

SOUTHERN HUMBOLDT PLANNING UNIT ACTION PLAN



Example of fuel conditions in the King Range, Southern Humboldt. Photo: Southern Humboldt Fire Safe Council.

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

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Helpful Links

SOUTHERN HUMBOLDT FIRE SAFE COUNCIL:	https://humboldtgov.org/1888/Southern-Humboldt-FSC
SOUTHERN HUMBOLDT FIRE CHIEFS' ASSOCIATION:	https://www.facebook.com/sohumchiefs
SHELTER COVE FIREWISE:	https://humboldtgov.org/1928/Shelter-Cove
CAL FIRE HUMBOLDT-DEL NORTE UNIT:	http://www.fire.ca.gov/HUU
HUMBOLDT COUNTY WEB GIS:	https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP
HUMBOLDT COUNTY FIRE SAFE COUNCIL (HCFSC):	https://humboldtgov.org/FireSafeCouncil
HCFSC REPRESENTATIVE, CYBELLE IMMITT:	cimmit@co.humboldt.ca.us

SEE FIGURE 4.13.5 FOR WEB LINKS TO LOCAL FIRE ORGANIZATIONS WHERE THEY EXIST.

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4.13.1 SOUTHERN HUMBOLDT PLANNING UNIT DESCRIPTION



A larger map of this Planning Unit can be viewed in Map 4.13.1, *Southern Humboldt Planning Unit*.

Watershed: All of the land that drains water runoff into a specific body of water. Watersheds may be referred to as drainage areas or drainage basins. Ridges of higher elevation usually form the boundaries between watersheds by directing the water to one side of the ridge or the other. The water then flows to the low point of the watershed.

FIGURE 4.13.1 SOUTHERN HUMBOLDT COMMUNITIES	
Alderpoint	Harris
Benbow	Palo Verde
Briceland	Redway/ Garberville
Ettersburg	Shelter Cove
Fort Seward	Whitethorn

The Southern Humboldt Planning Unit encompasses a large portion of the southern half of Humboldt County, totaling over 255,000 acres, with a wide range of land uses and geographical types.

The Southern Humboldt region is one of the most spectacularly rugged and difficult to access areas in California. A series of four major northwest trending ridges reflect the geologic grain of the region. Rising to 4,000 feet above the Pacific Ocean the rugged King Range forms the western margin of the Southern Humboldt Planning Unit. This “Lost Coast” is so rugged that coastal Highway 1 was ended just to the south. Each year the spectacularly beautiful King Range National Conservation Area, Shelter Cove, and the adjacent Sinkyone Wilderness State Park attract increasing numbers of people hiking, backpacking, mountain biking, surfing, boating, fishing, sightseeing, and car camping.

Just inland from the coast, the Mattole River flows north between the Kings Range and 1,500 foot high Telegraph/Gibson Ridge. Farther to the east is 2-3,000 foot high Elk Ridge, followed by the north trending South Fork Eel River in the center of the unit. Highway 101 follows this valley and is the major lifeline of access to the region. Twenty five hundred foot high Mail Ridge separates the South Fork of the Eel River from the Wild and Scenic Eel River Canyon, a mecca in the spring and early summer for white water rafting and canoeing. East of the Eel River, is an area of rolling hills with large ranches, extending about eight miles east to the Humboldt — Trinity County line.

The Southern Humboldt community designation comes from its isolated position between Eureka to the north and Willits to the south, as well as the links provided by east-west trending county roads from Shelter Cove on the coast, and from Alderpoint

further inland, that feed into the commercial hub of Redway/Garberville. Secondary spur roads off of these roads serve a wide area to the north to the Salmon Creek Watershed and south to the area partly defined by the Humboldt County boundary just south of Richardson Grove State Park.

Whale Gulch is a community located in Mendocino County, outside of this planning unit, but primarily accessed from the Humboldt County side with its population orienting towards Redway and Garberville for services. Although Whale Gulch is not included in this countywide Community Wildfire Protection Plan (CWPP), it is a planning area within the area of Southern Humboldt Fire Safe Council (SHFSC) activity. The SHFSC also serves a narrow strip of Trinity County between Palo Verde and the Eel River. *To learn more about the Southern Humboldt FSC, see section 4.13.6, Community Preparedness below.*

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In addition to the larger population centers of Redway, Garberville, Benbow, and Shelter Cove, there are a number of smaller communities within the planning area. To the east of Highway 101 are Alderpoint, Rancho Sequoia, Fort Seward, and Palo Verde; to the west are Briceland, Whitethorn, and Ettersburg. Throughout the planning unit are small rural homesteads formed by the subdivision of ranches into many parcels 20 to 60 acres in size on average. This, combined with a scattering of miscellaneous homesteads and rural homes is where the categorization of the *wildland urban interface* or WUI really applies.

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

West of Highway 101 is a large populated area resulting from the subdivision of several ranches. This area includes most of the Redwood Creek Watershed and extends northward into the Blue Slide Watershed, Crooked Prairie, and Dutyville. This same pattern continues along Telegraph Ridge and south past Whitethorn to Whale Gulch. Several medium-sized, intact ranches dominate the area around Ettersburg to the north. The King Range National Conservation area along the western margin of the Unit is managed by the Bureau of Land Management (BLM). A large unpopulated area of Sproul Creek Watershed, along the south boundary of the Planning Unit, is owned by Barnum Timber Company. The Nielson Ranch subdivision is located between this Barnum land and Richardson Grove State Park along Highway 101. The area to the east of the populated areas along Highway 101 is more sparsely populated with much of the area devoted to large ranches; this area includes Harris, Rancho Sequoia, and Palo Verde.

It should be noted that a new planning unit—the Avenue of the Giants Planning Unit—has been created to facilitate planning and cooperation up and down the Avenue from Shively, south to Phillipsville. This has changed the Southern Humboldt Planning Unit boundary to eliminate Phillipsville, Miranda, and Weott along the Avenue, and the associated watershed of Salmon Creek, as well as Humboldt Redwoods State Park.

4.13.2 SOUTHERN HUMBOLDT ASSETS AND VALUES AT RISK

Assets and values at risk are those things that are important to quality of life that can be threatened with destruction or loss from wildfire. These include a variety of things such as homes, businesses, critical infrastructure, cultural sites, wildlife habitat, natural resources, air quality, recreational facilities and areas, historical structures, and any other important attribute that individual communities rely on for their well-being.

Wildfire: An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out. See also: Wildland Fire.

The assets at risk in this planning unit are as diverse as the land uses within the region. The majority of community assets at risk include residential homes and neighborhoods, along with a variety of commercial and service industries, community centers, schools, fire stations, churches, historic sites, post offices, medical and dental clinics, municipal buildings as well as infrastructure components, such as water treatment plants and a communication site. The ranching, agricultural, and timber industries within this planning unit are also considered assets at risk. This planning unit also contains several campgrounds and RV Parks.

The Southern Humboldt Planning Unit contains many areas of great environmental significance. The South Fork Eel River and its tributaries are ecologically valuable for the fish they support, including coho and Chinook salmon, and steelhead trout. However, the ability of these populations to reproduce successfully has been negatively affected by heavy sedimentation in the river. The South Fork Eel River Watershed is listed as an impaired water under section 303(d) of the Clean Water Act due to impairment

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and/or threat of impairment to water quality by sediment and temperature.¹ The river also provides numerous recreational opportunities for communities in the area. Many culturally sensitive sites of special importance to Native Americans also exist throughout the Planning Unit.

Map 4.13.2, found at the end of this Unit Action Plan, illustrates assets and values at risk to wildfire identified by community members at public workshops. More detailed descriptions of community-identified fire planning features can be found on the Humboldt County Web GIS² Portal: https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP.

Over 300 features have been identified as values or assets within the Southern Humboldt Planning Unit. Most of the community-identified assets at risk can be categorized as shown in the figure below. This list is not intended to be comprehensive and illustrates participating community members' concerns.

FIGURE 4.13.2 SOUTHERN HUMBOLDT: COMMUNITY-IDENTIFIED ASSETS AT RISK

- Community services (i.e. community centers, post offices, schools, and churches)
- Infrastructure (i.e. power stations, treatment plants, gas stations)
- Recreation (i.e. campgrounds and state parks)
- Historic (i.e. hotels, ranches, general stores)
- Fire Stations

4.13.3 SOUTHERN HUMBOLDT WILDFIRE ENVIRONMENT

Approximately 76% of the Southern Humboldt Planning Unit is zoned “High Fire Hazard Severity,” as determined by the California Department of Forestry and Fire Protection (CAL FIRE).³ Approximately 23% of the Unit, including much of the northeastern portion and areas surrounding Garberville and Shelter Cove are zoned “Very High Fire Hazard Severity,” with only about 1% of the Unit zoned “Moderate Fire Hazard Severity”. *For a closer look at fire hazard severity, see Map 4.13.2, Southern Humboldt Protection Resources, Values/Assets, and Risks/Hazards.*

How is Fire Hazard Severity determined by CAL FIRE?

- The classification of a zone as moderate, high, or very high fire hazard is based on a combination of how a fire will behave and the probability of flames and embers threatening buildings.
- Zone boundaries and hazard levels are determined based on vegetation. For wildland areas, the current FHSZ model uses burn probability and expected fire behavior based on weather, fuel, and terrain conditions. For urban areas, zone boundaries and hazard levels are based on vegetation density, adjacent wildland FHSZ scores, and distance from wildland areas.
- Each area of the map gets a score for flame length, embers, and the likelihood of the area burning. Scores are then averaged over the zone areas.
- While FHS zones do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern.

¹ North Coast Regional Water Quality Control Board. (2017). Eel River, South Fork TMDL: Federal Status. Retrieved from https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/eel_river_south_fork

² Geographic Information Systems (GIS).

³ CAL FIRE (California Department of Forestry and Fire Protection). (2007). Fire Resources Assessment Program (FRAP). [Map showing Fire Hazard Severity Zone ratings within various geographic areas, mapped by county]. Fire Hazard Severity Zones Map. Retrieved from http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps

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Humans are the most likely ignition source for fires in this planning unit. Vehicle accidents, vehicles dragging chains while towing or issues with tires that throw sparks, smoking, playing with fire, poorly maintained debris burning or camp fires, ignitions associated with marijuana cultivation and processing, and arson are just a few potential causes. Various types of equipment use and downed power lines can also be potential ignition sources. Lightning is the most probable natural cause of fire starts within this planning unit. Several large wildfires have been started by lightning during thunderstorms that ignited more fires than firefighting resources could keep up with.

Other factors that are likely to have a future impact on fire risk within this unit include climate change, which is likely to extend the dry season and large fuel increases resulting from the spread of *Sudden Oak Death (SOD)*—which has already been detected in areas of the watershed. The steep topography of this planning unit can also accelerate the rate of fire spread and make access for firefighters very difficult. This, combined with local weather patterns, high fuel loads, and homesteads spread across the landscape, creates a potentially dangerous wildfire environment.

