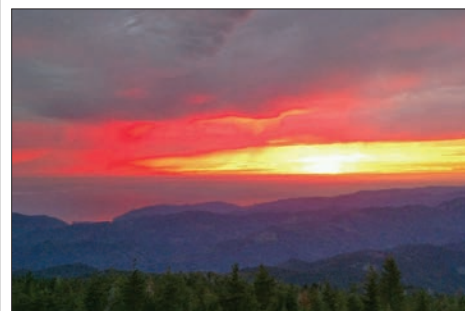
Chipper Program: Beginning in October 2002, the county-wide fuel-reduction Chipper Program was made possible by a grant from the RAC. This project aims to assist landowners in creating defensible space at a very low cost. The chipper is available to private, public, and commercial entities within the county on a rotational basis throughout the year, ensuring residents have the ability to utilize this fuel-reduction opportunity. This program is fully dependent on the willingness of community volunteers to coordinate the accessibility of the chipper in their area. For more information or to become a community volunteer, please leave a message at (707) 218-7250.

Equipment Trailer: The DNFSC maintains a mobile trailer filled with chainsaws, weed eaters, blowers, and additional outdoor power equipment available to commercial entities upon request. Trained crews from multiple local agencies including Alder Camp, Pelican Bay State Prison, Forest Service, and the Bar-O Boys Ranch juvenile detention center have used it to run the equipment on multiple county-wide fire-protection projects. For more information, please leave a message at (707) 951-0977 or (707) 951-1466.

The DNFSC continues to collaborate with the Smith River National Recreation Area (SRNRA) and CAL FIRE to complete work on private property adjacent to US Forest Service projects to strengthen the effectiveness of their fuel-reduction efforts.

Red Mountain Fire Lookout

Through a partnership with Green Diamond Resource Company and CAL FIRE, the DNFSC also provides staffing to the Red Mountain Fire Lookout. Located on the prominent mountain east of the Klamath River Bridge, Red Mountain Lookout has been involved in wildfire observation since the original lease to CAL FIRE in 1921.



Clockwise from left: Red Mountain Lookout; Wood Chipper; Sunset from Red Mountain Lookout.

The current lookout building, located near a World War II airstrip, was built in 1961 and serves as a 24-hour staffed fire-watch for Del Norte, Siskiyou, and Humboldt counties from June to October. Lookouts report suspicious smoke activity in the region, oftentimes being the first to witness the beginning of a wildland fire.

Community Education Programs

Efforts include:

- Creating and distributing an action-oriented fire-safe resource guide that includes contact information for property evaluations, local arborists, fuels reduction contractors, clean-up crews, equipment rentals, local fire and emergency services, and debris-disposal options.
- Exposing and involving local-area youth in fire-safe-oriented career programs through our collaborative work with Wild Rivers Community Foundation, Del Norte Workforce, Building Healthy Communities, and College of the Redwoods.
- Actively recruiting area representatives/contact people to organize and sustain fire-safe practices in each of our small communities.

How to Get Involved

The DNFSF is composed of volunteers who believe in helping their community stay prepared for and mitigating the potential effects of wildland fires. We are always in

need of grant writers, equipment operators, and those within the community willing to contribute time and energy to our numerous county-wide projects. You do not have to be in a fire-related position to help.

For more information, contact the DNFSF Director, Becky Barlow, beckybarlow@hotmail.com, 707-951-1466

DNFSF is recruiting members!

Who can join: anyone willing to contribute time and energy to projects. You do not have to be in a fire-related position to help.

What we do: fire-prevention education, provide community assistance with clearing defensible space using our wood chipper program, and seek and write grants that benefit community fire safety projects.

When we meet: second Monday of the month at 6:30 pm. Our meetings are usually about an hour.

Where we meet: Crescent City Fire and Rescue, 255 West Washington Boulevard, in the small conference room.

Trinity County Fire Safe Council



The Trinity County Fire Safe Council (TCFSC) was formed in 1998 when the County Board of Supervisors established a Natural Resources Advisory Council, which set up a sub-committee to address wildfire. This group became the TCFSC, and includes representatives from local volunteer fire departments, Trinity County Resource Conservation District (TCRCD), Watershed Research and Training Center (WRTC), US Forest Service, US Bureau of Land Management, CAL FIRE, Safe Alternatives for the Environment, Trinity County, and two local Fire Safe Councils (FSC) representing Hyampom and greater Willow Creek.

The TCFSC has been a model of collaborative community participation, bringing fire-prevention professionals together with broader natural resources organizations and the public to build a strong county-wide effort to make our communities more fire-adapted and the surrounding landscape more fire-resilient. The TCFSC advocates for the need to implement projects on the ground and leads efforts to develop community-specific plans.

In 2000, the TCRCD initiated neighborhood defensible-space demonstration projects and catalyzed development of localized fire-management plans,

including the East Branch Plan, East Fork Plan, Down River Plan, and Grass Valley Fire Management Plan. These led the TCFSC to develop a set of county-wide recommendations between 1999 and 2001, which became the basis of the Trinity County Community Wildfire Protection Plan (CWPP) in 2005.

