

MID KLAMATH PLANNING UNIT ACTION PLAN



The Klamath River. Photo: Mid Klamath Watershed Council (MKWC).

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

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Helpful Links

KARUK TRIBE OFFICIAL WEBSITE:	http://www.karuk.us
MID KLAMATH WATERSHED COUNCIL:	http://www.mkwc.org
ORLEANS VOLUNTEER FIRE DEPARTMENT:	https://www.orleansvfd.org
HUMBOLDT COUNTY WEB GIS:	https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP
HUMBOLDT COUNTY FIRE SAFE COUNCIL (HCFSC):	https://humboldt.gov/FireSafeCouncil
HCFSC REPRESENTATIVE, CYBELLE IMMITT:	cimmit@co.humboldt.ca.us

4.3 MID KLAMATH PLANNING UNIT ACTION PLAN

4.3.1 MID KLAMATH PLANNING UNIT DESCRIPTION



A larger map of this planning unit can be viewed in Map 4.3.1, *Mid Klamath Planning Unit*.

The Mid Klamath Planning Unit encompasses 135,466 acres situated in the northeast corner of Humboldt County. Highway 96 is the main transportation route through the Planning Unit and cuts diagonally across the area following along the Klamath River—the second largest river system in California. The Unit encompasses a portion of the Lower Klamath sub-basin and its tributary watersheds, which include Red Cap, Bluff, Camp, Hopkins, Slate, Peach, and Aikens Creeks. Public lands, managed by the Six Rivers National Forest, make up the majority of this unit’s landmass. Nearly all of the land within the planning unit falls within the Karuk Ancestral Territory as defined by the Karuk Tribe, which extends as far north as the Oregon border, following the Klamath River.

The town of Orleans comprises the community population center of this planning unit. Orleans is included on the federal communities at risk list for damage from wildfire.¹ Nearby Somes Bar, in Siskiyou County, is also a designated community at risk and is included in many of the plans and activities mentioned in this plan. Several other small neighborhood groupings border the Highway 96 corridor with a few outlying in-holdings scattered throughout the surrounding National Forest. Not all residents in these communities have access to electricity or telephone service. The 2010 Census reported 605 people in Orleans, with approximately 39% having Native American heritage, mainly of the Karuk Tribe.²

FIGURE 4.3.1 HWY 96 NEIGHBORHOODS	
Bluff Creek	Peach Creek
Camp Creek/Lower Camp Creek	Red Cap/Upper Red Cap
Cedar Camp	Slate Creek
Donahue Flat	Ten Eyck
Lammon	Bark Shanty
Lower Ishi Pishi	Upper Ishi Pishi
Owl Mine Road	

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

Parcels in this planning unit range in size from less than one acre to more than 1,200 acres, with average parcel size between five and ten acres. The general

building type is wooden houses built before *wildland urban interface* (WUI) building standards³ were in place. Recent development in the area has been primarily by the Karuk Tribal Housing Authority on Tribal lands in the Orleans Valley.

The boundaries of this planning unit are based on the Humboldt County portion of the Orleans/Somes Bar Fire Safe Council’s planning area, which also includes portions of Siskiyou County. While the scope of this planning unit action plan includes Humboldt County only, the Orleans/Somes Bar Community Wildfire Protection Plan includes details about Siskiyou County as well and should be used in conjunction with this plan.

¹ CAL FIRE. (2001). Communities at Risk List. Retrieved from http://osfm.fire.ca.gov/fireplan/fireplanning_communities_at_risk

² Firewise Communities/USA® Recognition Program. (2011). Orleans Community Assessment. Retrieved from <https://humboldtqov.org/735/Orleans>

³ California Building Standards Commission. 2016 California Building Code of Regulations Title 24, Part 2, Volume 1, Chapter 7a: Materials and Construction Methods for Exterior Wildfire Exposure. Retrieved from <https://codes.iccsafe.org/content/chapter/1774>

4.3.2 MID KLAMATH 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.

The majority of community assets at risk in this planning unit are residential homes, as well as community, Tribal, and United States Forest Service (USFS) lands and facilities, farmlands, and the Klamath River. Traditional subsistence resources and the hunting, fishing, and gathering areas of the Karuk People are also assets at risk. Other assets in this unit include communications and utility infrastructure.

Map 4.3.2, 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 GIS⁵ Portal: https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP.

Some of the key community-identified assets at risk within this unit are listed in the table below. This list is not intended to be comprehensive and illustrates participating community members’ concerns.

FIGURE 4.3.2 MID KLAMATH: COMMUNITY-IDENTIFIED ASSETS AT RISK	
Central Orleans	Panamnik Building (houses the post office and Mid Klamath Watershed Council Offices)
Crawford Creek watershed (Municipal water source)	Perch Creek area (water source)
Crawford Hill subdivision/Camp Creek	Recreational river access points
Ferris Ranch and south half of Orleans	Red Cap homes and water
Karuk Community Center	Sandy Bar Ranch and other campgrounds/cabins
Orleans Community water tank	Thunder Mountain and Madrone Neighborhoods and Thunder Mountain water supply
<p><i>Note: The Orleans/Somes Bar Community Wildfire Protection Plan contains a detailed list of community assets and their relative risk ranking as identified by community and Tribal representatives and local fire professionals (see Part 4. Develop a Community Risk Assessment, starting on page 26 of the Orleans/Somes Bar Community Wildfire Protection Plan).⁴</i></p>	



Orleans Bridge. Photo: USFS.



Orleans Fire Engine Bay. Photo: OVFD.

⁴ Orleans/Somes Bar Fire Safe Council. (2012). Orleans/Somes Bar Community Wildfire Protection Plan. Retrieved from <http://www.mkwc.org/programs/fire-fuels/publications>

⁵ Geographic Information Systems (GIS).

4.3.3 MID KLAMATH WILDFIRE ENVIRONMENT

There are several existing plans and resources where the wildfire environment of this area is described in much more detail.