This region has a Mediterranean climate with wet winters and hot, dry summers. The coastal fog zone has a moderating influence on summer temperatures. The northeast part of the Planning Unit is also often within the summer-time fog incursion up the Eel River. Average annual rainfall decreases eastward, ranging from about 89 inches per year in the Shelter Cove area to about 55 inches around Alderpoint. There is a Remote Automated Weather Station (RAWS) at the Eel River Conservation Camp near Redway and another near Alderpoint. Real time data from these stations includes the current day's hourly records for wind speed and direction, temperature, dew-point, relative humidity, precipitation, fuel temperature, and fuel moisture.⁴ This data is critical for monitoring air quality, predicting fire behavior, and rating fire danger.



Open grassland and Douglas fir forest are interspersed across Southern Humboldt. Pictured above, young fir trees colonize oak woodland/grass savannah. Photo: Linda Stansberry for North Coast Journal.

The vegetation found within this planning unit (*see cover photo*) follows a loose general pattern of dense young Douglas fir and tan oak dominated forests in the west, to more open oak woodlands, mixed conifer forests, and prairies in the east. Coast redwood forests are found in the fog incursion areas of the South Fork of the Eel River and the upper Mattole River. Upslope and drier areas support mixed conifer forest with Douglas fir, and hardwoods; the more common hardwoods being tan oak, madrone, black oak, white oak,

and canyon live oak. Many of the ridgetops and much of the area on Mail Ridge were historically characterized by extensive areas of oak woodlands and prairies.

Tan oak bark removal in the early 1900s and timber harvesting into the 1960s left many areas, which were previously dominated by conifers, in a depleted condition. These areas are often now dominated by hardwoods, especially tan oak and madrone. High intensity fires, fueled by logging slash, have further contributed to unhealthy conditions. The resulting dense young forest stands pose a very serious fire risk, especially in the area from Briceland, west to the coast.

⁴ General information about this system may be found at <https://raws.nifc.gov>. For the Eel River Conservation Camp RAWS and Alderpoint RAWS data go to: <https://raws.dri.edu/wraws/ncaF.html>. The National Weather Service office in Eureka has a fire weather page with the latest fire related predictions for Northwestern California: <http://www.wrh.noaa.gov/eka>. NOAA's Wildfire Weather Safety page may also be of interest: <https://www.weather.gov/safety/wildfire>.

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Another ongoing change in forest composition is the encroachment of Douglas fir into oak woodlands. According to Tom Keter, a Six Rivers National Forest researcher, between 1865 and 1985, oak woodland area along the North Fork of the Eel River (just east of this planning unit), decreased from 38% to 8% and Douglas fir increased from 6% to 38%. Keter attributes this change to the cessation of Native American burning. Observations of many areas throughout this unit indicate that Douglas fir is invading meadows and oak woodlands, eventually shading out the oaks and other hardwoods. With timber production being a primary source of income for many in the region, there has been a general acceptance of the invasion of fir trees among many landowners. However, as knowledge of fire ecology and the wildlife value of oak woodlands and meadows increases, more landowners are beginning to question the spread of the fir forest. The importance of protecting white, black, and canyon live oaks, as well as other hardwoods from encroaching Douglas fir, is gaining recognition.

On the one hand, there are areas of oak woodland and prairie that are rapidly being taken over by Douglas fir, and on the other hand, there are large areas of cutover conifer land now often dominated by hardwoods. The latter situation is particularly problematic for landowners involved in timber production. Some forest managers feel they can't wait for conifers to reestablish dominance and have resorted to the use of herbicides to kill hardwood competition. In either situation, the average small landowner is not engaging in active forest management, except perhaps for some fire hazard reduction work around homes and along driveways.

A further confounding factor related to wildfire hazards is the spread of *Sudden Oak Death* (SOD), which kills tanoak and oak species. The trees provide valuable acorn forage for an array of wildlife but once killed, they represent a significant fire hazard by creating a patchwork of dry fuel within the forest. It was first identified in Humboldt County in 2002 in the Redway area. It has since spread throughout Southern Humboldt and has appeared in parts of Humboldt County. As of late 2018, SOD has spread from the Redway area west to the Mattole Watershed; north to Redwood Creek; south to Piercy; and east to Trinity County. The disease cycles with warm abundant rains and has pulse years of mortality. Research has shown that the disease significantly elevates the fire risk.⁵

Sudden Oak Death (SOD): A disease in oak trees that is caused by *Phytophthora ramorum*, an invasive forest pathogen introduced to California in the mid-1990s through the horticultural plant trade. Affected areas can have a significantly higher fire hazard due to higher proportions of dead fuels of all sizes and prevalence of snags.

Communities within the Southern Humboldt Planning Unit are increasingly vulnerable to damage from wildfire and the process of adapting to living safely within a wildfire environment is going to take significant time and effort. Few current residents truly understand defensible space and fewer still the crucial and underappreciated concept of fire-hardened homes. The buildup of fuel has increased the potential for higher intensity fires, loss of life and property, and higher wildfire suppression costs. Many communities within this planning unit have been included in the list of communities at risk created as a fundamental step in implementing the National Fire Plan.⁶ Furthermore, the increasing subdivision of timber- and ranchlands throughout the planning unit area has generated an increase in the number of homes that exist in the wildland-urban interface (WUI), which increases the likelihood that wildfires will spread to structures, and vice versa.

Local fire service representatives and residents have reported that there is a shift in landownership and uses that could increase the risk of wildfire ignitions. There are reports of people selling their land because they do not anticipate being able to financially survive the shift to a legal marijuana or cannabis economy. It is unclear what this will mean for future ownership trends but some surmise that new

⁵ Find out more about SOD and impacts on local watersheds at:
http://cehumboldt.ucanr.edu/Programs/Forestry/Sudden_Oak_Death

⁶ CAL FIRE. (2001). Communities at Risk List. Retrieved from
http://osfm.fire.ca.gov/fireplan/fireplanning_communities_at_risk

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landowners, unaccustomed to living in the WUI and/or perhaps engaging in hazardous activities such as marijuana cultivation and processing, could increase wildfire ignition risk. The influx of seasonal workers associated with marijuana production increases human activity that could contribute to an increased wildfire ignition risk during the height of fire season.

Some fire service personnel report that they have seen an increase in marijuana fire ignitions and risks over the past decade. This includes spark-generating equipment such as vehicles and generators, faulty wiring, and extraction labs, some using explosive butane. These ignition sources are not only a wildfire risk but can create dangerous conditions for responding firefighters.

The number of fires started by or associated with marijuana operations is not tracked, so it is difficult to document the extent of this impact. It is also unclear how the legalization and regulation of this industry will impact associated wildfire risks. However, there is enough concern to warrant prioritizing wildfire preparedness outreach to the associated population. In addition, it will be important to develop strategies to better track marijuana related fire ignitions and determine if associated regulation and permitting result in a reduction or change in the number of ignitions. This Plan recommends monitoring regulatory effectiveness in this regard and making changes as necessary.

Garberville and Redway, the population and commerce centers of this planning unit, have adjacent forested areas to the north and east. Warm fire winds from the northeast could easily spread embers across one of the towns, starting multiple fires, and overwhelming firefighting efforts. In Garberville, the SHFSC helped organize a CAL FIRE inmate crew to build a fuelbreak along the top of Bear Creek Canyon, directly adjacent to the north edge of Garberville—a good start, but much more of this work is needed. The worst case scenario of a large summer earthquake simultaneously blocking access/escape routes and starting wildfires would be devastating for the dispersed neighborhoods of the Southern Humboldt Planning Unit. Preparing for every possible scenario, including the worst case, is going to be essential for survival and will support efforts to bring balance back to the wildfire environment.

Fire History

Fire scar tree ring data show that several hundred years ago, fires in this region occurred at least as often as every ten years. These wildfires appear to have been mostly low-intensity burns that did not kill larger trees in the forests. Traditionally, fire was an integral part of the ecosystems in this region. Forest management by indigenous tribes often included low-intensity, intentional burns that helped enhance forest ecosystems and prevent the accumulation of high fuel loads. The local Native American people were Athabascan tribes that lived in the area that is now Southern Humboldt, Western Trinity, and northern Mendocino Counties. The Sinkyone⁷ tribal territory extended from the ocean to about the South Fork of the Eel River, and from the Bear River to the north, to beyond Whitethorn to the south. In winter, the Sinkyone lived in small villages of relatives and in summer, they scattered into smaller groups on the ridges and at the ocean. The Wailaki⁸ tribe lived to the east of the Eel River.

While lightning likely caused some of the frequent fires, it is believed that Native Americans were responsible for most of them. The sophisticated fire management techniques used by California Native Americans have been well documented by Thomas Blackburn and Kat Anderson in *Before the Wilderness, Environmental Management by Native Californians* and by Kat Anderson in *Tending the Wild, Native American Knowledge and the Management of California's Natural Resources*. Burning was conducted to promote edible plants, produce quality basketry materials, control oak diseases, reduce

⁷ Information about the Sinkyone can be found in *Sinkyone Notes*, by Gladys Ayer Nomland; a compilation of information gathered in 1928-1929 from the last three surviving full-blooded Sinkyone, Jack Woodman, Sally Bell, and Jenny Young, all of whom lived in the Briceland area.

⁸ A good source of information about the Wailaki tribe can be found in the interviews of Lucy Young at <http://www.blocksburg.com/history.php>.

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fire danger, promote forage, and keep the forest open for travel and hunting. When European settlers moved in, Native Americans often clashed with them over continuing their burning practices.

Fire suppression: All the work and activities connected with control and fire-extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished.

Natural fire regime: (1) A natural fire regime is a classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning. Fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant overstory vegetation.

Some of the early agricultural settlers in the mid-1800s used intentional burning to clear and maintain grasslands for pasture animals. However, a heavy *fire suppression* campaign beginning in the 1930s has allowed the accumulation of dense, flammable vegetation in forest understories, which increases the risk of high-intensity wildfires. Overcrowded forests, packed with accumulated fuel, threaten forest ecosystems accustomed to low-intensity fires that burn off brush and young saplings competing in the understory. Timber harvests during the 20th century further exacerbated damages to forest ecosystem health. Douglas fir, unchecked by low intensity fires, is rapidly encroaching into oak woodlands, grasslands, and hardwoods in mixed conifer forests. This process is threatening ecosystems, wildlife habitat, and negatively impacting the forests' resiliency to wildfire. The

extent to which the landscape has been altered as a result of fire suppression is reflected in the condition class of the Unit area. Condition class describes the degree of departure from the historical *natural fire regime*. Where the condition class indicates that fire has been absent for an unnaturally long time, the hazard and potential damages are high to both the environment and human developments in the area.