The TCFSC began with demonstration fuel-reduction projects on public and private lands, concurrently with the county-wide, coordinated fire-management planning process.

The TCFSC, with TCRCD and WRTC leadership, returned to the communities in 2009, and in 2010, they updated the CWPP. A later 2015-16 update emphasizes the importance of prescribed fire and the renewed desire for landscape-scale work envisioned by the Trinity County Collaborative Group. The TCFSC was an early supporter of the Firewise Communities Recognition Program and has helped 13 communities in Trinity County obtain and maintain recognition.

The TCRCD has facilitated the TCFSC since its formation in 1998 and maintains its website and mailing list. The TCFSC meets the fourth Thursday of every month at 1 pm, in the TCRCD conference room, #6 Horseshoe Lane, Weaverville, California.

For more information:

tcrd.net/fsc

PO Box 1450

Weaverville, CA 6093

530-623-6004 • sbraxton@tcrd.net



Crooked Prairie Fire Safe Council

Located in the Ettersburg area of southern Humboldt County, the Crooked Prairie Fire Safe Council (CPFSC) is an all-volunteer organization, funded by donations within the community and grants where possible. *Its mission is to improve and maintain fire safety for community members and the environment through education, fuel-reduction work, and support of local firefighting efforts.*

Goals and Objectives

- Educate community members, especially new residents, about fire-safe practices and the importance of 100 feet of defensible space
- Assist landowners with FLASH grant applications
- Educate the community about Sudden Oak Death (SOD) risk and assist with identification and testing
- Create and maintain shaded fuel breaks along privately maintained roads within the community.
- Support resident volunteer firefighters with equipment acquisition
- Coordinate with adjacent Fire Safe Councils (Southern Humboldt FSC and Lower Mattole FSC) to create and improve fire safety for the entire Southern Humboldt region

The CPFSC works hand-in-hand with Crooked Prairie Community Association, whose main function is the maintenance of about 4 miles of gravel road. While grading and rocking is hired out, most of the brushwork is accomplished through the volunteer efforts of the community. A good road is essential to our safety!

The Mattole Restoration Council (MRC) is another valuable resource through which the CPFSC has received grant monies for the acquisition of a 5,000-gallon water-storage tank to support the firehouse in 2008; and a FLASH grant for fuel-hazard-reduction work along about 2 miles of Crooked Prairie Road in 2013. In 2010, with the support of MRC and University of California Forestry Advisors, CPFSC hosted a SOD workshop and continues to assist landowners with identification and testing.

For more information about the CPFSC, contact:

Kathy Weber, kw@asis.com, 707-986-7705
POB 631, Garberville, CA 95542

Van Duzen Watershed Fire Safe Council



The Van Duzen Watershed Fire Safe Council (VDWFSC) was founded in 2005 and is sponsored by the Bridgeville Community Center. *Its mission is to protect and preserve their homes, forests, and waterways from the dangers of wildfires by actively performing fuel reduction work, creating a working fire plan, educating and motivating residents to be fire safe, coordinating funding and action plans with government agencies, providing detailed mapping and risk assessment, and creating an emergency response system for their community. It is also their aim to provide employment for as many local people as they can.*

Successful projects of the VDWFSC include the completion of defensible-space zones for homes, roadside clearance, and landscape clearance. The VDWFSC assists the US

Forest Service with fuelbreak pile burning and roadside clearance on Forest Service land, and sponsors workshops and yearly informational booths. They also participated in the FLASH program. In addition to fire prevention, the VDWFSC participates in services related to stream restoration, erosion control, trail building, tree planting, and wildlife habitat enhancement. Bridgeville has been a Firewise Community since 2010.

For more information on the VDWFSC, contact:

Chantal Campbell, chantal.bcc@gmail.com
707-777-1775

Bridgeville Community Center
POB 3, Bridgeville, CA 95526

Lower Mattole Fire Safe Council

The Lower Mattole Fire Safe Council (LMFSC) was founded in 2002. Its mission is to reduce risks and minimize damage to life, property, and the environment from wildfire, by coordinating efforts to fund and implement fire-safe education and projects in the Lower Mattole. Some of the goals and objectives of the LMFSC include reducing fuel loads in and around neighborhoods; increasing availability of water sources; assisting local fire-protection agencies; educating landowners on fire-safe practices; improving community and emergency response communication networks; and promoting healthy forest and rangeland ecosystems.

Since its inception, the LMFSC has partnered closely with the Mattole Restoration Council on fuel reduction and fire-safety projects. We have completed several shaded fuel breaks along county and private roads, several fire breaks along strategic ridgelines, treated dozens of residences in the defensible space zone, and reclaimed over 100 acres of historic meadow by removing encroached fuels.

We also completed the Lower Mattole Community Wildfire Protection Plan (CWPP) in 2016, the Mattole Fire Safe Atlas in 2006, and helped contribute to the Humboldt County CWPP update of 2019.

The two towns in our council, Honeydew and Petrolia, have been recognized as Firewise Communities since 2011. The annual Firewise event at Roll on the Mattole features the “firefighters’ challenge,” always popular and effective in inspiring support for our volunteers.