Readers interested in learning more on this topic are encouraged to begin by reviewing the following:

- Orleans/Somes Bar Community Wildfire Protection Plan: http://mkwc.org/files/5113/7573/7763/OSB_CWPP_FINAL_withSignatures.pdf
- Karuk Tribe Department of Natural Resources, 2010 draft of the Eco-Cultural Resources Management Plan: http://www.karuk.us/images/docs/dnr/ECRMP_6-15-10_doc.pdf
- Karuk Climate Change Projects: <https://karuktribeclimatechangeprojects.wordpress.com>
- Western Klamath Restoration Partnership: <https://www.wkrp.network>
- Orleans Firewise Community Assessment: <https://humboldt.gov/735/Orleans>

Nearly the entire Mid Klamath Planning Unit (99%) is zoned "Very High Fire Hazard Severity," as determined by CAL FIRE.⁶ The unit is composed of rugged, mountainous terrain with elevations ranging from around 400 feet along the Klamath River corridor to over 6,000 feet at the top of Orleans Mountain. With much of the area in the 60% or greater slope class, steep slopes dominate the forestlands, which can increase the rate at which a fire spreads.

For a closer look at fire hazard severity, see Map 4.3.2, Mid Klamath Community-Identified Protection Resources, Values/Assets, & 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.

Humans and lightning strikes are the main wildfire ignition sources here. While lightning-caused ignitions are fewer and scattered sporadically throughout the unit, human-caused ignitions are more densely centralized near Orleans and along creeks, rivers, and roads.⁷ Vehicles can also be ignition sources where accumulated fuel loads exist on the side of the road. PG&E power lines can also be an ignition

⁶ 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

⁷ Orleans/Somes Bar Fire Safe Council. (2012). Figure 3.2 and 3.3: Fire starts by cause and ignition density. Orleans/Somes Bar Community Wildfire Protection Plan.

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source. There is significant concern within this planning unit about the quality of PG&E's vegetation management program under power lines. Multiple landowners within the Unit have raised concerns about wildfire hazards created when brush is cleared from under power lines and not safely discarded.

Fire History

"The exceptional biological diversity of the mid-Klamath River region of northern California has emerged in conjunction with sophisticated Karuk land management practices, including the regulation of the forest and fisheries through ceremony and the use of fire. Over three quarters of Karuk traditional food and cultural use species are enhanced by fire. Fire is also central to cultural and spiritual practices."⁸ However, a history of *fire suppression* since the early 1900's has dramatically altered the landscape and fostered the accumulation of dense, flammable vegetation in the forest understory, which acts as fuel and increases the risk of high-intensity wildfires. Forest ecosystems, accustomed to frequent fires that would burn off brush and newer starts in the understory, are now threatened by overcrowded forests and accumulated fuel. Whereas most of the this planning unit

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 (Agee 1993, Brown 1995). Five natural (historical) 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.

would have seen on average 10-20 fire overlaps in any given area over the past century, they now average 0-1 fire overlap. This is a critical metric to gauge the resiliency of these fire-dependent systems. This ecosystem dynamic is creating risk for wildfires of greater intensities and on a larger scale than the local vegetation is adapted to withstand. The introduction of invasive and exotic species, which can alter the structure of native plant communities, may exacerbate this fuel problem.⁹ The extent that 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.



Somes Fire (2006) on the Orleans Ranger District.
Photo: USFS.

Approximately 48% of the Mid Klamath Planning Unit is condition class 3, meaning the fire regime is significantly altered from the historical range; and approximately 41% of the area is condition class 2, or moderately altered from the historical range.

⁸ Karuk Tribe. (2016). Karuk Climate Change Projects. Historic Fire Regimes. Used with permissions and retrieved from <https://karuktribeclimatechangeprojects.wordpress.com>

⁹ Orleans/Somes Bar Fire Safe Council. (2012). Orleans/Somes Bar Community Wildfire Protection Plan. (p. 12).

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In the past decade there has been frequent wildfire activity within and adjacent to the Unit. The names, year, and acreage covered by the most recent major fire events within this unit are summarized in the table below.¹⁰ However, it is important to note that this planning unit has been frequently threatened by wildfires ignited outside of the planning unit boundaries as well, primarily from within the adjacent National Forests and in neighboring Siskiyou County. Nearby wildfires have, in the past, severely impacted the air quality within this unit.

FIGURE 4.3.3 MID KLAMATH: FIRES OVER 10 ACRES 1998-2017 ¹¹				
Fire Name	Cause	Year	Acres	
			In Unit	Total
Megram	Lightning	1999	7,664	125,073
Somes	Lightning	2006	6,494	15,506
*No Name	Unknown/ Unidentified	1998	2,752	21,382
Mill Creek 4	Miscellaneous	2009	1,533	2,831
Dance	Arson	2013	577	577
Camp 2	Arson	2003	85	85
Dance	Campfire	2001	62	62
Lt-17 (Backbone)	Lightning	2009	49	5,194
Wilder	Miscellaneous	2004	47	47
Crawford	Lightning	2006	34	34
Windy	Miscellaneous	2000	25	70
Butler	Arson	2013	19	22,445
Go	Miscellaneous	2002	17	17
Packsaddle	Lightning	2008	11	35
Redspot	Lightning	2009	0.22	1,130
*This table entry represents a conglomeration of fires ranging from hundreds to thousands of acres that burned all across the Yurok and mid-Klamath region in October 1998.				
<i>Note: An interactive map of fire history through 1908 is available through the County Web GIS.</i>				

Structural Ignitability

Homes in this planning unit exist within the WUI, which increases the risk of wildland fires 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, home hardening 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

¹⁰ For a more detailed list, including fire severity, please refer to page 11 of the 2012 Orleans/Somes Bar Community Wildfire Protection Plan or the County Web GIS layer.

¹¹ CAL FIRE. (2018). FRAP. State Fire Perimeters 1908-2017.

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preparedness include *Appendix L, Living with Wildfire* and *Home Survival in Wildfire-Prone Areas*¹², published by the University of California Agriculture and Natural Resources.

Home Ignition Zone: The home and area out to approximately 100 feet, where local conditions affect the potential ignitability of a home during a wildfire.

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

Wildfire risk is exacerbated by the presence of dense vegetation growing in the *Home Ignition Zone* and flammable items in direct contact with the structure. 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, or other flammable materials stored beneath them.