Approximately 49% of the Southern Humboldt Planning Unit is condition class 3, meaning the fire regime is significantly altered from the historical range; and approximately 16% of the area is condition class 2, or moderately altered from the historical range.

Two fire weather patterns have historically caused or spread the largest and most dangerous wildfires in the Southern Humboldt Planning Unit. These weather patterns are warm, dry Santa Ana-type interior winds out of the northeast, and dry regional summer-time lightning storms that sometimes start hundreds of fires over a large area. These fire weather events both have the potential to overwhelm emergency response by igniting many fires at one time or spreading fires very rapidly.

The classic example of a wind driven fire is the 1973, 13,500 acre, Finley Creek Fire that burned 10,000 acres from the Ettersburg area to Shelter Cove in one day! Today this burn area contains hundreds of homes in a young, brushy forest that is at least as hazardous as it was in 1973. The photo to the right shows a home located on upper Telegraph Creek Road in Shelter Cove within the footprint of the Finley Creek Fire. Note the fir snag created by the Finley Creek Fire.



Home built in the footprint of the Finley Creek Fire. Photo: SHFSC.

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More recently, on August 3, 2017, the Saw Fire erupted when a vehicle caused the ignition of roadside vegetation. The quickly moving fire threatened residences above Garberville in the Upper Sawmill and Lower Sawmill Road neighborhoods where evacuation orders were enacted. The Saw Fire came very close to being the catastrophic event that local firefighters worry about. The fire started under hot and dry conditions and began to grow quickly, primarily located off Alderpoint Road and Lower Sawmill Road but starting spot fires nearby, as well. Even though local and state firefighting resources were simultaneously involved in suppressing a second fire in the Blocksburg area and many were helping with wildfires in other counties, a quick and effective response was organized and the fire was contained at 53 acres before it reached homes and infrastructure. This close call underscores how important it is to be vigilant between June and October when conditions can be just right for a fire ignition to take off into a fast moving and hard to contain wildfire.



The 2008 Paradise Fire, with the smoke plume blowing toward Shelter Cove, a few miles to the southwest. Note the dense forest of young tan oak and second growth fir.

In June of 2008, a dry lightning storm ignited more than 2,000 fires in northern and central California. Firefighting capacity was overwhelmed. Local resources, including volunteer firefighters, worked to suppress the fires for the first few days until reinforcements could be brought in. The California National Guard and firefighters from southern California, other states, and even foreign countries were brought in to help. One of these fires, the Paradise Fire (photo at left), occurred a few miles northeast of Shelter Cove, causing concern that another Finley Creek Fire was about to happen. A large amount of firefighting resources were immediately dispatched to this fire and it was contained at 981 acres, sparing Shelter

Cove. Severe fires of this type will certainly occur again in populated areas of Southern Humboldt—a fact that very few of the new wildland residents fully understand. It is truly a miracle that neither homes nor lives have been lost to any recent fires in the area.

The wildfires described above are testament to the area's very active wildfire history. Although wildfires have occurred in and around the populated areas of this planning unit, most of them were kept relatively small. Based on this history, it is clear that there is potential for wildfire ignition within this planning unit and there are neighborhoods located in historical wildfire footprints where fuel loads have been increasing. The conditions for wildfire are ripe and it is essential that the hazard mitigation actions already in progress continue and expand in scope. The table below lists recent large (over 10 acres) wildfires and their causes.

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FIGURE 4.13.3 SOUTHERN HUMBOLDT: FIRES OVER 10 ACRES 1997-2017⁹

Fire Name	Cause	Year	Acres	
			In Unit	Total
Honeydew	Lightning	2003	1,696	11,794
Steelhead 1-54	Lightning	2015	1,403	1,403
Paradise	Lightning	2008	1,072	1,072
Dobbyn 1-57	Lightning	2015	787	787
Wildcat 1-51	Lightning	2015	283	283
"10"	Lightning	2003	213	213
Winchester 1-47	Lightning	2015	147	147
Horse	Unknown/ Unidentified	2015	146	146
Pratt	Equipment Use	2009	142	142
Stewart	Power Line	2008	68	169
Saw	Vehicle	2017	53	53
Casterlin	Power Line	2006	34	34
Miller	Power Line	2017	34	34
French	Unknown/ Unidentified	2009	27	27
Buck	Equipment Use	2015	16	16
Goodman	Equipment Use	2009	13	13

Note: An interactive map of fire history through 1908 is available through the County Web GIS.

Structural Ignitability

Neighborhoods in this unit exist within the *wildland-urban interface* (WUI), which increases the risk of wildfires becoming structural fires, and vice versa. Embers carried on the wind from nearby wildfires—even miles away—could ignite homes within this planning unit. This was made all too clear during recent, catastrophic wildfire events in Northern California that claimed thousands of homes. Many of the homes lost burned from the inside out, as embers were forced inside by strong winds, or sucked in through ventilation systems. For this reason, fire hardening the home is at least as important as creating defensible space and should be a top priority for homeowners concerned about their fire resiliency. Roofs and eaves, windows, vents, and siding are all components that can be upgraded to reduce a home's vulnerability to loss. Resources for homeowners ready to take this leap in fire preparedness include *Appendix L, Living with Wildfire* and *Home Survival in Wildfire-Prone Areas*¹⁰, published by the University of California Agriculture and Natural Resources. **Based on field observations, there are many homes located in this planning unit where steps need to be taken to ensure structure survival when wildfire is nearby.**

Structural ignitability: The ease with which a home or other structure ignites.

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

⁹ CAL FIRE. (2018). FRAP. State Fire Perimeters 1908-2017.

¹⁰ Quarles, S.L., Valachovic, Y., Nakamura, G.M., Nader G.A., & De Lasaux, M.J. (2010). Home Survival in Wildfire-Prone Areas: Building Materials and Design Considerations. University of California, Agriculture and Natural Resources. ANR Publication 8393. Retrieved from <https://anrcatalog.ucanr.edu/pdf/8393.pdf>

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It is a well-known fact—albeit difficult to quantify—that there are many homes built in this planning unit without permits. There are also many homes that were built before building code compliance was required; building codes include standards intended to harden homes against damage from wildfire. In addition, in some instances, alternative owner-builder permit procedures can be used, for which many of the standard permit requirements do not apply, including those intended to harden homes against wildfire. Many of these unpermitted, pre-code, and alternative owner-builder permitted homes are especially vulnerable to wildfire ignition. That being said, and based on recent examples in neighboring counties, all homes in this planning unit have vulnerabilities to wildfire and steps should be taken to mitigate wildfire impacts. In an effort to incentivize building permit compliance for existing unpermitted structures, the Humboldt County Planning and Building Department is administering the Safe Homes Program.¹¹ Through December 31, 2022, the Humboldt County Planning and Building Department and the Humboldt County Division of Environmental Health will waive penalty fees associated with construction permits; all customary permit fees will still apply and applicable codes and regulations will need to be met.

SAFE HOMES PROGRAM

For additional information and submittal requirements contact:

Humboldt County Planning & Building: **707-445-7541**

<https://humboldt.gov/156/Planning-Building>

Dead plant matter and vegetation with low moisture levels within 100-150 feet of homesteads pose some of the greatest threats to structural ignitability. Of particular concern are houses with needles and leaves accumulating on rooftops or in rain gutters. Houses with wooden rooftops and siding add to this risk, as do the presence of wooden decks, particularly those with dead plant matter accumulated beneath them. Managing fuels for at least 100 feet of defensible space is highly recommended by this CWPP and is mandated by California Public Resources Code 4291¹². By reducing the intensity and rate of spread of a fire, defensible space provides suppression personnel the option to deploy their resources to defend the home; it also reduces the likelihood that a house fire will spread outwards. Likewise, managing fuels along access roads provides safer escape routes for both residents and suppression personnel.

Map 4.13.2, found at the end of this Unit Action Plan, illustrates risks and hazards identified by community members at public workshops with an underlay map of fire hazard severity zones. More detailed descriptions of community-identified fire planning features can be found on the Humboldt County Web GIS Portal: https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP.

Water Sources

Potable water and fire protection water are provided to the majority of communities in this unit by a number of special districts including the Alderpoint County Water District, which covers approximately 370 acres¹³; the Shelter Cove Resort Improvement District; the Garberville Sanitary District; and the Redway Community Services District (RCS D), which serves approximately 770 acres including 640 residential structures and 150 commercial structures. RCS D draws and treats water from the South Fork Eel River and has 800,000 gallons of water storage that can be accessed for fire flow and suppression. There are also 54 fire hydrants located throughout the community of Redway, including one directly in front of the Redway Fire Station. Water in Benbow is provided by the Benbow District which is owned by Del Oro Water Company, an investor-owned utility regulated by the California Public Utility Commission that provides water to a number of communities throughout Northern California. The Briceland

¹¹ Humboldt County, Building Inspection Division Homepage: <https://humboldt.gov/153/Building-Inspection>

¹² California Public Resources Code 4291 is provided as *Appendix K* of this CWPP.

¹³ Humboldt Local Agency Formation Commission. (Adopted 2009). Alderpoint County Water District Municipal Service Review. Retrieved from <https://humboldtlafrco.org/msr-soi-reports>

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Community Services District serves just 70 acres and in recent years has struggled to meet demand due to poor facility conditions.¹⁴

Residents outside of these service districts obtain water through other means, such as drawing from nearby creeks, springs, and wells. Creeks and swimming holes, such as Delta Hole, are also drawn upon by firefighters to draft water for fire protection.

There are areas within this planning unit that have various needs associated with improving the availability of emergency water for wildfire protection. There are some locations where firefighting water is not available or where emergency water storage is needed to supplement the potentially overtaxed municipal water supply. Many existing water sources are in need of maintenance, protection, or improvements. There is also a need to make the location of existing water sources more apparent to firefighters, and for community members to ensure that their water sources are properly outfitted.

Community-identified locations from which fire protection water could be drawn are listed below. This list is not intended to be comprehensive and illustrates participating community members’ knowledge.

FIGURE 4.13.4 SOUTHERN HUMBOLDT: FIRE PROTECTION WATER DRAFT SITES	
○ Lauffer Ranch Ponds	○ Fort Seward – East Side River Access
○ Barnes Pond	○ Water Drafting Spots on River near Benbow
○ Duggans Mill	○ Miller's Pond - Sprowel Creek
○ Hans Ponds	○ Heartwood Pond
○ Sprowel Creek culvert on West Moody Road	○ Heartwood Pool
<i>Note: Locations identified at community workshops will need to be vetted further with local firefighting personnel.</i>	

Map 4.13.2, found at the end of this Planning Unit Action Plan, illustrates these drafting sites as well as other community-identified wildfire protection resources. More detailed descriptions of community-identified fire planning features can be found on the Humboldt County Web GIS Portal: https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP.