For information about the LMFSC, contact:
Ali Freedlund, ali@mattole.org, 707-629-3514,
or Ian Sigman, iansigman@hotmail.com,
707-629-3445, POB 160, Petrolia, CA 95558
mattole.org/programs/land-management/fire



Orleans/Somes Bar Fire Safe Council

The Orleans/Somes Bar Fire Safe Council (OSBFSC) was established in 2001 and now operates under the organizational umbrella of the Mid Klamath Watershed Council (MKWC). The OSBFSC's mission is to help plan, implement, and monitor the reinstatement of historic fire regimes, primarily through the use of strategic fuels reduction, in a manner that protects life and property, improves forest health, and enhances the resources valued by its stakeholders. The OSBFSC receives grant funding from local, regional, state, and federal partners in support of a variety of projects, including the construction of shaded fuel breaks, prescribed burns, community defensible space and chipping events, landowner reimbursement programs, and educational events.

Once every three years, OSBFSC/MKWC hosts the Klamath Fire Ecology Symposium, an exciting event that brings fire scientists, fire practitioners/managers, students, and citizens together to re-envision fire management in the Klamath Mountains and other fire-prone areas in a smart and strategic way.

Since its inception, the OSBFSC has completed brushing and thinning on more than 1,800 acres of private lands. It has been instrumental in accomplishing prescribed burns on over 2,100 acres of private lands and training over 400+ local, regional, and national participants in the safe and effective use of prescribed fire through the annual Klamath Prescribed Fire Training Exchange (TRES). Through TRES, OSBFSC is developing local capacity to implement prescribed burns to reduce their community's risk to wildfire and prepare for a day when all fires are no longer suppressed.

The OSBFSC/MKWC is currently collaborating with diverse stakeholders through the Western Klamath Restoration Partnership to prioritize strategic fuel-reduction projects on public and private lands spanning a 1.2-million-acre project area. See WKRP article on Page 69.

For more information about the OSBFSC, contact:
Will Harling, will@mkwc.org or Nancy Bailey
nancy@mkwc.org 530-627-3202
POB 409, Orleans, CA 95556
mkwc.org/programs/fire-fuels



Southern Humboldt Fire Safe Council

The Southern Humboldt Fire Safe Council (SHFSC) was formed in 2002 *to protect the region's natural and man-made resources by mobilizing the community to make their homes, neighborhoods, and communities fire safe.*

The SHFSC collaborates with a variety of fire and forestry organizations to achieve its goals. It has met irregularly, with widespread participation of over 40 individuals, including volunteer fire departments, rural residents, and landowners. Participants include the Institute for Sustainable Forestry, Sanctuary Forest, CAL FIRE, Bureau of Land Management, California State Parks, the Mattole Restoration Council, and the Humboldt County FSC. Recent projects include the clearing of five large shaded fuelbreaks protecting important access roads; the organization of fire-education events; and work toward drafting a local CWPP. Several members regularly appear on the local radio station to talk about fire-related issues.

Over the last four years, the SHFSC has emphasized the FLASH program to create defensible space around homes, remove flammable Douglas fir encroachments in oak woodlands, and aid in shaded fuelbreak construction along access roads. Since 2013, the SHFSC FLASH program led to 185 acres of fire hazard-reduction work for 60 landowners, 50 fire-safe home inspections, and 136 site visits. The FLASH program also supported fuel-reduction projects with CAL FIRE crews in the Bear Creek Canyon near Garberville and along Elk Ridge Road in Brice land.

The SHFSC is expanding its membership and broadening its wildfire-preparedness services offered in the Southern Humboldt area. This area, while experiencing many wildfires, has been very lucky to not have experienced the terrible losses of lives and homes to wildfires that other parts of California have, especially recently. When our time comes we need to be prepared!

For information about the SHFSC, contact:
Bill Eastwood, bill@asis.com, 707-923-9109
POB 424, Redway, CA 95560
humboldt.gov/1888/Southern-Humboldt-FSC



Willow Creek Fire Safe Council



The Willow Creek Fire Safe Council (WCFSC) was established in 2007; in 2008, it incorporated as a non-profit 501c3 organization. Its mission is to reduce wildfire risk and increase survivability by implementing fuel-reduction projects and encouraging residents of the greater Willow Creek area to make their homes, neighborhoods, and community fire safe. The WCFSC made Willow Creek an active Firewise Community in 2010 and has assisted Redwood Valley and Burnt Ranch in becoming Firewise Communities.

Projects include the ongoing Chipper Days events whereby free chipping services are available to landowners who gather and stack brush in advance. With the DreamQuest youth group Agents of Change, we assist senior citizens and handicapped individuals by clearing brush around their homes.

The California Conservation Corps, CAL FIRE's High Rock Crew, the Sheriff's Work Alternative Program, Trinity Village Homeowners Association, and WCFSC volunteers remove extensive brush along evacuation routes and fuelbreaks in the Willow Creek and Salyer areas, when funding is available.