Although an impressive amount of wildfire preparedness work has been completed within this unit, there are still many homes where steps need to be taken to ensure structure survival when wildfire is nearby. Within this planning unit, vegetation types around structures vary; some residences on high river bars support farms and gardens, while other parcels are largely forested or contain pastures in small-to-medium openings in the forest.¹³ Although private properties tend to be located on more gentle terrain, some homes are surrounded by steep slopes that can limit their defensible areas and put structures in the line of up-hill spreading wildfires. According to the Orleans/Somes Bar CWPP, the risk of fuel hazard and wildland fire occurrence is "low" around many of the important community structures, such as the Karuk Medical Clinic and Department of Natural Resources, the Orleans Elementary School, and the Panamnik Building. **However, the vast majority of neighborhoods and residences within the Unit are designated "medium" and "high" risk for fuel hazard and wildland fire occurrence.**¹⁴

Managing fuels for at least 100 feet of defensible space is highly recommended by this CWPP and is mandated by California Public Resources Code 4291¹⁵. 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.

Some community members have expressed concern over the fire risk posed by *Sudden Oak Death*, which can greatly increase fuel loads as trees and tree limbs die off. While the disease is not yet widespread within the Unit, landowners should be aware of the risks and vigilant about removing afflicted trees on their property in order to prevent spread.

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.

Map 4.3.2, 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 on the Humboldt County Web GIS Portal: https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP.

¹² 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. [PDF]. Retrieved from <https://anrcatalog.ucanr.edu/pdf/8393.pdf>

¹³ Firewise Communities/USA® Recognition Program. (2011). Orleans Community Assessment. (p.5).

¹⁴ Orleans/Somes Bar Fire Safe Council. (2012). Table 4.1: Risk Assessment for Structures at Risk. Orleans/Somes Bar Community Wildfire Protection Plan.

¹⁵ California Public Resources Code 4291 is provided as *Appendix K* of this CWPP.

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Water Sources

The Orleans Community Service District provides potable water to a population of approximately 300 and services 1.59 square miles. Their critical infrastructure and equipment includes approximately 100 miles of water mains, a water treatment facility, and three filters; one 100,000 gallon redwood tank, two 10,000 gallon back-up tanks, and one pump station with one 5-hp pump; and two computerized pumps, two back-up generators, as well as 33 fire hydrants. Residents outside the Service District obtain water through other means, such as drawing from nearby creeks and holding tanks.

Many communities/neighborhoods in this unit 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 over-taxed 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 4.3.4 MID KLAMATH: FIRE PROTECTION WATER DRAFT SITES	
Big Bar	Red Cap Bar
Orleans Bar	Ullathorne
<i>Note: Locations identified at community workshops and will need to be vetted further with local firefighting personnel.</i>	

Map 4.3.2, 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 on the Humboldt County Web GIS Portal: https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP.

4.3.4 MID KLAMATH FIRE PROTECTION CAPABILITIES

Community fire protection within the Unit is provided by the Orleans Volunteer Fire Department (OVFD), which serves 30 square miles, and provides mutual aid to USFS on another 30 square miles. The OVFD is a non-district fire company, incorporated in 1968. In addition to providing fire and rescue services, members of the OVFD are involved with sustaining Orleans Firewise® activities to help community members prepare their homesteads for wildfire.

FIGURE 4.3.5 MID KLAMATH: FIRE PROTECTION RESOURCES ¹⁶				
PERSONNEL	SERVES		FIRE APPARATUS	RESPONSE
	RESIDENTS	AREA		
ORLEANS VOLUNTEER FIRE DEPARTMENT (NON-DISTRICT, NON-TAX BASED) – PHONE: (530) 627-3344				
13 Volunteers 7 Supporters	400	60 sq. mi.	<ul style="list-style-type: none"> ○ 2007 Ferrara International Pumper Engine ○ 1985 Ford F800 Type 4 Wildland Engine ○ 1973 Kenworth 3,500-gallon water tender ○ 2018 Ford F550 mini-pumper 	<ul style="list-style-type: none"> ○ Structural fires ○ Wildland fire support ○ Medical and rescue services (basic life support or BLS)

¹⁶ Humboldt County Fire Safe Council. (2018). Humboldt County Fire Chiefs' Association Annual Report, 2017. (p. 44). Retrieved from <https://humboldt.gov/Archive.aspx?AMID=75>

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Priorities for the fire department include repair of a defective repeater—a piece of equipment essential to radio communications—and replacement of the department’s deteriorating fire hall. OVFD has successfully acquired land and completed design on the fire hall and is now turning their attention to fundraising for construction. Recruitment and retention of volunteer firefighters remains a challenge for the department as does maintaining adequate funding to keep up with maintenance and training requirements. OVFD recently celebrated the acquisition of a new fire engine, made possible through the Public Safety and Essential Services half-cent sales tax (Measure Z, renewed by Measure O), as well as a new rescue mini-pumper made possible through a FEMA grant.

The USFS is responsible for wildland fire protection, primarily on federal lands. However, a cooperative agreement enables the USFS to respond to fires on private properties with consent from landowners, Tribal representatives, and the OVFD. Additionally, the USFS – Orleans Ranger District may provide firefighting resources if the OVFD is in need of aid; reciprocally, the OVFD may respond to requests for additional support from the USFS. These two agencies also share the responsibility of responding to threats of fire spreading as a result of vehicular accidents.

The Six Rivers National Forest Orleans Ranger District can be reached by calling **(530) 627- 3291** or by visiting the Forest website at: <https://www.fs.usda.gov/main/srnf>.

The Karuk Tribe supports a fire and fuels program through the Karuk Department of Natural Resources with offices in both Humboldt (Orleans) and Siskiyou (Happy Camp and Yreka) counties¹⁷. They manage forty to fifty National Wildfire Coordinating Group (NWCG) qualified personnel, including their partners such as the Mid Klamath Watershed Council, Salmon River Restoration Council, and the Cultural Fire Management Council. The Tribe has sponsored one twenty-person NWCG-qualified Type-2 Initial Attack Wildland Fire Crew for over twenty years. This crew is operated under the Bureau of Indian Affairs (BIA) for reimbursement purposes for federal wildland fire and emergency dispatches, and follows all federal guidelines. The Klamath National Forest dispatches the crew for federal emergencies.