4.13.4 SOUTHERN HUMBOLDT FIRE PROTECTION CAPABILITIES

There are various special districts that provide fire protection within this planning unit, including a resort improvement district, a community services district, and fire protection districts (FPD). These districts are financially supported by revenue generated from a variety of sources that can include property taxes, special taxes and assessments, donations, fundraisers, and payments from the state for CAL FIRE station coverage or wildfire assignments. Fire protection services within these districts are provided by volunteer fire departments (VFDs), which supply the communities in this unit with fire protection, as well as medical and rescue services. There are also several non-tax supported fire companies, which do not have a designated jurisdictional boundary. These companies are supported by donations, grants, and CAL FIRE station coverage or wildfire assignments.

In November 2014, Humboldt County passed Measure Z, a half-cent sales tax to provide funding for public safety services. The Humboldt County Fire Chiefs’ Association secured funding from the tax, distributing it to local fire departments to purchase new fire engines, personal protective gear, and other essential equipment. Voters expressed their desire to see continued improvement in the local level of service by passing Measure O in 2018, which continues the half-cent sales tax indefinitely.

Even with the aid of Measure Z funds, the local fire and rescue services within this planning unit still face issues with inadequate facilities and equipment and have an ongoing need for more volunteers. Reports from fire service personnel indicate that a continued challenge is convincing absentee property

¹⁴ Humboldt Local Agency Formation Commission. (Adopted 2016). South County Regional Fire Services Municipal Service Review. Retrieved from <https://humboldtlaaco.org/msr-soi-reports>

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owners, particularly in the Shelter Cove area, to reduce fuel loads on their undeveloped lots. The clean-up and prevention of illegal marijuana grows that can involve toxic substances is another ongoing challenge. The number of fires started by marijuana operations is not tracked, so it is difficult to document the extent of this impact.

FIGURE 4.13.5 SOUTHERN HUMBOLDT: FIRE PROTECTION RESOURCES (SPECIAL DISTRICT, TAX OR FEE SUPPORTED)¹⁵			
PERSONNEL	RESIDENTS	AREA (Sq. Mi.)	FIRE APPARATUS
BRICELAND FIRE PROTECTION DISTRICT – PHONE: (707) 923-7204/0023 EMAIL: bricelandfire@gmail.com • WEB: bricelandfire.org			
19 Volunteer 17 Auxiliary	650	40	<ul style="list-style-type: none"> ○ Type-1 4WD engine ○ (2) Type-3 4WD engines ○ (2) Type-6 4WD engines ○ Type-S3 water tender, 1,500 gallons ○ 4WD Command/EMS vehicle
GARBERVILLE VOLUNTEER FIRE DEPARTMENT – PHONE: (707) 923-3196 • EMAIL: GFPDPublic@gmail.com			
15 Volunteer 6 Auxiliary	847	702	<ul style="list-style-type: none"> ○ (2) Type-2 engine, 1,000 gallons ○ Type-2 engine, 750 gallons ○ Utility truck ○ Rescue vehicle
REDWAY FIRE PROTECTION DISTRICT – PHONE: (707) 923-2617 • EMAIL: redwayfire@gmail.com			
13 Volunteer	1,024	12	<ul style="list-style-type: none"> ○ (2) Type-1 engines ○ Type-4 quick attack engine ○ Water tender, 2,000 gallons ○ Utility vehicle
SHELTER COVE VOLUNTEER FIRE DEPARTMENT – PHONE: (707) 986-7507 EMAIL: scfd@sheltercove-ca.gov • WEB: sheltercove-ca.gov/fire/fire.htm			
16 Volunteer 1 Auxiliary	693	49	<ul style="list-style-type: none"> ○ Type-1 engine, 1,000 gal. ○ Type-3 engine, 300 gal. ○ Type-4 engine, 200 gal. ○ Type-1 pumper, 750 gal. ○ ALS/BLS 4x4 ambulance ○ (2) ATV rescue units ○ (2) Ocean rescue units
TELEGRAPH RIDGE FIRE PROTECTION DISTRICT – PHONE: (707) 986-7488 OR (707) 223-3262 EMAIL: peter@asis.com			
12 Volunteer 2 Auxiliary	235	36	<ul style="list-style-type: none"> ○ 4WD pumper, 500 gallon ○ 2WD pumper ○ (3) Type-4 quick attack engines
WHITETHORN FIRE PROTECTION DISTRICT – PHONE: (707) 986-4103 EMAIL: whitethorn.fire@gmail.com			
11 Volunteer	300	24	<ul style="list-style-type: none"> ○ (2) Wildland Type-3 engines ○ Quick attack pick-up ○ Type-2 pumper, 1,000 gallons ○ BSL/Rescue Ambulance

¹⁵ Humboldt County Fire Safe Council. (2018). Humboldt County Fire Chiefs' Association Annual Report, 2017. (pp. 13-14, 19, 22, 24, 27-28). Retrieved from <https://humboldtqov.org/Archive.aspx?AMID=75>

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FIGURE 4.13.6 SOUTHERN HUMBOLDT: FIRE PROTECTION RESOURCES (NON-DISTRICT, NON TAX-BASED)¹⁶			
PERSONNEL	RESIDENTS	AREA (SQ. MI.)	FIRE APPARATUS
ALDERPOINT VOLUNTEER FIRE COMPANY – PHONE: (707) 926-5486			
17 Volunteer 3 Auxiliary	186	128	<ul style="list-style-type: none"> ○ Type-2 engine, 750 gallons ○ Type-3 engine, 500 gallons
PALO VERDE VOLUNTEER FIRE COMPANY – PHONE: (707) 499-7570 OR (707) 498-0182			
30 Volunteer 10 Auxiliary	-	115* <small>*includes Mendocino and Trinity County</small>	<ul style="list-style-type: none"> ○ Type-3 engine ○ Quick attack/medical response truck ○ Water tender, 2,500 gallons
SPROWEL CREEK VOLUNTEER FIRE COMPANY – PHONE: (707) 223-3399/1070/1449			
20+ Volunteer	Neilson Ranch subdivision, Garberville	4	<ul style="list-style-type: none"> ○ Type-2 engine, 2WD, 350 gallons ○ (2) Type-2 engines, 4WD, 300 gal. ea. ○ (2) Type-3 engine, 2WD, 700 gallons ○ (2) 4WD trucks
WHALE GULCH VOLUNTEER FIRE COMPANY – PHONE: (707) 986-1219 OR (707) 986-7356			
22 Volunteer	-	11 Total, 2.5 in Humboldt County	<ul style="list-style-type: none"> ○ (2) Type-3 engines, 500 gallons each ○ Quick Attack, 280 gallons
<i>Note: Non-district VFCs rely largely on donations and various fundraising efforts from within their communities. These entities provide fire protection, as well as medical and rescue services.</i>			

CAL FIRE also has several stations located throughout the Planning Unit. Staffing levels at the Garberville station vary throughout the year, but remain adequate for emergency response during most of the year. Other stations, located in Alderpoint and Whitethorn (Thorn) are only staffed seasonally, during the declared fire season. CAL FIRE also operates the Eel River Conservation Camp in the Unit, located in Redway. The Camp provides five hand crews for firefighting purposes, and each crew is made up of up to 17 firefighters and a captain. These crews and camp assets are an all-risk resource used both within Humboldt County and on a statewide basis year-round. During non-emergency response, these crews are deployed to work on fuel reduction projects and projects requested by other public agencies throughout the year. These crews are trained in emergency responses including, but not limited to, fire, flood, earthquake, medical, and vehicle accidents. The Bureau of Land Management (BLM) King Range Fire Station near Whitethorn also operates seasonally with response from one wildland fire engine.

FIGURE 4.13.7 SOUTHERN HUMBOLDT: AGENCY FIRE STATION DIRECTORY	
CAL FIRE Garberville	(707) 923-2645
CAL FIRE Alderpoint	(707) 926-5353
CAL FIRE Thorn (Whitethorn)	(707) 986-7553
BLM Thorn (Whitethorn)	(707) 986-5400

¹⁶ Humboldt County Fire Safe Council. (2018). Humboldt County Fire Chiefs' Association Annual Report, 2017. (pp. 13-14, 19, 22, 24, 27-28).

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The Southern Humboldt Fire Chiefs' Association (SHFCA) is a venue for fire departments and community organizations in the Unit to collaborate for preparedness. The SHFCA is a chapter of the Humboldt County Fire Chiefs' Association, a 501(c) 3, and comprises firefighters from all the departments and companies located in this planning unit as well as departments from the Mattole—Lost Coast and the Avenue of the Giants planning units.

The initial purpose of the SHFCA was to provide a stronger voice for fire departments to bring more training opportunities to the Unit, increase communication between local departments and with CAL FIRE, and create a stronger fire department identification and numbering system. Successful implementation of those goals over the last 18 years has grown the SHFCA to include representatives from the SHFSC, the Humboldt County Fire Safe Council (HCFSC), the Red Cross, the Southern Humboldt Emergency Preparedness Team (SHEPT), the County Radio Dispatch Co-op, CAL-EMA, Humboldt County OES, and other emergency preparedness groups.

The SHFCA sponsors the Southern Humboldt Technical Rescue Team. The Team is comprised of 12 volunteers from departments within the Unit who specialize in rope, water, and wilderness rescue. Team members are highly dedicated firefighters who train and respond to rescues in addition to the normal training and duties of their respective fire departments. The Team operates with two 4WD light rescue trucks with swift water equipment and an inflatable boat.

Southern Humboldt Technical Rescue can be reached by calling **(707) 223-0042** or emailing SoHumTechRescue@gmail.com.

Another aspect of fire protection capabilities the SHFCA seeks to expand involves training and even equipping rural homeowners so that they are able to safely address small fires on their own and/or be of maximum help to fire personnel. While it is important to prepare for the large, worst case scenario wildfire and know when and how to evacuate, it is also important to know how and when to act on one's own. Isolated landowners may find themselves facing fire on their own, without proper tools or knowledge of how to use them. Providing basic information on fire behavior and management techniques (similar to the training provided to Community Emergency Response Teams or CERTs) could help keep small fires small and avoid undue injury and loss.

4.13.5 SOUTHERN HUMBOLDT EVACUATION

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 may 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 Humboldt County Emergency Operations Center Incident Commander in cooperation with an Incident Management Team. The Humboldt County Sheriff and Emergency Officials will use the Humboldt Alert mass communication system (<https://humboldtqov.org/alerts>) and door-to-door methods to inform residents about the threat and where residents should go to take shelter. FM radios are also recognized by the public as a means of getting current emergency information. The KMUD FM radio Community Emergency Response Team receives information from sources such as the SHFCA Public Information Team, CAL FIRE, the California Highway Patrol, and the Humboldt County Office of Emergency Services, and relays that information using live on-air broadcasts and internet updates.