The WCFSC also maintains the Blue Dot Program, which marks pre-approved water sources for access by firefighters, and keeps a current list of the locations available to fire-protection agencies.

The WCFSC participates in National Firewise Day, with a Firewise Community Fair and Youth Ecology Day each year on the third Saturday in May at Veterans Park. It includes a Youth Art Contest with a wildfire safety theme. The WCFSC has held the SkyCrest Lake Youth Fish Derby and Firewise Day in Burnt Ranch in June.

The WCFSC participates in Bigfoot Day and Parade, Taste of Willow Creek, and Farmers Market activities, providing information on fuel reduction and fire safety. Members also participate in the CalTrans Adopt-A-Highway program, keeping one mile of Highway 96 clean.

The WCFSC partners with the Willow Creek Volunteer Fire Department, Pacific Gas & Electric Company, Six Rivers National Forest, and the Willow Creek Community Services District to present youth fire-safety programs at the Trinity Valley Elementary School, Creekside Charter School, and Trinity Valley Head Start Program, along with planting trees and flowers for Arbor Day.

Finally, WCFSC participates in the Humboldt County FSC's FLASH program, and it developed (in 2011) and updates the Willow Creek Greater Area Community Wildfire Protection Plan.

For more information on the WCFSC, contact:
Barbara Darst, admin@willowcreekfsc.org
707-499-0767, barbaradarst@yahoo.com
POB 224, Willow Creek, CA 95574



Firewise USA® Program



The Firewise USA® Program teaches people how to adapt to living with wildfire by preparing for fire. This program empowers communities with tools and resources for reducing their wildfire risk and encourages neighbors to work together to take action to minimize potential losses. Some preparedness actions include creating and maintaining defensible space around structures by reducing vegetation and removing debris, and retrofitting homes with fire-resistant construction materials. For more information, visit Firewise.org.

Using a six-step process, community residents collectively develop an action plan that identifies wildfire risks and hazards and guides action to reduce potential wildfire damage and losses.

The Six Steps to Becoming a Firewise USA® Site:

1. Create a Community Wildfire Risk Assessment in collaboration with local residents, local fire departments, CAL FIRE, and, if applicable, your local and/or county Fire Safe Council.
2. Form a board or committee to oversee Firewise planning and action.
3. Draft an action plan with a prioritized list of wildfire risk-reduction projects.
4. Conduct educational outreach by planning at least one event or activity each year.
5. Invest in wildfire risk reduction and annually document the equivalent of one volunteer hour per dwelling unit (this can be made up of volunteer hours, contractor costs, grants, and more).
6. Submit an application to Portal.firewise.org and subsequently an annual report to the state Firewise liaison.

Some of the many ways communities benefit from Firewise:

Framework for Action: Get organized and find direction in the spirit of taking annual, systematic action to reduce the risk of damage and loss from wildfire.

Learning about Wildfire: Learn about community wildfire risks and the simple things that can be done to reduce them. Connect with experts such as local firefighters, state forestry professionals, and national researchers.

Peace of Mind: See results quickly and know that the best information is being used to guide action. Having a plan helps with staying calm and being prepared to act quickly in the face of sudden wildfire threats.

Community-Building: Build a strong bond with neighbors while rallying around a common cause for the good of the community. Strong community ties benefit residents in many ways, especially during an emergency.

Citizen Pride: Take pride in earning recognition. Neighbors work hard to plan action and reduce wildfire hazards, and they deserve the satisfaction from the difference they make in the safety of their community.

Publicity: Shine the spotlight on community efforts. Post Firewise signs, place the recognition plaque where it can be seen, and publicly celebrate successes. Publicity can attract the attention and participation of more neighbors, as well as spread the message of wildfire safety to a larger number of people.

Access to Funding and Assistance: Show funders that your community is ready for action. All things being equal in the competitive world of grants, Firewise recognition is a demonstration of foresight and a level of organization in which funders can have confidence.

Local Firewise Communities

Humboldt County

Honeydew, 2011

Hydesville, 2015

Kneeland, 2015

Orleans, 2011

Petrolia, 2011

Redwood Valley/Chezem, 2014

Shelter Cove, 2014

Upper Jacoby Creek, 2012

Willow Creek, 2010

Trinity County

(All since 2008)

Big Bar & Big Flat

Coffee Creek

Douglas City

Hawkins Bar

Hayfork

Hyampom

Junction City

Lewiston

Mad River & Ruth

Post Mountain

Salyer

Trinity Center

Weaverville

Burnt Ranch, 2013

Fuelbreak to Fuelwood:

How Successful Collaboration and Partnerships Are Heating Up on the Six Rivers National Forest's Mad River Ranger District

"You can never have enough firewood" is an old adage among mountain folks, but thanks to the Trinity County Collaborative Group (TCCG), "You can always have enough firewood" may be the new saying on the Mad River Ranger District.