The Karuk fire and fuels program recently added a ten-person fuels crew, which is working towards becoming qualified as a Wildland Fire Use Module¹⁸. Most fire and fuels projects are grant funded, involving hazardous fuel reduction by hand treatment or prescribed fire, to reduce the risk of catastrophic wildfire and increase cultural and natural resource resilience while emphasizing Eco-Cultural Revitalization.

Find out more about the Karuk fire and fuels program by calling the Karuk Department of Natural Resources at **(530) 627-3446** or by visiting their website: <http://www.karuk.us/index.php/departments/natural-resources>.

4.3.5 MID KLAMATH 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://humboldt.gov/alerts>) and door-to-door methods to inform residents about the threat and where residents should go to take shelter.

¹⁷ The aboriginal territory of the Karuk people spans both Humboldt and Siskiyou counties.

¹⁸ Fire use module. (n.d.). In *Wikipedia*. Retrieved from https://en.wikipedia.org/wiki/Fire_use_module

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Evacuation routes in the Mid Klamath 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. Highway 96 will, in most cases, serve as the primary evacuation route. There are numerous smaller roads connecting residences and neighborhoods to Highway 96. The narrowness of smaller roads leading to these remote residences could create serious complications for emergency vehicle responses trying to gain access during simultaneous home evacuations. Routes may also be overgrown with vegetation, and many properties have inadequate vehicle turn-around spaces.¹⁹ The potential for landslides in the area could also inhibit access. Other evacuation impediments may include fallen trees or power lines, poorly marked streets and intersections, 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. Adequate ingress and egress along these roads is vital to a large portion of the community that may need access to the main highway evacuation route and for firefighters who will be using the roads to access wildfires burning in up-slope areas.

FIGURE 4.3.6 "HIGH PRIORITY" EMERGENCY ACCESS ROUTES IN THE ORLEANS/SOMES BAR CWPP

Bark Shanty Road	Ishi Pishi Road
Big Rock Road	Lower and Upper Nantucket Roads
Camp Creek Road	Lower Camp Creek Road
East and West Pearch Creek Roads	Madrone Lane Thunder Mountain Road
Eyeese Road	Orleans School Road
Ferris Ranch Road	Red Cap Road
Gold Dredge Road	Ten Eyck Mine Road

Because of their importance, some roads have been given an overall community priority rating as emergency access routes in the Orleans/Somes Bar CWPP. Overall priority for emergency access routes was identified by using a simple point scale corresponding to overall risk and community value rankings. Community value was determined by the number of people served by the route and the route's strategic placement for fire protection for the entire community.²⁰ The majority of the emergency access routes were assessed as having "high" or "medium" overall risk based on fuel hazard, risk of wildland fire occurrence, and level of firefighting capability. The roads listed in *Figure 4.3.6* were rated "high" in overall priority as emergency access routes in the Orleans/Somes Bar CWPP and should be the first to receive wildfire hazard mitigation treatments.²¹

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.²² 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.

¹⁹ Firewise Communities/USA® Recognition Program. (2011). Orleans Community Assessment. (p. 8).

²⁰ Orleans/Somes Bar Fire Safe Council. (2012). Orleans/Somes Bar Community Wildfire Protection Plan. (p. 30).

²¹ Orleans/Somes Bar Fire Safe Council. (2012). Table 5.4: Priority for Other Areas of Community Importance. Orleans/Somes Bar Community Wildfire Protection Plan.

²² 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>.

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.

4.3.6 MID KLAMATH COMMUNITY PREPAREDNESS

There is a rich history of community wildfire preparedness and resilience within this planning unit. Because of the severe level of wildfire risk and past experiences with wildfire, many residents in this planning unit have an acute understanding of the need to take fire hazard mitigation action. This high level of awareness has led to many activities intended to reduce vulnerability to damage from wildfire while keeping the beneficial uses of fire in mind with a focus on wildfire adaptation and resiliency. Wildfire adaptation steps have included managing flammable vegetation around homes and neighborhoods through *manual* and *mechanical fuel reduction* and *prescribed burning*; improving road and home address signage; development of water sources to increase firefighting capacity; fuels treatment along critical access routes; and extensive pre-fire planning efforts in conjunction with the Six Rivers National Forest – Orleans Ranger District. Uniquely situated at the border of two counties (Humboldt and Siskiyou) and two National Forests (Six Rivers and Klamath), the communities within this planning unit not only face a significant risk of wildfire but also face the challenge of collaborating toward the same goal with multiple entities with various strategies and perspectives.

The progress made so far goes to show how those involved are not easily deterred. However, there is still a large amount of work to be done. This Plan encourages continued collaboration and community outreach and a systematic review, revision, and implementation of all relevant planning documents. **The capacity to plan and implement action within this planning unit is high.** At varying levels, work is being guided by the efforts of and collaboration between the Karuk Tribe, the Mid Klamath Watershed Council (MKWC) and Orleans/Somes Bar Fire Safe Council (OSB FSC), the OVFD, Orleans Firewise®, and Six Rivers National Forest. There are also agencies and organizations outside of this planning unit from Siskiyou County and beyond working with those mentioned above to bring wildfire resiliency back to the Klamath Mountains and communities. The following pages provide a review of the active organizations and collaboratives followed by summaries of the planning documents that can be used to inspire and guide action.

Manual fuel reduction: Methods of modifying wildfire fuel complexes without the use of machinery; such treatments may include fire use applications, chemical treatments and livestock grazing

Mechanical fuel reduction: Methods of modifying fuel complexes with machinery; these treatments include: biomass removal, biomass thinning, rearrangement, chipping, piling, felling and piling, crushing, and mastication.

Prescribed burning (Controlled burning): a fire that burns within a range of predetermined conditions (such as fuel moisture content, weather conditions, etc.) that will keep it controllable, at low intensity, and able to achieve its stated objectives. A written, approved prescribed fire plan must exist, and environmental requirements (where applicable) must be met, prior to ignition.