Evacuation routes in the Southern Humboldt Planning Unit will depend on the location of the community at risk and law enforcement recommendations based on fire behavior, wind patterns, traffic, and ingress of emergency vehicles. Communities in the western portion of the planning unit will rely on Briceland Thorne Road and Shelter Cove Road for evacuation; few alternative routes exist for these communities, with the exception of Wilder Ridge Road, which leads northwest towards Honeydew. Communities in the eastern portion of the Unit depend on the Alderpoint Road and Bell Springs Road for

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evacuating during emergencies. The critical necessity of these routes for many of the communities within this planning unit highlights the importance of maintaining these roads (road surfaces and adjacent vegetation).

FIGURE 4.13.8 SOUTHERN HUMBOLDT: POTENTIAL EVACUATION ROUTES	
○ Alderpoint Road	○ Shelter Cove Road
○ Briceland Thorne Road	○ Bell Springs Road
○ Dyerville Loop Road	○ Usal Road
○ Wilder Ridge Road to Ettersburg Road	

Shelter Cove is perhaps the most isolated population center in the planning unit, with nearly 700 residents—a population that expands during the summer months with seasonal residents and recreational visitors. The community is situated at the end of Shelter Cove Road, which is the primary means of ingress and egress. Given their proximity to the coast, residents could evacuate to the beach or airstrip, if Shelter Cove Road is inaccessible, depending on the severity of the fire.

As discussed in the *Wildfire Environment* section above, the subdivision of timberlands and subsequent sale to homesteaders has created fragmented, unmanaged forests intermixed with homes—a landscape vulnerable to damaging wildfire and difficult to convert back to natural fire regimes. The narrowness and disrepair of many private, often gravel roads leading to these remote homesteads could create serious complications for emergency vehicle response trying to gain access during simultaneous home evacuations. The condition of the county roads was also identified as an evacuation and emergency response safety concern. Many county road surfaces are hazardous for travelers under normal circumstances and during an emergency these conditions could slow down evacuees as well as emergency responders.

Many roads and driveways within this planning unit are overgrown with flammable vegetation and have inadequate turn around spaces. Poorly or inaccurately marked streets and intersections may also present a challenge for emergency responders. This is in addition to a lack of posted street addresses and the proliferation of heavy-duty gates with shielded lock guards that resist bolt cutters. In some cases, just one or two locked gates can impede access to many miles of road that could be used for evacuation. Navigation by GPS is often unreliable, which adds to the challenge for non-local emergency responders. Other ingress and egress impediments may include steep road sections, fallen trees, wooden bridges susceptible to burning, and one-way-in, one-way-out roads that could inhibit evacuation and emergency response vehicles or leave residents stranded should the roads become blocked. The potential for landslides in the area could also inhibit access, particularly if wildfires were initiated by a severe earthquake.

Based on local reports and information gathered at community meetings, the risk of wildfire is not a primary concern of many residents. This attitude likely exists because the area has had the good fortune of avoiding significant losses of homes and lives to wildfire in recent history. However, the importance of being prepared to evacuate quickly and safely is growing each fire season. There are many neighborhoods where alternative evacuation routes need to be explored and conditions evaluated for safe evacuation should access to primary roads be impeded. **Residents should not wait to do this during a large wildfire event.**

The need for evacuation preparedness is made even more critical because of shifting land ownerships and the influx of seasonal workers and visitors during the fire season. During the time of highest wildfire risk, this planning unit is host to an increased population that is unfamiliar with the area, the roads, the hazards, and the precautions that need to be taken to avoid wildfire ignitions. These temporary residents, visitors, and newcomers may not be prepared for evacuation, which could put their lives as well as the lives of firefighters at risk.

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If a catastrophic event occurs, residents and visitors may not be able to reach designated evacuation sites. In such cases, people may need to make decisions on their own about seeking shelter where they can survive the passage of the wildfire. Residents should seek shelter as 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. Before a wildfire threatens, community members should research options and talk to fire and emergency service representatives about evacuation procedures, expected fire behavior in their neighborhood, and what to do if they get trapped.¹⁷ If residents are forced to take shelter, the horrific sound, smoke, and heat of a passing wildfire may be physically and emotionally difficult to endure. It may bring some solace and may help combat the natural urge to flee knowing that all possible measures have been taken to increase the odds of survival.

*See Appendix H, **Living with Wildfire** for more information on preparing for safe evacuation, and evacuation planning for pets and livestock. See also Chapter 5.4.6, **Evacuation Preparedness in Part 5, Risk-Assessment Detail** for information about evacuation procedures and challenges in Humboldt County.*

Humboldt Alert: Humboldt County's Mass-Notification System

- ❖ The best way for emergency personnel to alert you of an emergency in your geographic area. You may choose to be contacted by email, text message, landline, or cellphone – or all four.
- ❖ It is geographically targeted. You will only receive alerts relevant to your geographic area, which is based on the address(es) you provide. The system can hold multiple addresses under one account (ex. home, office, child's school).
- ❖ The service is completely free of charge.
- ❖ To sign-up visit: <https://humboldt.gov/alerts> or contact the Humboldt County Office of Emergency Services **(707) 268-2500**.

4.13.6 SOUTHERN HUMBOLDT COMMUNITY PREPAREDNESS

Communities within the Southern Humboldt Planning Unit are informed and abetted by the SHFSC, which operates throughout the entire Unit. The SHFSC was formed in 2002 by residents in the region who recognize the potential for community devastation by wildfire.

The mission of the SHFSC is to:

- Promote community awareness of fire prevention and preparedness
- Educate and assist the community in implementing fire-safe practices including defensible space and fire hardened buildings
- Promote cooperation between government agencies, fire safe councils, landowners and residents, volunteer fire organizations, and other fire safety stakeholders
- Restore the historical beneficial role of low intensity fire to the landscape through prescribed burning

The objectives of the SHFSC are to:

- Distribute fire safety information and related educational materials at community events and other venues
- Broaden the base of participation in SHFSC
- Periodically update and improve the CWPP and other planning documents
- Promote development of a network of fuel breaks, safety corridors, and defensible spaces

¹⁷ CAL FIRE and Idaho Firewise offer advice on what to do if you become trapped:

<http://www.readyforwildfire.org/What-To-Do-If-Trapped> and <http://idahofirewise.org/evacuation/if-you-get-trapped>.

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- Assist landowners obtaining funds for defensible space projects and roadside fuel breaks under FLASH and similar programs
- Support livelihood opportunities pursuant to realizing our vision

Over the years, the SHFSC has met irregularly and participation has been widespread throughout the Unit, with more than forty individuals including periodic representation from volunteer fire departments, rural residents, and landowners. Participation has also included personnel from the Institute for Sustainable Forestry (ISF), Sanctuary Forest, CAL FIRE, BLM, California State Parks, the Mattole Restoration Council (MRC), and the HCFSC. Projects during this period included five large shaded fuelbreaks protecting important access roads, fire education events, and work toward drafting a local CWPP. Several members also regularly appear on the local radio station to talk about fire related issues.

The SHFSC has been successful in collaborating with a variety of fire and forestry organizations to achieve its goals; these organizations include Beginnings Inc., ISF, Ancient Forest International, Sanctuary Forest, and the Humboldt Fire Chiefs' Association, with cooperation from the California Department of Forestry and Fire Protection's Garberville Battalion Chief and other personnel from CAL FIRE's Humboldt-Del Norte Unit in Fortuna as well. Some of the SHFSC's primary objectives are to educate the public about fire safety, create extensive fuelbreaks, initiate a prescribed burning program, increase communication among residents as well as volunteer fire departments (VFDs), improve training for emergency response teams, and conduct fundraising for these efforts. The SHFSC also attempts to coordinate their activities with other fire prevention efforts by networking with entities such as the BLM, the MRC, and SHFCA.

Collaboration with ISF, MRC, and the County of Humboldt has led to the implementation of the Fire Adapted Landscapes and Safe Homes (FLASH) program throughout the Planning Unit. FLASH is a rebate program that reimburses property owners for hazardous vegetation management completed around their homes, along access routes, and in particularly hazardous areas. Many participating landowners also receive a free home wildfire risk assessment through which they receive wildfire mitigation recommendations tailored to their specific circumstances. This program has been successful in terms of spreading fire safe information and hazard reduction examples over a wide area. FLASH also funded a CAL FIRE Inmate crew project, facilitated by SHFSC, that constructed a critical fuelbreak along the northern edge of Garberville adjacent to Bear Creek Canyon, as well as a maintenance project on the Elk Ridge Road fuelbreak.

Recently, participation in SHFSC activities from the groups mentioned above has dwindled and the focus has shifted primarily to implementing the FLASH rebate program, providing information via radio and newspaper interviews, letter writing, and maintaining representation on the HCFSC. The SHFSC plans to reorganize in 2018 and 2019 to increase membership and broaden the wildfire preparedness services offered to the area.

SHFSC can be reached by calling **(707) 923-9109** or emailing **bille@asis.com**.

The Crooked Prairie Fire Safe Council (CPFSC) also exists within this planning unit. Located in the Ettersburg area, the CPFSC encompasses approximately four square miles with about 30 homesteads. It was established in 2005 as the result of the dissolution of the Crooked Prairie Fire Crew. The organization of the CPFSC is intentionally small and simple; it is an all-volunteer group that meets approximately once a year and obtains all of its funding from donations and fundraisers. Though small, they have been capable of some major contributions to improving fire safety in their community.

CPFSC can be reached by emailing **kweber@asis.com**.

The Shelter Cove Resort Improvement District is the only community within the Southern Humboldt Planning Unit to achieve Firewise Communities/USA® recognition. More details about the Shelter Cove community risk assessment and action plan are provided below. The process of becoming recognized as Firewise® includes a site specific wildfire risk assessment, an action planning process, and an annual

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community educational event. The Firewise Communities/USA® Recognition Program teaches people living within the WUI how to adapt to living with wildfire by preparing for a fire before it occurs. This program empowers communities with tools and resources for reducing their wildfire risk and encourages neighbors to work together to take action to minimize losses from wildfire. The Firewise® process would be beneficial for more communities and neighborhoods within this planning unit.

To find out more about the Shelter Cove Firewise program call **707-986-7447** or email **sue@sheltercove-ca.gov**.

Another important organization that supports community wildfire preparedness is the Southern Humboldt Emergency Preparedness Team or SHEPT. Representatives from the Red Cross, Office of Emergency Services, health care organizations, public agencies, the media, service groups, and more participate in SHEPT. The group provides networking and educational opportunities and works to secure resources to support emergency preparedness and disaster coordination and communication readiness. SHEPT focuses on all potential disasters, including wildfire.