In the last edition of **Living with Wildfire in Northwest California**, the Mad River Ranger District highlighted the achievements of partnering with the TCCG. Since 2015 the two organizations have worked together to design projects to meet objectives outlined by the **Trinity Community Protection and Landscape Restoration Project (TCPLRP)**, a proposal developed by the TCCG and other local stakeholders that calls for the establishment of a sustainable system of shaded fuelbreak and fuel treatments on both US Forest Service (USFS) and private complementary forestlands to facilitate safe evacuation, firefighter access, and landscape fire management.

Once completed, this proposal was submitted to the Joint Chiefs' Landscape Restoration Partnership that was established between the USFS and the Natural Resources Conservation Service (NRCS) to oversee US Department of Agriculture funds to mitigate wildfire threats to landowners and communities. In February 2016, three years of funding was awarded to the Six Rivers National Forest (SRNF), Shasta-Trinity National Forest, and the NRCS for project implementation on federal and private lands to meet the goals and objectives of the TCPLRP. With their portion of funds, the SRNF partnered with local non-profit groups—the Watershed Research and Training Center (WRTC) in Hayfork, the Bridgeville Community Center, and the Trinity County Resource Conservation District (TCRCD)—to accomplish fuelbreak construction along strategic road systems and ridgelines in the **Kelsey Peak Timber Sale and Fuelbreak Project** located in the upper Mad River watershed, south of Ruth Lake.

So far, about 300 acres of this fuelbreak construction has taken place. Primary objectives are to enable safe evacuation for the public and firefighters, and to provide potential anchor points from which fire personnel can manage suppression and fire-use operations. An additional benefit of fuelbreak construction is the creation of an abundant supply of fuelwood from small-diameter thinning. Fuelbreak treatments involved mastication, thinning of small-diameter conifers under 8 inches diameter at breast height (DBH), and lop and

scatter by WRTC; chipping by the Bridgeville Community Center; and removal of small-diameter wood on steep slopes to the roadside by the TCRCD. Mad River Ranger District staff utilized the district excavator to bunch and forward felled small-diameter wood to the roadside to be loaded on a dump truck and transported to a central wood-cutting site at the Ruth Guard Station. In addition, firewood was extracted from landing cull decks where Kelsey timber harvest units overlap fuelbreaks.

Since 2016, about 700 cords of fuelwood have been removed from Kelsey fuelbreaks and timber harvest units. Benefits of a dedicated wood-cutting site include: a safe environment for senior citizens to cut firewood; an alternative, cheaper source of heat for low-income families; a known centralized location that minimizes transportation expenses and impacts on USFS roads; reduction of fuel loading across the landscape; and a reduction of piles to be burned.

For information on firewood cutting in the Six Rivers National Forest's Mad River Ranger District, call 707-574-6233 or stop by and visit the district office at 741 State Highway 36, Mad River, CA.



SRF Excavator 4 Pre-bunching to Forward Felled Material to Roadside; Ruth Guard Station Firewood Cutting Area

Smith River Collaborative



Formed in 2016, the Smith River Collaborative (SRC) is a joint venture including Six Rivers National Forest (SRNF), Elk Valley Rancheria, Tolowa Dee-ni' Nation, Del Norte County, Del Norte Fire Safe Council, local and regional environmental groups (Friends of Del Norte, Klamath Forest Alliance/EPIC, Smith River Alliance, Klamath Siskiyou Wildland Center), and the American Forest Resource Council.

The SRC is guided by a Letter of Mutual Interest, the Del Norte Community Wildfire Protection Plan (CWPP), and co-chairs representing the county and the Smith River Alliance. In general, the SRC plans and seeks funding for projects that promote forest and aquatic restoration across the Smith River National Recreation Area, while also maintaining a focus on improving the safety and defensibility of at-risk communities and municipal watersheds. Example SRC projects are described below.

Partnering to Manage Mvs-ye-se'-ne (Pappas Flat)

On October 11, 2018, the Tolowa Dee-ni' Nation, Elk Valley Rancheria, and SRNF came together to implement a prescribed burn near Gasquet at a site called Mvs-ye-se'-ne (Pappas Flat).

The partnership among the SRNF, the Tolowa Dee-ni' Nation, and the Elk Valley Rancheria to manage this area began in 1995, when a decision was made to restore this 15-acre Oregon white oak stand to its natural habitat by reintroducing prescribed fire into the grove. Understory fall burning, like local indigenous peoples have done since time immemorial, is the preferred treatment for restoration of this stand. Douglas fir trees and thick brush have encroached upon this natural oak woodland over the years. Maintenance through follow-up burns is scheduled to be performed every 2 to 5 years or as needed. For the Tolowa Dee-ni' Nation and Elk Valley Rancheria, fire enhances the availability and quality of their food supply, as well as the materials they rely on for basketry and other utilitarian uses. Fire also helps them stay connected to their culture.

Prior to burn day, the partners listed above met on site in October of 2017, and again in March of 2018, to discuss site management options at Mvs-ye-se'-ne, including an opportunity to have the Northwest Youth Corps manually treat invasive Scotch broom encroaching into the oak woodlands and prairies.