Karuk Tribe

For the Karuk Tribe, fire has long been used to promote forest health. Decades of fire suppression precluded the use of fire as a land management tool and prevented the Tribe from utilizing this cultural practice. But attitudes—and policies—are changing, and as a result the Tribe has been able to increase their use of fire in an effort to restore the natural fire regime and revitalize their cultural management practices. The Karuk Department of Natural Resources (Karuk DNR) is leading these efforts, guided by their mission to:

- “...protect, enhance and restore the cultural/natural resources and ecological processes upon which Karuk people depend. Natural Resources staff ensure that the integrity of natural ecosystem processes and traditional values are incorporated into resource management strategies.”²³

Karuk DNR works towards the fulfillment of their mission in collaboration with local, regional, and national partners. To that end, the 2010 draft Eco-Cultural Resources Management Plan was developed as an implementation strategy and overarching document used to establish “a unified approach to managing the human, cultural/natural resources and interests of the Karuk Tribe”.²⁴ Active participation has been sustained by Karuk DNR staff in the development and maintenance of the Orleans/Somes Bar CWPP and the addition of supplemental addendums; coordination of the Karuk fire and fuels program; development and support of prescribed fire and cultural fire planning efforts and programs; and multiple multi-agency and grassroots collaboratives.

Karuk DNR can be reached by calling **(530) 627-3448**. Find more details at:

<http://www.karuk.us/index.php/departments/natural-resources>

Mid Klamath Watershed Council and the Orleans/Somes Bar Fire Safe Council

Since 2001, community wildfire preparedness within this unit has been guided by the Mid Klamath Watershed Council’s Fire and Fuels program administered by the Orleans/Somes Bar Fire Safe Council (OSB FSC).

- “The mission of the OSB FSC is to help plan, implement, and monitor the reinstatement of historic fire regimes primarily through strategic fuel reduction in a manner that protects life, property, improves forest health, and enhances the resources valued by its stakeholders.”²⁵

Fire safe council (FSC): Public and private organizations that comprise a council intended to minimize the potential for wildfire damage to communities and homeowners, while also protecting the health of natural resources. Goals are achieved by distributing fire prevention materials, organizing fire safety programs, implementing fuel-reduction projects, and more. Visit www.firesafecouncil.org.

²³ Karuk Tribe. (n.d.) Department of Natural Resources Homepage. Retrieved from <http://www.karuk.us/index.php/departments/natural-resources>

²⁴ Karuk Tribe, Department of Natural Resources. (2010). Eco-Cultural Resources Management Plan [DRAFT]. Retrieved from <http://www.karuk.us/index.php/departments/natural-resources>

²⁵ Orleans/Somes Bar Fire Safe Council. (2012). Orleans/Somes Bar Community Wildfire Protection Plan. (p.3).

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The OSB FSC has been awarded nearly \$1 million in grant funding to support projects such as coordinating the creation and maintenance of a local CWPP; participating in multiple collaborative efforts; developing outreach materials; constructing shaded fuelbreaks; developing prescribed burning programs; coordinating community volunteer brushing and burning workdays and the Firewise® program; and running a community mow and chip program. For example, the OSB FSC, along with the Klamath Salmon Media Collaborative have produced three videos: “Sparking a Change: Burning for a Fire-Safe Community and Forest,” which documents their early prescribed burning program, and “Lifestyles of the Rural and Fire Safe,” which highlights local residents who utilize diverse methods to protect their homes from wildfires.²⁶ “Catching Fire” is a longer documentary which details the movement to bring back prescribed fire as a tool to protect communities and ecosystems across Northern California.²⁷

Every three years since 2008, the OSB FSC has hosted the Klamath Fire Ecology Symposium, which attracts fire scientists, managers, students, agencies, and practitioners from across the country to create a shared vision for managing fire in the Klamath Mountains and beyond. This symposium has been instrumental in spurring the progress made within this planning unit, as well as highlighting fire management strategies that are being emulated at the state and national levels.

Additionally, the OSB FSC has collaborated with the County of Humboldt to implement the Fire-adapted Landscapes and Safe Homes (FLASH) program. 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. Through three iterations of FLASH, between 2010 and 2018, over 100 acres were treated on at least 60 different private parcels.

Community workshops, hosted by the OSB FSC and OVFD every few years since 2012 have been held in order to update local information and gather new input regarding wildfire risks and community preparedness. Group mapping exercises during these workshops have been effective in identifying and pinpointing where particular fire hazards exist, the location of protection resources, such as fire water drafting sites, as well as values and assets at risk within the community that could be threatened by wildfire. These workshop processes provided an opportunity for participating community members to ask questions and provide information based on their local knowledge. The workshops also facilitated discussion among community members about potential actions that could reduce fire risks in their community. Through discussion and collaborative processes, participants have identified major hazard areas and compiled lists of project proposals for enhancing their community’s fire preparedness.

The OSB FSC can be reached by calling Will Harling or Nancy Bailey at the Mid Klamath Watershed Council at **(530) 627-3202** or find out more about them at: <http://www.mkwc.org/programs/fire-fuels/about-us>.

Orleans Firewise®

Orleans became a nationally recognized Firewise® community in 2011 and has maintained its Firewise® status since then. OVFD, OSB FSC, and the USFS collaborate to host innovative and interactive Firewise® events in the schools every year, and also complete at least one large community volunteer workday in prioritized areas with other partners. Firewise® days are also often incorporated into other community events, such as The Old Timers Day Parade and Picnic, where OVFD fire trucks are on parade and fire-safe educational materials are distributed to landowners. This group maintains a Firewise® community wildfire assessment and action plan. These documents are excellent tools for communities to learn about wildfire hazards in their area and collaboratively identify actions to reduce those hazards. In

²⁶ These two videos are available on the OSB FSC Youtube channel: <https://www.youtube.com/user/osbfiresafe>

²⁷ “Catching Fire” is available on the Klamath Salmon Media Collaborative Youtube channel:

https://www.youtube.com/channel/UCoqIL7tRYooQEGp_CW_izvQ

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2014, the National Fire Protection Association (NFPA) awarded Orleans, along with four other communities in the country, a grand prize for the community's wildfire preparedness work.