SHEPT can be reached by calling **(707) 223-1560** or emailing **shept.info@gmail.com**.

FIGURE 4.13.9 SOUTHERN HUMBOLDT: FIRE PREVENTION ACCOMPLISHMENTS

- Since 2013, the SHFSC FLASH program has facilitated 185 acres of fire hazard reduction work for 60 landowners throughout the unit, including 50 fire-safe home inspections, and 136 site visits. The FLASH program also supported fuels reduction projects in coordination with CAL FIRE crews in the Bear Creek Canyon near Garberville and along Elk Ridge Road in Briceland.
- SHFSC consulted with dozens of landowners in Southern Humboldt.
- In late 2017 and early 2018, SHFSC representative Dave Kahan was featured on three local radio shows and called in to several others to share lessons from the October North Bay fires and inform and encourage residents and landowners to implement defensible space and fire harden homes.
- CPFSC Accomplishments: The installation of a 5,000 gallon water tank adjacent to a firehouse with a grant acquired through the MRC; hosting an informative workshop on Sudden Oak Death; equipping firefighters with personal protection equipment (PPE); and participation in the FLASH rebate program.
- Boundary expansion for the Telegraph Ridge Fire Protection District through a formal annexation process. The annexed areas are now contributing revenue to support the fire services they receive. In addition, the District was successful in its effort to buy the Ettersburg School property for the home of the new fire house.
- Support has been provided to the local fire service through Measure Z, a half-cent sales tax passed by Humboldt County voters in 2014. These funds have been used to purchase equipment, make progress on establishing secure structures to house fire engines, and pay fees for dispatch.
- The Shelter Cove Resort Improvement District No. 1 (RID) earned Firewise® recognition in 2014. Through its Firewise® program and State Responsibility Area grant funding, the RID completed over 200 acres of understory vegetation management to reduce wildfire hazards in northeastern areas of the community. They have successfully renewed their Firewise recognition status annually since 2014. The Firewise® Committee hosts a Firewise® Day in conjunction with the community's annual 4th of July celebration and provides educational information to attendees.
- In 2017, the Shelter Cove Fire Department successfully increased their revenue through a voter approved tax measure. The additional funding is being used for equipment, training, and improvement of fire protection and emergency medical response services. The department improved their Insurance Services Office (ISO) Public Protection Classification from a 5 to a 4, just a few points shy of a 3. This change is attributed to water supply, staffing, and training improvements. This could result in insurance premium reductions for residents of the area.

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- Fire departments from within this planning unit proudly participated on a Humboldt local government strike team to assist with the suppression of California wildfires during the 2017 and 2018 fire seasons. The experience gained from these assignments increases the local capacity for responding to similar events within this planning unit.
- Most fire departments within this planning unit host annual events and fundraisers where residents are provided with the opportunity to support fire and rescue services and learn about their local department. Many of these events offer fire prevention information.

In order to be better prepared, community members need to be informed about issues surrounding wildfires, emergencies, and disaster management. One of the tools used to inform the public in this planning unit is the "Burning Issues" fire and rescue radio talk show on KMUD FM radio. This show provides local fire service representatives an opportunity to voice information to the public about training, prevention, standards, legislation, grant writing, and new initiatives and innovations.

The communities in this planning unit have made a number of significant accomplishments over the past five years, in large part due to the work of the groups described above. A number of these accomplishments are described in the table below.

4.13.7 SOUTHERN HUMBOLDT LOCAL WILDFIRE PREVENTION PLANS

Members of the SHFSC worked with County staff to design this Southern Humboldt Unit Plan so that it may serve as the equivalent to a local CWPP for the SHFSC. This plan can provide a starting point for local groups, such as the SHFSC and fire departments, to strategically organize fire-planning efforts.

A list of priority action recommendations reflective of the community concerns and ideas collected through the process described in *section 4.13.8* was developed by the HCFSC in collaboration with the SHFSC to help guide and inspire wildfire preparedness in this planning unit. *See section 4.13.9, Southern Humboldt Action Plan for a list of priority actions recommended by this CWPP.*

Shelter Cove Firewise Action Plan

As part of the initial Firewise® certification process in 2014, a Firewise® Action Plan was developed by the Shelter Cove Firewise Committee, which consisted of the Shelter Cove Resort Improvement District No. 1 (RID), Shelter Cove Fire Department, and the Shelter Cove Community Emergency Response Team.¹⁸ CAL FIRE and Humboldt County staff provided guidance for the development of the action plan.

The priority actions identified in the Plan are as follows:

- Assign wildfire planning to RID and the existing CERT.
- Host a Firewise workshop for community residents.
- Organize a community-wide wildfire hazard reduction workday.
- Maintain a fuelbreak between the King Range National Conservation Area, managed by BLM, and the Shelter Cove community.
- Distribute informational resources, including Living with Wildfire, a flammable plants list, and a homeowner's checklist.
- RID will annually review the Action Plan, invest in its implementation, and maintain detailed records of funding, progress, and needs.

4.13.8 SOUTHERN HUMBOLDT COMMUNITY IDENTIFIED POTENTIAL PROJECTS

As part of the larger collaborative planning process to create this CWPP, 14 community wildfire preparedness workshops were held throughout the County. *See Chapter 1.2, Collaborative Planning*

¹⁸ Shelter Cove Firewise Committee. Shelter Cove Firewise Action Plan. (2014). Retrieved from humboldtqov.org/1928/Shelter-Cove

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Process and Appendix B, Planning Process Details for more information. The workshop for this planning unit was held on November 9, 2017 at the Redway Fire Hall with the following goals:

Provide information:

- Fire protection capabilities and needs.
- Prevention of unplanned human-caused wildfires.
- Wildfire and emergency preparedness.
- The role of wildfire in our local environment.
- The Humboldt County Community Wildfire Protection Plan (CWPP).

Seek Information:

- Obtain local knowledge and concerns regarding assets and hazards.
- Provide an opportunity for direct input into priorities for community fire safety.

Through the initial 2004-2005 fire-planning process and the 2012 and 2017 CWPP update processes dozens of projects were identified for this planning unit through a community workshop mapping exercise. These projects are illustrated on the community-identified projects map found at the end of this Unit Action Plan (*Map 4.13.3*). New or confirmed existing project ideas proposed during the 2017 update process are summarized in *Figure 4.13.10* and *4.13.11* in this section. *For more information on the mapping exercise, see Appendix B.5, Mapping Exercise Instructions.* The community-identified fire hazards, protection resources, and assets and values at risk discussed throughout this Planning Unit Action Plan (*Map 4.13.2*) reflect information generated by these community workshop mapping exercises as well as information resulting from direct outreach to local fire departments and residents.

The data collected through these planning processes can also be viewed in the GIS layers within the fire-planning GIS Portal. The GIS Portal allows users to search for and view specific community-identified fire-planning features by location or to zoom into a desired area from an aerial view. The GIS Portal also provides descriptions of each planning feature. To access the Portal, go to: https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP. For a copy of fire-planning feature descriptions in table format, please contact the Office of Natural Resources Planning by phone **(707) 267-9542**, or email cimmitt@co.humboldt.ca.us.

The following community-identified project ideas have been identified through the planning process described above and will not be found on the maps or in the GIS Portal but are important to note and evaluate for feasibility.

FIGURE 4.13.10 SOUTHERN HUMBOLDT: COMMUNITY-IDENTIFIED PROPOSED PROJECTS

○ Be proactive in abatement of abandoned vehicles (often burned).
○ Enforce against roadside camping/no overnight parking
○ Enforce against homeless campfires.
○ Ask County to perform a roads survey of streets for width/clearance for emergency vehicles.
○ Be proactive in abatement of marijuana grows in residential areas.
○ Map safety zones and distribute to community.

The local residents who attended the November 9, 2017 workshop identified the projects in the following table as their top priority projects to be evaluated for feasibility and implemented over the next five years. The rest of the community identified projects can be found in the CWPP Web GIS Portal described above.

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FIGURE 4.13.11 SOUTHERN HUMBOLDT: COMMUNITY-IDENTIFIED PRIORITY PROJECTS		
Fuelbreak along China Creek and Blueslide Roads from Briceland Thorn Road	Roadside Clearance	BRC125
County should be more proactive in abatement of abandoned vehicles (which are often burned)	Other	-
Ettersburg School Fire Station	Other	-
Enforce against homeless campfires	Other	-
Shaded fuelbreak along Briceland Thorn Road from Redway to Whitethorn Junction (evacuation route)	Roadside Clearance	BRC188
Enforce against homeless camp fires	Other	-
Fuelbreak from Ettersburg Road up Dutyville Road	Roadside Clearance	BRC185, 186
China Creek Road/Blueslide Road Fuelbreak	Roadside Clearance	BRC133
Controlled Burns at Lauffer Ranch	Landscape	PV056
Fuelbreak along Briceland Thorn Road from Redway to Whitethorn Junction	Roadside Clearance	BRC188
Shaded fuel break along Huckleberry Lane/Goodman Ranch Road	Roadside Clearance	BRC190
King Range Road fuelbreak	Roadside Clearance	PET063

4.13.9 SOUTHERN HUMBOLDT ACTION PLAN

Ideally, everything recommended in this action plan will be implemented. However, feasibility analysis and implementation will be subject to the availability of funds and other resources, and the willingness and ability of community members and plan partners to take action. This action plan can be used to guide the action of community members, organizations, and agencies working and living within each of the 14 planning units within Humboldt County. It is the intention of the HCFSC that one or more local groups be sustained within each planning unit to lead local action. It is understood that some units have more capacity than others. The HCFSC, with individual members from higher-capacity areas and partner agencies, can provide guidance for building capacity where needed.

Any recommended vegetation treatments in this CWPP must be undertaken with the consent and involvement of the property owner and the observance of all applicable local, Tribal, state, and federal laws and regulations. Please work closely with the applicable regulatory and permitting authority as projects are developed, particularly if public funds are being used and/or the project will take place on public lands or in public right-of-ways. For more information about how to ensure regulatory compliance, refer to *Appendix I, Regulations and Compliance*.

The following Action Plan is intended as a resource to guide and inspire action, as well as to cite in grant applications to leverage implementation funds.

Priority Action Recommendations:

The following recommendations are based on a review and evaluation of community-identified fire planning features, local fire planning documents where they exist, and findings from this Humboldt County CWPP risk assessment. Given the results of this analysis, a growing understanding of local capacity, and potential supporting resources, it was determined that the following list of **priority actions** would best serve as a starting place towards the fire safety of the communities in this planning unit.