More SRC Projects

Two **National Fish and Wildlife Foundation-funded projects** are underway to create and maintain shaded fuelbreak conditions around the wildland-urban interface communities of Gasquet, Low Divide, Hiouchi, and Big Flat. Key partners include the Six Rivers National Forest, Del Norte County, Tolowa Dee-ni' Nation, Alder Conservation Camp, and the California Conservation Camp. Approximately 600 acres will be treated.

The **Little Jones Creek Pilot Project** is an integrated vegetation and fuels management project involving 385 acres of fuelbreak construction, 350 acres of plantation thinning, 90 acres of commercial firewood, and 11 acres of timber stand improvement, all generating approximately 3 million board feet of timber and 0.5 million board feet of commercial firewood.

The **Little Jones Creek Riparian Project** restores riparian and aquatic habitats by thinning alder stands that limit the establishment of conifers. The project also involves planting disease-resistant Port Orford cedar within the treatment area. Partners include SRNF, Smith River Alliance, California Department of Parks and Recreation, Mill Creek Nursery, and Lomakatsi Restoration Project.



Collaboration in the Western Klamath Mountains Embracing Equitable Governance



The evolutionarily unique Klamath Mountains, where the Western Klamath Restoration Partnership (WKRP) is based, lie tucked away in far northwest California. Here the Karuk Tribe continues to manage their aboriginal lands. These mountains are part of a larger Klamath-Siskiyou Mountains Ecoregion renowned for an exceptionally high rate of biodiversity, maintained largely by frequent fire. Since European settlement, governance of these lands has greatly changed, including prohibition of the human use of fire, a tool local tribes once utilized widely. Land and forest governance is again changing with the new challenges brought by increasing wildfires and fire severity nationally, and here in particular, where the risk of extreme wildfire is among the highest in the state. The sense of urgency by local managers to embrace a new wildfire-management approach to safeguard their homes and lives is palpable.

Research on the role of fire here points to mixed-severity, frequent-fire regime intervals of about 5 to 15 years. Yet the role Native Americans played in shaping these landscapes, and the centuries of knowledge and experience in utilizing fire as a tool, has been misunderstood and dismissed until now. State and federal fire managers are at a crossroads, with suppression management no longer a favored approach. They are looking to locals guided by the collaborative design of the National Cohesive Wildland Fire Management Strategy (Cohesive Strategy) for creative ideas to reform an outdated management model that is clearly exacerbating rather than solving widespread issues.

Meanwhile WKRP, other collaboratives, and entities like The Nature Conservancy and the US Forest Service (USFS), are creating a new approach on the ground. Last year, a historic National Environmental Policy Act signing took place between the Karuk Tribe and Six

Rivers National Forest. Later, the Mid Klamath Watershed Council received a \$5 million CAL FIRE grant to implement the first landscape-scale **Somes Bar Integrated Fire Management Project**. Manual and mechanical treatments are set to begin in 2019; over the next 3 to 5 years, 5,500 acres will be thinned and burned around our most at-risk private lands. This will ensure the social license to conduct large-scale cross-boundary burns.

This collaborative effort is the culmination of 20-plus years of cooperative attempts by local partners with the USFS. Participants have overcome conflict, economic hardship, and growing pains in order to re-envision fire management. The partnership marks a new way of doing business in the Klamath Mountains and in the USFS, inspired by Karuk traditional ecological knowledge combined with Cohesive Strategy principles.

The WKRP consists of diverse partners from the Karuk Tribe, non-profit organizations, federal agencies, private landowners, and others who are working through an intensive, equitable decision-making process.

Check out the WKRP at WKRP.network.