For more information about Orleans Firewise® contact the OVFD at **(530) 627-3344** or the OSB FSC at **(530) 627-3202** or access Orleans Community Assessment and Orleans Firewise® Action Plan at: <https://humboldt.gov/735/Orleans>.

Firewise®/Firewise Communities/USA® Recognition Program: (1) A national, multi-agency effort designed to reach beyond the fire service by involving homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire before a fire starts. (2) Firewise® offers a series of practical steps that individuals and communities can take to minimize wildfire risks to people, property, and natural resources. It emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home evacuation and design, landscaping and maintenance.

Klamath Prescribed Fire Training Exchange

Since 2012, the Klamath Prescribed Fire Training Exchange (Klamath TREX) has been hosted within the planning unit and beyond into Siskiyou county. The Klamath TREX is organized and implemented through a partnership between MKWC, the Karuk Tribe, OVFD, the Nature Conservancy, and the Fire Learning Network. More recently, help has been provided by CAL FIRE and the USFS. TREX is an annual two-week training in the use of prescribed fire. Over 1,500 acres have been burned and over 600 individuals trained through this program. The benefits of TREX go far beyond numbers of acres burned and include the enhancement of cultural resources; the quality and scope of the training experience; the relationships established and nurtured; and the partnerships strengthened. TREX has also provided a unique opportunity for collaboration between local groups and federal agencies to work across property boundaries on large-scale fuel reduction projects, which is critical within this unit where many private properties abut federal land.

Western Klamath Restoration Partnership

Western Klamath Restoration Partnership (WKRP)²⁸ began in 2007 as a collaborative partnership between local, federal, state, and Tribal groups to facilitate restoration projects. The WKRP is a demonstration project of the National Cohesive Wildland Management Strategy (Cohesive Strategy)²⁹ providing an example of how to work collaboratively on fire management challenges at a larger scale and across all lands. The vision of the WKRP is to:

- Establish and maintain resilient ecosystems, communities, and economies guided by cultural and contemporary knowledge through a truly collaborative process that effectuates the revitalization of continual human relationships with our dynamic landscape.³⁰

Importantly, the WKRP has demonstrated the benefits of collaboration among stakeholders with diverse perspectives when applied to the shared goal of land restoration.

²⁸ Western Klamath Restoration Partnership. (n.d.). Homepage. [Web]. Retrieved from <https://www.wkrp.network>

²⁹ Western Klamath Restoration Partnership. (n.d.). Cohesive Strategy. [Web]. Retrieved from <https://www.wkrp.network/cohesive-strategy>

³⁰ Harling W. and Tripp, B. (2014). Western Klamath Restoration Partnership: A Plan for Restoring Fire Adapted Landscapes. Retrieved from <http://www.mkwc.org/programs/fire-fuels/policy-and-management/western-klamath-restoration-partnership>

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The Orleans fire in 2013, which burned right through the center of town, was a wakeup call for many. In the five years following that fire and the publication of the last County CWPP, this community has picked up speed and made incredible progress in preparing for wildfire. Below is a summary of those accomplishments.

FIGURE 4.3.7 MID KLAMATH: FIRE PREVENTION ACCOMPLISHMENTS³¹

Enhancing Fire Protection: Helping Firefighters Protect the Community

Ongoing: Mid-Klamath Watershed Council (MKWC) rents the firehall to the Orleans Volunteer Fire Department (OVFD) for \$1/year and works closely with OVFD to implement the Firewise program and the Prescribed Fire Training Program (TRES).

2014: Through the Firewise program, school children painted town water hydrants. Eight road signs were installed around town. OVFD received Measure Z funding for eight sets of SCBA (Self Contained Breathing Apparatus).

2015: OVFD received Measure Z funding for ten sets of personal protective equipment and structural and wildland turnouts.

2016: OVFD received Measure Z funding for a new Type II Structure Engine and a local landowner donated one acre of land for a new fire station.

2017: OVFD received Measure Z funding for materials to build new fire station and acquired a brand new mini-pumper through a FEMA grant.

Encouraging and Implementing Defensible Space Throughout Humboldt County

Ongoing: Each year through the OSB FSC Mow and Chip Program (a fee for service program), FSC crew mows between 10 and 20 acres in and around town. Some years we are able to subsidize the costs through grant funding.

2013: Through funding from the USFWS, the brushing crew reduced fuels on seven properties, each of which included defensible space.

2014: Lower Camp Creek Demonstration Project. Over 20 community members participated in three day event. Catching Fire: Prescribed Burning in Northern CA [Video]³², produced by Klamath Salmon Media Collaborative, tells the story of the neighborhood that barely escaped the 2013 Orleans Fire.

2016: FLASH program enabled 16 local residents to complete defensible space and roadside projects on 25 acres. Firewise Demonstration Project on Ishi Pishi road, a roadside clearing involving neighbors, OSB FSC chipper and crew, and the Hoopa Tribal Civilian Community Corps.

2017: New round of the FLASH program obtained commitments from 8 local landowners to complete defensible space projects on a potential of 17 acres. Brushing crew and volunteers revisited the Lower Camp roadside and defensible space areas initially treated in 2014.

Creating Fire-Safe Communities: Empowering Residents to Take Responsibility

The ongoing (funded in 2014 and 2016) FLASH program represents a good example of residents taking responsibility. In each round of this program, we have exceeded our target number of acres.

Promoting Fire-Safe Education

2014: Firewise Day held in conjunction with the Old Timers Parade, which had a fire safety theme. OSB FSC "Defensible Space" float won first prize. MKWC hosted the fourth Klamath Fire Ecology Symposium (KFES). FLASH technicians accomplished Home Risk Assessments at ten of the participating properties.

³¹ These accomplishments are organized under the 2013 CWPP action plan categories.

³² Catching Fire: Prescribed Burning in Northern CA. Youtube, produced by Will Harling and Jenny Staats, narrated by Peter Coyote, music by Red Richardson. Klamath Salmon Media Collaborative. (2012). Retrieved from <https://youtu.be/LWriDpfZnXQ>

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FIGURE 4.3.7 MID KLAMATH: FIRE PREVENTION ACCOMPLISHMENTS, CONTINUED

2015: Six separate school Firewise events were coordinated by the Firewise committee.