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- **M**aintain and support the SHFSC and CPFSC to facilitate community wildfire preparedness and mitigation. This Plan encourages more collaboration between these two active local FSCs.
 - Inspire more community involvement in and support of the SHFSC and CPFSC with outreach about what they do and how to get involved.
 - Develop a campaign to increase membership and effectiveness.
 - Emphasize the recruitment of representatives from more remote neighborhoods.
 - Reach out to establish increased participation from Humboldt Redwoods State Park, BLM, and unrepresented communities/neighborhoods.
 - Work to build up the Southern Humboldt Emergency Preparedness Team (SHEPT) in tandem with the local FSCs.
 - Ensure that the SHFSC continues to be represented on the Humboldt County FSC.
- **M**aintain Shelter Cove’s participation in the Firewise Communities/USA® Recognition Program:
 - Actively implement and maintain the Firewise® action plan.
 - Focus activity on home hardening and defensible space in partnership with residents of Shelter Cove.
 - Continue to host an annual Firewise® Day.
 - Consider adding the development of a community chipper program and the development of a strategy to abate hazardous vegetation on vacant lots into action plan updates.
- **I**dentify other community organizations, Tribes, and/or groups of individuals in neighborhoods adjacent to the wildland with the interest and capacity to facilitate participation in the Firewise Communities/USA® Recognition Program or other similar wildfire preparedness program.
 - This focus area could be added to already existing disaster preparedness groups.
 - Conduct a risk assessment with support from the HCFSC, SHFSC, local fire departments, and/or CAL FIRE and draft a Firewise® action plan (the existing Shelter Cove plan can be used as a resource for this).
 - Host a Firewise® Day to share findings and inspire action; Firewise activities could be added to an existing annual community event.
 - If necessary, seek funding to support this effort.
- **O**nce local groups are organized, evaluate, further develop, seek funding for, and implement—as appropriate and feasible—the community-identified priority actions listed above as well as all community-identified potential projects stored in the Web GIS Portal. Perform this same process for the actions identified in the *Shelter Cove Firewise Action Plan*, as well as in this *Priority Actions Recommendations* list, and the *Action Catalogue* below. Pursue activities that align with available resources, community values, and the highest wildfire risks to local assets and values.
- **T**he SHFSC has identified the protection of **Redway** and **Garberville** – the population centers of Southern Humboldt, as a very high priority. Both rural communities are vulnerable to dangerous, wind-driven fires out of the northeast and should be protected through implementation of landscape level fuel reduction projects, in addition to the actions listed in the following bullet points. Priority project areas to evaluate include: **GAR045, GAR072, GAR073**.

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- **A**dditional priority areas within this planning unit for fuels reduction and potential Firewise® programs are included in the list below. Activities might include creating defensible space, roadside clearance, chipper programs, and/or landscape treatments, as well as education and assistance for addressing structural ignitability through home hardening and evacuation preparedness. Emphasize outreach to sensitive populations such as the elderly, disabled, and/or low income within these areas:
 - Alderpoint (ALD044)
 - Briceland (BRC244)
 - Ettersburg (BRC245)
 - Benbow (GAR075)
 - Whitethorn (GAR074)
 - Sprowel Creek (GAR076)
 - Palo Verde (PV091)
 - Shelter Cove (this area sustains an active Firewise® Program) (SC051)
- **T**he high fire danger, a large and dispersed WUI population, the large number of dead-end roads leading to multiple residences, and a general lack of wildfire preparation combine to make **evacuation planning** and education a top priority in this planning unit. This plan recommends that residents stay vigilant and evacuate as early as possible to avoid loss of life.
 - Work with the County Office of Emergency Services (OES), local fire service, and law enforcement to engage community members in evacuation preparedness (generally, the Sheriff's Office is responsible for conducting evacuations while the fire service focuses on wildfire management). Work together to review best practices as well as emerging new approaches.
 - Promote the study of and widely distribute documents such as "Ready-Set-Go ", "Living with Wildfire", "Ready for Wildfire", and others that are readily available. With this information, residents can begin to identify, evaluate, and mitigate those dangerous impediments to their safe evacuation, broaden their understanding of what is meant by 'extreme' wildfire weather and 'extreme' wildfire behavior, and sharpen their situational awareness.
 - Identify local community liaisons to work directly with emergency management officials.
 - Identify and map local evacuation routes and sites. The Briceland VFD/SHFSC produced Fire Atlas will be an important resource for this.
 - Given the large number of residences located on long, dead end roads, residents, law enforcement, local fire departments, and FSCs should work together to identify alternative paths that may be taken or actions to initiate if primary routes become inaccessible during a wildfire.
 - Identify and actively maintain areas to shelter as a last resort if safe evacuation is blocked by wildfire, especially in areas with one-way-in, one-way-out roads. Areas of high priority include:
 - Shelter Cove
 - High density neighborhoods on spur roads off of Briceland Thorn Road and the Ettersburg Honeydew Road.
 - See additional evacuation preparedness ideas in the *Action Catalogue* below under "Disaster Preparedness".
- **F**ocus roadside fuel reduction efforts on priority ingress and egress routes for safe evacuation and emergency response, especially those roads used by the highest number of residents, single

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access roads, and roads leading to remote-hard to access residences. Priority roads for initial evaluation and outreach efforts include:

- Alderpoint Road
 - Bell Springs Road
 - Blue Slide Creek Road
 - Briceland-Thorn Road
 - Chemise Mountain Road
 - Dutyville Road
 - East Branch Road
 - Elk Ridge Road
 - Ettersburg Road
 - Goodman Ranch/Huckleberry Lane
 - Island Mountain Road
 - *A fuelbreak along Reed Mountain Road would complete the Humboldt County side of a large project initiated by Piercy Fire Protection District for fire protection and forest health, designed by BLM for the public lands part of the project, supported by the Mendocino County FSC for the Mendocino portion of the project.
 - Miller Creek Road
 - Old Briceland Road
 - Perry Meadow
 - Reed Mountain Road*
 - Upper and Lower Sawmill Roads
 - Seely Creek Road
 - Shelter Cove Road
 - Sprowel Creek Road
 - China Creek Road
 - Crooked Prairie Road
- **C**ollaborate with the Humboldt County Road Maintenance to strategically identify priority **county** road maintenance and vegetation management in areas where conditions are impacting or have the potential to impact emergency response and safe evacuation.
 - Develop a prioritized list of county roads that need resurfacing.
 - Review the Humboldt County Rural Transportation and Access Partnership program for applicability to local issues.¹⁹
 - **A**ddress road conditions on **private** roads that inhibit effective evacuation and access by emergency responders. Begin by systematically identifying and mitigating such access impediments
 - **C**ollaborate with local fire departments, the HCFSC, CAL FIRE, emergency dispatch centers, Humboldt County Planning and Building, and Humboldt County Road Maintenance to develop a strategy to address confusion about official road names.
 - **C**ollaborate with agency and local partners to plan and fund landscape level fuels reduction and management where appropriate and in observance of applicable environmental laws and regulations. Match the site with the best method of treatment to meet forest resiliency and community protection goals, including prescribed fire, forest thinning, landscape pruning, mowing, or targeted grazing.
 - **R**aise awareness of Sudden Oak Death (SOD) and the fire and safety hazard that afflicted trees pose. Identify hot-spots for Sudden Oak Death infected trees. Coordinate with Mattole Restoration Council for SOD hot-spots and affected access roads to be mapped in the Mattole watershed for the Mattole Fire Atlas and CWPP Web GIS database. Conduct fuels reduction projects in SOD areas to prevent spread and mitigate fire hazards, particularly along access roads where they pose a substantial safety hazard. Add SOD affected access roads to priority roadside fuels treatments, once identified. Seek guidance from organizations such as University of California Cooperative Extension.

¹⁹ Contact County Roads for more information: <https://humboldtqov.org/1405/Road-Equipment-Maintenance>

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- **W**ork with commercial timberland owners such as Barnum Timber and Boyle Forests to identify priority areas for strategic vegetation treatments to increase forest resiliency to wildfire.
 - Design projects to buffer residences from wildfires that originate from the timberlands and to protect timber resources and ecological values from fires that start in adjacent developed areas and along roads.
 - Priority areas for such project development include timberlands adjacent to developed areas east of Whitethorn, south of Briceland, and in the Sprowel Creek area.
 - Seek opportunities to collaborate on roadside vegetation management projects where public roads or private roads, leading to residences, transect timberlands.
 - Organize dialogue to share community concerns about the practice of killing hardwood species and leaving them as standing snags with the objective of reducing wildfire hazards within this planning unit.
- **W**ork with the HCFSC to secure more funding to continue and expand the highly successful FLASH reimbursement program (or a similar program), which has promoted hundreds of acres of fuels reduction work around homes and access roads. Continue to educate landowners about fire hazard reduction and fire safety around homes.
- **C**oordinate with CAL FIRE, local fire departments, local FSCs, and Firewise groups to develop a strategy to ensure that unmaintained vegetation on parcels that pose a wildfire threat to neighboring homes is abated.
 - 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.
 - 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 that originates on their property spreads to yours, resulting in damage, legal action will be taken.
 - Contact the HCFSC for more details and examples of how to address this situation.
- **W**ork with SHEPT and OES to establish more CERTS and emphasize basic wildfire behavior and firefighting techniques into their training. Also encourage neighborhood CERTS (or other groups of neighbors such as road associations) to establish equipment caches in case of isolation to ensure the availability of emergency supplies. Depending on the severity of the disaster, it could be days or even weeks before professional emergency services reach some areas.
- **W**ork with local organizations, the Humboldt County Board of Supervisors, Humboldt County FSC and GIS staff, state legislators, CAL FIRE, and/or utilities to address communications challenges including the lack of internet access in some areas; radio repeater dead zones; confusion about road names and local addresses; and more.
- **T**hrough SHFSC's fire education work, continue to emphasize fire safety techniques (e.g. obtaining and following the requirements on burn permits, being aware of changing weather when burning, not driving on dry grass, etc.). Potential workshop topics include:

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- An educational workshop for landowners on how to create and maintain defensible spaces around homes. This workshop should include information on the importance of defensible spaces for protecting structures, a discussion of fire safe landscaping techniques, and a hands-on demonstration of proper techniques for thinning vegetation and removing brush piles.
- A presentation by CAL FIRE showing wildfire in action, supplemented with photos and video clips. There is potential to conjoin the efforts of this workshop with a fundraiser event for the SHFSC.
- Other outreach strategies may include developing fire safety education posters to be displayed at community events; reaching out to local businesses for support; and sending announcement flyers home with students from school.
- **C**ontinue to explore options and make progress on local fire service sustainability efforts such as:
 - Recruiting and retaining volunteers;
 - Establishing consistent and sustainable revenue sources;
 - Ensuring that all appropriate areas are within the boundaries of a fire related district through district formation, annexation, and consolidation;
 - Pursuing funding to complete the Briceland fire station and to build a training facility in Redway that will benefit all fire departments in the unit;
 - Supporting the purchase and modification of the Ettersburg School for the Telegraph Ridge fire station;
 - Exploring the feasibility of establishing and funding a Rural Fire and Rescue Coordinator or Coordinators to keep their finger on the pulse of the larger fire service;
 - Helping local fire chiefs meet increasing requirements;
 - Facilitating collaboration on efforts that benefit all Southern Humboldt fire departments and companies;
 - Staying abreast of rural funding opportunities and offering guidance and administrative support to help with their acquisition; and more.
- **E**stablish a firefighting water supply outreach program including:
 - The identification, creation (if necessary), and distribution of educational materials with clear instructions about how to develop and maintain water sources accessible to firefighters.
 - Coordination with local businesses to display models of proper fire water hookups and encourage the purchase of tanks and fittings through discount and/or rebate programs.
- **A**ddress the water supply and infrastructure challenges faced by the Briceland CSD from the perspective of fire flow needs. The Briceland CSD water system is in poor condition, source capacity is unable to meet current maximum day demands, and storage capacity is barely able to meet even one day of maximum day demands.²⁰
- **W**ork with local businesses to encourage residents to purchase firefighting tools and personal safety equipment through discount and/or rebate programs. Tailor the programs particularly for the more remote homesteaders who have a higher likelihood of getting trapped on their own and include educational materials about how to use the tools and equipment.