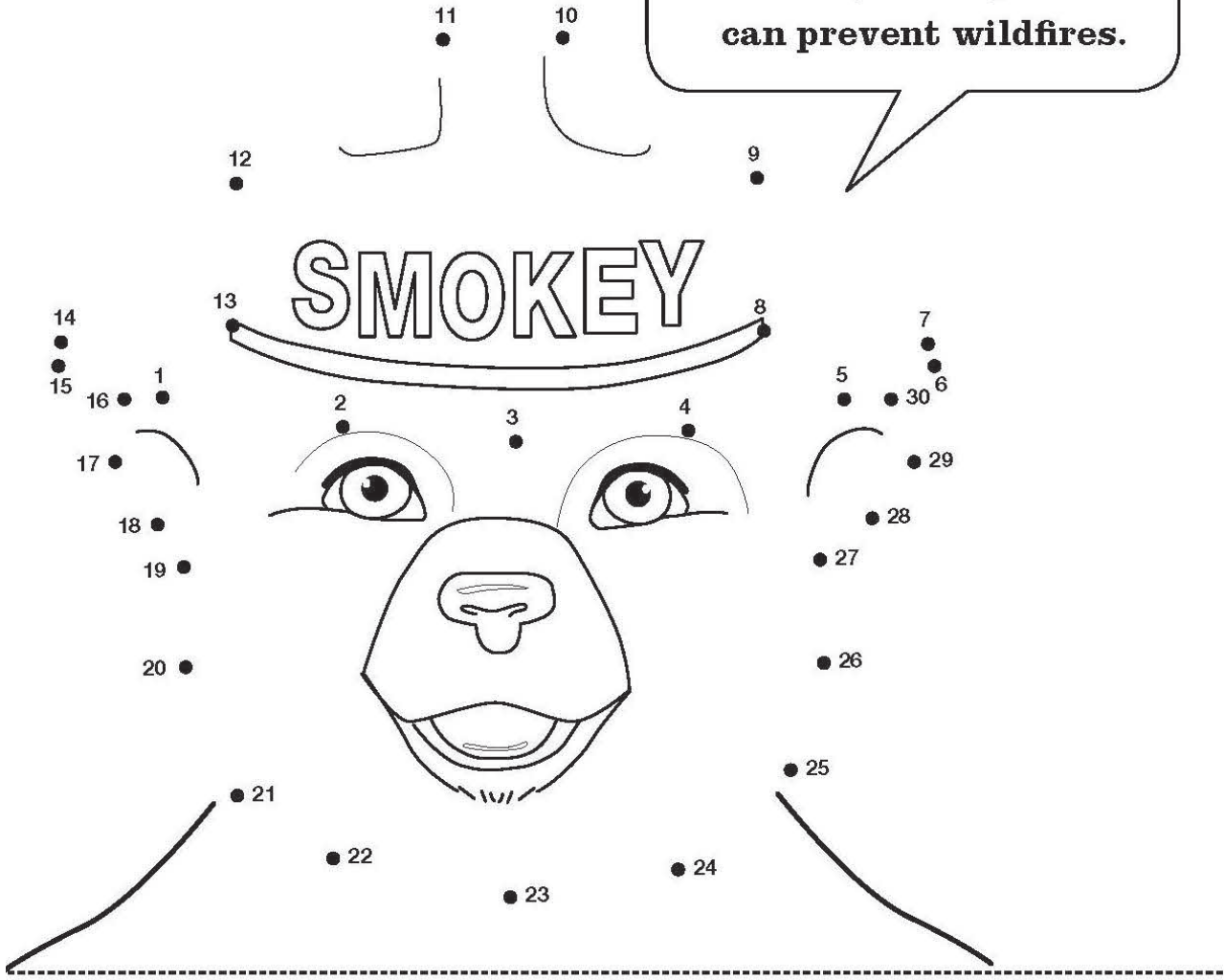




Hey Kids!

1. Complete the Dot-to-Dot to make a mini-poster. Color it in!
2. Share it with your family!

(Your name)
can prevent wildfires.



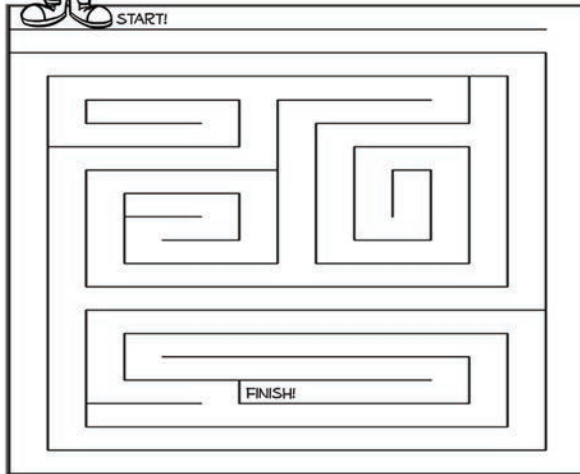
Family Talk!

Dear Parent/Caregiver:

Did you learn about Smokey Bear when you were young? What Smokey Bear stories can you remember? Please take a moment to share your memories with your child. If you are not familiar with Smokey Bear, invite your child to share Smokey's story with *you*!



FIND YOUR WAY
THROUGH
FIREFIGHTER ASHLEIGH'S
MAZE!



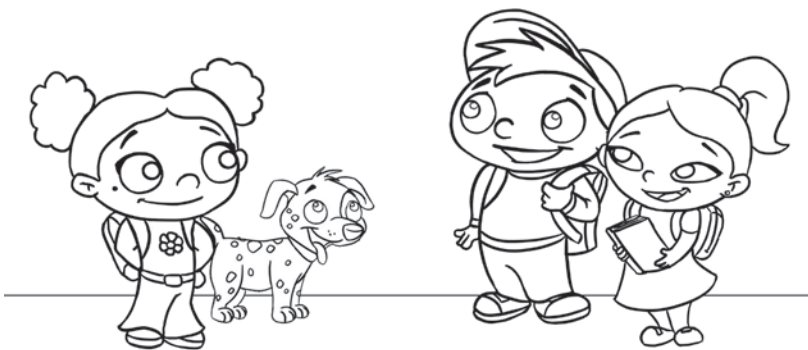
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Smokey's Fire Safety Tips

- ★ Stay away from hot objects.
- ★ Never play with matches, lighters, or candles.
- ★ Have at least one smoke alarm per level in your house.
- ★ Test smoke alarms once a month.
- ★ Change batteries in smoke alarms every six months.
- ★ Create and Practice an Escape Plan in case of a fire at your house.
- ★ If there is a fire in your house, leave as fast as you can, do not stop to pick up toys.
- ★ If there is a fire in your house, always test the door to see if it is hot. If it is, leave through the window.
- ★ Always crawl under smoke.
- ★ If your clothing or hair catches on fire, STOP, DROP and ROLL.