2016: Firewise events at Orleans and Junction elementary schools. FLASH technicians accomplished Home Risk Assessments at nine of the participating properties.

2017: Firewise events at Orleans and Junction elementary schools. Fifth KFES.

2018: Firewise events at Orleans and Junction elementary schools. Free Chipping day on Wildfire Community Preparedness Day in collaboration with the Karuk Tribe.

Reducing Hazardous Fuels Throughout Humboldt County

2013: FSC Brushing crew with support from the US Fish and Wildlife Service, thinned 64 acres on seven private properties, enhancing wildlife habitat, and accomplishing fire-safe fuels reduction at the same time.

MKWC, in partnership with the Nature Conservancy's Fire Learning Network, hosted the second Klamath Prescribed Fire Training exchange (TREX) which burned 85 acres (55 acres in Humboldt County) on private land from Ti Bar to Orleans.

2014: Brushing crew implemented 59 acres of fuels reduction on eight private properties funded by the California Fire Safe Council and US Fish and Wildlife. TREX put prescribed fire on 240 acres on 17 properties protecting 150 homes, including 190 acres in Humboldt County.

2015: Brushing crew restored vegetation on 99 acres across nine private properties funded by the California Fire Safe Council, US Fish and Wildlife Partners Program and the US Forest Service. Through collaboration with at least 17 partner organizations, including local, tribal, state, and federal fire management entities, a highly successful TREX program implemented nearly 400 acres of prescribed fire in five local communities, including 285 acres in Humboldt County.

2016: Through FLASH, 16 local residents completed defensible space/fuels reduction projects on 25 acres. Brushing crew implemented thinning and brushing on 95 acres of private and Tribal property. TREX burned 405 acres on 27 properties, including 184 acres in Humboldt County. The Western Klamath Restoration Partnership (WKRP) made significant progress on planning the 6500 acre Somes Bar Integrated Fire Management Project (at the border of Humboldt County)

2017: OCSB FSC brushing crew reduced fuels on public (Orleans Community Fuels Reduction units) and private land amounting to 130 acres.

TREX program burned 310 acres, including 143 acres in Humboldt County.

2018: OSB FSC brushing crew reduced fuels on 95 acres of public land (through a contract with the Karuk Tribe) and 10 acres of private land in Humboldt County.

Klamath River TREX program burned 270 acres, 186 of which were in Humboldt County. For the first time, TREX organizers received no complaints of smoke were received.³³



Controlled burn, TREX program. Photo: MKWC.



Orleans Fire Crew reviewing the day's assignment. Photo: MKWC.

³³ For an informative summary of the 2018 TREX program, see the North Coast Journal article *Changing the Landscape* by Malcolm Terence, available at: <https://www.northcoastjournal.com/humboldt/changing-the-landscape/Content?oid=12063326>

4.3.7 MID KLAMATH LOCAL WILDFIRE PREVENTION PLANS

A tremendous amount of work related to fire-planning has been completed in this planning unit including the publication of the 2012 Orleans/Somes Bar CWPP, which provides more detail than this County CWPP unit action plan. In addition, the Orleans community completed the Firewise® assessment and associated action plan as part of the Firewise® certification process. Additional plans and documents have been developed for the Klamath Mountains including the area within this planning unit and beyond. The sections below summarize these complimentary plans.

Orleans/Somes Bar CWPP

The Orleans/Somes Bar Fire Safe Council (OSB FSC) coordinated the creation of the Orleans/Somes Bar CWPP, completed in January 2012. Collaborators include Orleans VFD, USFS, Karuk Tribe, CAL FIRE, Salmon River FSC, the Humboldt County FSC, and the FSC of Siskiyou County. The Plan's primary goals are "to protect life, property, and resources in and around the Orleans/Somes Bar community, especially in regards to protection from wildland fire."³⁴ The Plan is also intended to enhance collaboration between local, state, Tribal, and federal wildland fire protection agencies as well as community members, and to provide communities, agencies and the Karuk Tribe with information that can be used to guide the planning and implementation of community fire-safety projects.

The following summarizes the types of projects proposed in the Orleans/Somes Bar CWPP. A complete copy of the Orleans/Somes Bar CWPP can be found on the Mid Klamath Watershed Council website: <http://mkwc.org/programs/fire-fuels/publications>.

- Education
- Planning and Coordination
- Fuels Reduction
- Policy
- Biomass Utilization
- Fire Protection
- Research and Monitoring

Orleans Firewise® Action Plan

The OSB FSC, in collaboration with the OVFD, and with support from the County of Humboldt and CAL FIRE, achieved national Firewise® recognition for the community of Orleans in November 2011. As part of the certification process, the OSB FSC authored the Orleans Firewise® Community Assessment and Action Plan. These two documents provide residents with information and guidance for taking action on an individual and community-wide level to address wildfire hazards. Since the writing of the Firewise® Action Plan, this proactive community has gone above and beyond the goals they set for themselves in 2011. *See Figure 4.3.7, Mid Klamath: Fire Prevention Accomplishments for a list of accomplishments in this unit over the last five years.*

Western Klamath Restoration Partnership: A Plan for Restoring Fire Adapted Landscapes

A Plan for Restoring Fire Adapted Landscapes³⁵ was developed through the WKRP as a result of intense collaboration between the Karuk Tribe, the Mid Klamath Watershed Council, the US Forest Service, area Fire Safe Councils, environmental groups and other community-based stakeholders. This process resulted in a plan for three integrated fire management projects on a landscape-level. These projects include the Salmon River Integrated Large Fire Management Project; Somes Bar Integrated Fire Management and Capacity Development Project; and Happy Camp Integrated Community Protection and Workforce

³⁴ Orleans/Somes Bar Fire Safe Council. (2012). Orleans/Somes Bar Community Wildfire Protection Plan. (p. 3).

³⁵ Harling W. and Tripp, B. (2014). Western Klamath Restoration Partnership: A Plan for Restoring Fire Adapted Landscapes. Retrieved from <http://www.mkwc.org/programs/fire-fuels/policy-and-management/western-klamath-restoration-partnership>

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Development Project in Del Norte County. This Plan is a valuable resource for communities in Humboldt County and beyond, seeking guidance on landscape-level wildfire planning that emphasizes inclusivity and collaboration.