²⁰ See the Humboldt County General Plan Update, Environmental Impact Report for more details: <https://ca-humboldtcounty.civicplus.com/DocumentCenter/View/58832/Section-33-Utilities-and-Services-Revised-DEIR-PDF>

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- **C**oordinate with the HCFSC Wildfire Ignition Prevention Work Group to provide input to the process of finding and/or developing informational materials and outreach strategies for marijuana/cannabis cultivators and processors to reduce ignitions associated with that industry and to educate their seasonal workers.²¹
- **C**oordinate with local FSCs, fire departments, CAL FIRE, and the County to develop a method of determining whether fire ignitions and risk are declining as a result of the regulation of marijuana/cannabis cultivation and processing; make recommendations as appropriate.
- **E**ncourage residents with unpermitted structures or additions on their property to participate in the Humboldt County Planning & Building Department’s Safe Homes Program.²² Educate those residents about the benefits of upgrading structures and/or bringing structures into compliance with current building codes.
- **S**hare GIS datasets between local representatives and County staff to maintain the fire planning features included in the County Web GIS Portal (webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP) or other appropriate platform.
 - Compare GIS fire planning datasets compiled by the SHFSC, other local groups with GIS capacity, and the County and determine an appropriate sharing and maintenance process to ensure that the most up-to-date and accurate information is provided through the County Web GIS Portal or other appropriate platform.
 - Integrate this effort, as feasible and appropriate, with the SHFSC’s plans to continue GIS mapping of the road network and locations of features such as homes, water sources, gates, etc. Special emphasis will be placed on defining and in some cases, encouraging the opening of evacuation routes.
 - Coordinate this effort with the work of the Humboldt County Fire Safe Council to implement the Integrated Planning, Fire-Planning Data Management priority action of the Countywide Action Plan (*Chapter 3, Section 3.6.4*).
- **H**omeless campfires were identified by community members as a wildfire ignition risk. To better understand and address that risk, identify homeless encampments that pose a fire hazard and work with law enforcement, the fire service, and possibly social services to identify appropriate mitigation actions such as providing access to shelters and/or performing fuels reduction around frequently used campsites. There are many reasons to address these areas. Look for opportunities to tie in with other local organizations and efforts to achieve multiple benefits. In addition, develop educational materials and outreach strategies to inform the homeless population about fire prevention and safety.
- **W**ork with the HCFSC to share successful local strategies and programs to help inspire similar action throughout the county.

²¹ See countywide action plan *3.1 Wildfire Ignition Prevention* for more details.

²² Humboldt County, Building Inspection Division Homepage: <https://humboldtqov.org/153/Building-Inspection>

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Action Catalogue:

This Action Catalogue lists wildfire mitigation actions that can be selected in addition to, or to compliment, the priority actions above. Action items are organized under each of the six countywide goal categories outlined in *Part 3, Countywide Action Plan*. Local groups are encouraged to implement these actions within their communities wherever possible and to actively seek opportunities to engage with and benefit from the associated work being done countywide by the HCFSC. To contact the HCFSC, call **(707) 267-9542**, or email cimmitt@co.humboldt.ca.us.

Wildfire Ignition Prevention

- **I**mplement One Less Spark education: www.readyforwildfire.org/One-Less-Spark-Campaign.
- **U**se *Living with Wildfire in Northwestern California* as a primary outreach tool and distribute widely: www.humboldt.gov/livingwithwildfire.
- **I**dentify primary ignition sources in the local community and focus prevention efforts on reducing them.
 - Community concerns were raised about the fire ignition risk of abandoned vehicles. Evaluate that risk and explore solutions with law enforcement and local leaders.
- **I**ncrease community awareness and access to information about proper methods for safe pile-burning, prescribed fire, and other fuel reduction strategies in order to avoid an unintended wildfire.
- **I**nform residents about the importance of vigilance and caution during Red Flag conditions when a small ignition has a higher probability of growing into a large fire.

Wildfire Preparedness

- **D**evelop a wide range of opportunities for community education on preparing for wildfire.
 - This effort should involve the production and distribution of a variety of informational materials such as:
 - A “Before and After Fuels Reduction” pamphlet, describing and illustrating the process and benefits of reducing hazardous fuels around homes, in neighborhoods, and along access roads.
 - A “Constructing a Shaded Fuelbreak” guide that outlines the value and process of creating shaded fuelbreaks.
 - Use existing materials as much as possible and develop materials tailored to the local community as needed and able. Examples of new materials include locally based before-after fuel treatment and or home hardening pamphlet with high quality photographs.
 - Distribute materials through mailers (including already occurring mailers such as local utility bills); via community hubs such as the post office; at all community events; on community bulletin boards; through the use of social media and networks, local media outlets, and any means used by the local community to share important information.
 - Encourage local volunteer/service organizations or schools to help perform community service activities including delivering literature to homeowners or clearing around and painting fire hydrants.

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- **P**rovide residents with information about ways to reduce structural ignitability and maintain adequate defensible space around their homes.
- **C**ollaborate to maintain defensible space for elderly, disabled, and low-income residents who are unable to do or fund the work themselves.
- **D**o a yearly field trip to a site that emphasizes the need for and results of fuel reduction. Demonstrate fuel reduction tools and techniques.
- **F**ocus roadside fuel reduction efforts on priority ingress and egress routes for safe evacuation. See details in the *Priority Action Recommendations* above.
- **W**ork with PG&E and local landowners to reduce fuels along power line easements.
- **S**upport or create community chipping programs.
- **C**ompile a directory of brushing crews and other resources for landowners seeking to reduce fuels on their property.
- **W**ork with commercial timberland owners such as Barnum Timber and Boyle Forests to identify priority areas for strategic vegetation treatments to increase forest resiliency to wildfire. See details in the *Priority Action Recommendations* above.
- **C**ollaborate with agency and local partners to plan and fund landscape level fuels reduction and management. See details in the *Priority Action Recommendations* above.

Disaster Preparedness

- **E**vacuation preparedness and the identification of local evacuation routes and sites is a priority for this unit. See details in the *Priority Action Recommendations* above.
- **I**mprove community communication networks and explore way to increase redundancy. This might include developing a community phone tree list and/or compiling a list of contacts to call in case of emergency or when help is needed from (or in) other areas. As another form of emergency communication, consider training or identifying a few community members to use HAM radios and secure funds to purchase radios and store them strategically throughout the community.
- **W**ork with a local fire or law enforcement agency to form Community Emergency Response Teams or CERTs. Coordinate with the Humboldt CERT Coalition.
- **P**romote the creation of family disaster and evacuation plans.
- **I**nform residents about Humboldt Alert and encourage them to sign up to receive emergency notifications at <https://humboldtqov.org/alerts>.
- **W**ork with residents to ensure adequate road and home address signage for more efficient emergency response. Signs should be large, reflective, and have lettering at least three-inches in height. Less noticeable but more sentimental address signs may remain but it is important to post reflective signs as well.
- **A**ddress road conditions that inhibit effective evacuation and access by emergency responders. See details in the *Priority Action Recommendations* above.
- **I**nform residents about the importance of keeping gates open or accessible during Red Flag conditions. Community members should consider providing a key or access code to the local fire department.
- **I**nform residents of the need to have accessible, mapped, and identifiable water sources for fire suppression, and the importance of sharing that information with local fire departments/companies. This type of activity can be supported by a “Blue Dot” program, which identifies the location of firefighting water sources by marking them with blue reflective dots.

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- **I**ncrease the availability of water for fire protection by investing in more community water tanks and ensuring existing tanks are outfitted with fittings compatible with firefighting equipment.

Fire Protection

- **S**upport the local fire departments by becoming a volunteer. Volunteer firefighters and volunteers who are emergency medical service (EMS) trained are essential to a functional local fire service. In addition, volunteers are needed for non-firefighting and EMS duties such as logistical support, traffic control, administration, fundraising, public education, and fire prevention.
- **A**ssist in the development of recruitment and retention strategies for volunteer fire departments.
- **H**elp local fire departments raise funds by making donations directly and/or organizing fundraising events or campaigns.

Restore Beneficial Fire

- **P**rovide resources to private landowners interested in implementing prescribed burns on their property, including the contact information for CAL FIRE, UC Cooperative Extension, the Humboldt County Prescribed Burn Association, and the Northern California Prescribed Fire Council.²³
- **S**hare information about educational events that provide information about prescribed burning.
- **E**ncourage landowners with larger acreages to work with the Humboldt County Prescribed Burn Association to conduct prescribed burns on their lands.
- **H**elp federal and state land managers garner local support for using prescribed fire or managed wildfire on the public lands they manage.

Integrated Planning

- **I**ntegrate, where there are mutual benefits, the community preparedness and wildfire resiliency efforts of the Southern Humboldt Fire Chiefs' Association, Southern Humboldt FSC, Crooked Prairie FSC, and other applicable agencies and organizations.
- **S**hare GIS data sets between local representatives and County staff to maintain the fire planning features included in the County Web GIS Portal (https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP). See details in the *Priority Action Recommendations* above.
- **I**nitiate and maintain participation in the Firewise Communities/USA® Recognition Program other neighborhood groups in developed areas adjacent to the wildland. See details in *Priority Action Recommendations* above.

²³ To learn more about UC Cooperative Extension, the Humboldt County Prescribed Burn Association, and the Northern California Prescribed Fire Council, contact Lenya Quinn-Davidson at lquinnndavidson@ucanr.edu or call her at (707) 445-7351. To learn about CAL FIRE prescribed fire programs and support, contact Chris Ramey at chris.ramey@fire.ca.gov or call him at (707) 726-1206.