WE LOVE LEARNING
ABOUT FIRE SAFETY!



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For more fun stuff for kids, see:
SmokeyBear.com/en/Smokey-For-Kids
Sparky.org
FireSafeKids.org/games

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Del Norte County Fire Safe Council
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Hoopla Fire Department and Office of Emergency Services
[Hoopla-nsn.gov/Departments/Emergency-Service-Departments/Wildland-Fire-Department](https://www.Hoopla-nsn.gov/Departments/Emergency-Service-Departments/Wildland-Fire-Department)

Humboldt County Fire Safe Council
[HumboldtGov.org/FireSafeCouncil](https://www.HumboldtGov.org/FireSafeCouncil)

Humboldt County Office of Emergency Services
[HumboldtGov.org/356/Office-of-Emergency-Services](https://www.HumboldtGov.org/356/Office-of-Emergency-Services)

Mid Klamath Watershed Council
[MKWC.org/Programs/Fire-Fuels](https://www.MKWC.org/Programs/Fire-Fuels)

North Coast Unified Air Quality Management District
[NCUAQMD.org](https://www.NCUAQMD.org)

Trinity County Fire Safe Council
[TCRCD.net/fsc](https://www.TCRCD.net/fsc)

Southern Humboldt Fire Safe Council
[HumboldtGov.org/1888/Southern-Humboldt-FSC](https://www.HumboldtGov.org/1888/Southern-Humboldt-FSC)

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US Forest Service, Six Rivers National Forest
[FS.USDA.gov/srnf](https://www.FS.USDA.gov/srnf)

Willow Creek Fire Safe Council
[WillowCreekfsc.org](https://www.WillowCreekfsc.org)

Yurok Tribe Wildland Fire Program
[YurokTribe.org/Departments/Forestry](https://www.YurokTribe.org/Departments/Forestry)

Additional Wildfire Preparedness Resources

To learn more about wildfire and how you can enhance your personal fire safety, read the resource page of the Humboldt County Fire Safe Council.

[HumboldtGov.org/FireSafetyResources](https://www.HumboldtGov.org/FireSafetyResources)

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GO BAG Checklist

One of the important lessons of recent fires is the need to evacuate with very little notice. Put together an emergency supply Go Bag for each member of your household long before a wildfire or other disaster occurs. Keep it accessible so you can take it with you when it is time to evacuate. Plan to be away from your home for an extended period of time. Backpacks work great for storing these items (except food and water) and are quick to grab. Storing food and water in a tub or chest on wheels will make it easier to transport. Keep it light enough to be able to lift it into your car. **For more information on emergency supplies, visit: [Ready.gov](https://www.ready.gov).**

- Three-day supply of non-perishable food and three gallons of water per person
- Map marked with at least two evacuation routes
- Prescriptions or special medications
- Change of clothing and blankets
- Extra eyeglasses or contact lenses
- An extra set of car keys, credit cards, and cash
- First aid kit
- Flashlight
- Battery-powered radio and extra batteries
- Sanitation supplies
- Copies of important documents (birth certificates, passports, etc.)
- Remember pet food and water!

Items to take if time allows:

- Easily carried valuables
- Family photos and other irreplaceable items
- Personal computer information on hard drives
- Chargers for cell phones, laptops, etc.

Always keep a sturdy pair of shoes and a flashlight near your bed and handy in case of a sudden evacuation at night.

Emergency Notifications and Contact Information

Del Norte County OES

[PrepareDelNorte.com](https://www.preparedelnorte.com) • 707-465-0430 Ext.1135

Hoopla Fire Department and OES

530-625-4366

Humboldt County OES

[HumboldtGov.org/OES](https://www.humboldt.gov/OES) • 707-268-2500

Trinity County Sheriff's Department

[TrinityCounty.org/Sheriff-Department](https://www.trinitycounty.org/Sheriff-Department) • 530-623-2611

Siskiyou County OES

[Co.Siskiyou.ca.us/EmergencyServices/page/CodeRed-Emergency-Alert-System](https://www.co.siskiyou.ca.us/EmergencyServices/page/CodeRed-Emergency-Alert-System)

Always Call 911 for Emergencies

Write up your Wildfire Action Plan and post it in a location where every member of your family can see it. Rehearse it with your family.

MY PERSONAL WILDFIRE ACTION PLAN

During High Fire Danger days in your area, monitor your local media for information on brush fires and be ready to implement your plan. Hot, dry and windy conditions create the perfect environment for a wildfire.

Important Phone Numbers:

Out-of-Area Contact: _____ Phone: _____

Work: _____

School: _____

Other: _____

Evacuation Routes:

Where to go:

Location of Emergency Supply Kit and Go Bags:

Notes: _____



California Department of
Forestry and Fire Protection

If you have an emergency, call 911

CAL FIRE: 916-653-5123

www.fire.ca.gov