Eco-Cultural Resources Management Plan

In 2010, the Karuk Tribe published the draft Eco-Cultural Resources Management Plan³⁶, which outlines an integrative and adaptive approach to resource management that utilizes Traditional Ecological Knowledge supported by western science. The plan provides extensive historical context and articulates clear values, principles, and mission. The plan outlines draft cultural environmental management practices highlighting resource objectives and management indicators for a variety of activities, including the reduction of fuel loading in areas such as key ridge systems, riparian zones, adjacent to homes, and along forest roads. Although this is a draft plan, it is a useful guide and is looked to as a living document. It is projected to be complete within the next five to ten years.

Karuk Climate Change Projects

The Karuk Climate Change Projects website provides a climate vulnerability assessment, which can inform both adaptation and mitigation efforts, and includes preliminary action recommendations. In addition, the value of and importance of maintaining sovereignty over Karuk Traditional Ecological Knowledge is discussed and “the hope of opening up a space for more cross-cultural collaboration and management in the face of climate change” is expressed.³⁷ The resources on this site can be used to guide action now and as a foundation for a detailed Climate Adaptation Plan. The increased risk of high severity wildfire in the face of climate change is identified as a pressing issue. All of the information provided on this site should be reviewed and understood by anyone wishing to understand the anticipated role of climate change and associated wildfire behavior and impacts in this area as well as the history of the Karuk Tribe’s relationship to fire and their work to mitigate those impacts.

The Karuk Tribe Department of Natural Resources also produced a publication titled “Electrical Ignitions, Wildfire Risk and Community Climate Adaptation in Northern California”.³⁸ The changing climate and associated impacts on fire risk and behavior and vulnerable rural communities are discussed, as well as the relationship between wildfire ignitions and power lines. The report provides climate change adaptation recommendations based on a combination of western science and traditional Karuk fire knowledge. This publication may become an addendum to the Orleans/Somes Bar CWPP and the analysis and recommendations should be replicated in other areas of the county and region.

The Yurok-Hupa-Karuk Healthy Country Plan

The Yurok-Hupa-Karuk Healthy Country Plan³⁹ is being prepared through a team effort involving tribal members and invited guests. The process is being guided by facilitators from the Fire Learning Network⁴⁰.

³⁶ Karuk Tribe, Department of Natural Resources. (2010). Eco-Cultural Resources Management Plan [DRAFT]. Retrieved from <http://www.karuk.us/index.php/departments/natural-resources>

³⁷ Karuk Tribe. (2016). Karuk Climate Change Projects. Historic Fire Regimes. Used with permissions and retrieved from <https://karuktribeclimatechangeprojects.wordpress.com>

³⁸ Karuk Tribe, Department of Natural Resources. (2018). Electrical Ignitions, Wildfire Risk and Community Climate Adaptation in Northern California. [PDF]. Retrieved from <http://www.karuk.us/images/docs/dnr/kari%20norqaard%20-%20Climate%20Change%20and%20Critical%20Infrastructure%20FINAL.pdf>

³⁹ When the Yurok-Hupa-Karuk Healthy Country Plan is finalized, it will be available at: <http://www.karuk.us/index.php/departments/natural-resources>

⁴⁰ The Fire Learning Network (FLN), launched in 2002, is a joint project of The Nature Conservancy, the USDA Forest Service and several agencies of the U.S. Department of the Interior (Bureau of Indian Affairs, Bureau of Land

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Many who are involved in this process serve on the leadership and/or advisory team of the Indigenous Peoples Burn Network (IPBN). The Healthy Country Plan is a document that will be used to guide the future application of fire in the Tribes' respective territories. Ideally, this plan will help bring traditional burning back to levels practiced before European contact. Strategies outlined in the draft plan include the following:

- Establish a family-led burn program in each tribe/community.
- Build local capacity for cultural burning.
- Initiate collaborative burning and learning opportunities.
- Strengthen state support of cultural burning.
- Strengthen federal support of cultural burning.

Six Rivers National Forest Plans

The Six Rivers National Forest Land and Resource Management Plan (LRMP)⁴¹, published in 1995, directs the management of the Six Rivers National Forest for a 10-15 year planning period. The Plan provides specific direction to national forest managers and identifies specific goals related to watershed health, plants and wildlife, and wildfire. The standards and guidelines set forth under the Fire and Fuels Management section of the Plan emphasize protection of structures and sensitive natural resources while also encouraging managers to seize opportunities to let wildfire take its natural course, whenever possible. In recognition of the ecological importance of fire to the health of California forests, particular emphasis is placed on using prescribed fire as a tool for achieving resource management objectives.

In 2011, the Forest Service, Pacific Northwest Region published the Ecological Restoration Implementation Plan⁴², which echoes many of the management goals of the LRMP but focuses in on resiliency, productivity, and diversity. The Plan's chapter on Six Rivers National Forest cites the SRNF Rivers to Ridges Restoration program, which has supported a number of successful fuels reduction projects in recent years.

The Six Rivers National Forest also participates in implementing the National Cohesive Wildland Management Strategy, a collaborative and broad-based guidance document rooted in the best available science. The National Strategy "establishes a national vision for wildland fire management, defines three national goals, describes the wildland fire challenges, identifies opportunities to reduce wildfire risks, and establishes national priorities focused on achieving the national goals."⁴³ The Western Regional Action Plan provides more specific direction for western states, including California. Its implementation is supported and facilitated by the Western Regional Strategy Committee.⁴⁴

Management, Fish & Wildlife Service and National Park Service). Find out more about the FLN at:

<https://www.conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/Pages/fire-learning-network.aspx>

⁴¹ Six Rivers National Forest Service. (1995). Six Rivers National Forest Land and Resource Management Plan. Retrieved from <https://www.fs.usda.gov/detailfull/srnf/landmanagement/planning/?cid=stelprdb5084033&width=full>

⁴² Six River National Forest Service. (2011). Ecological Restoration Implementation Plan. Retrieved from <https://www.fs.usda.gov/detail/srnf/home/?cid=STELPRDB5411627>

⁴³ Forests and Rangelands. (2014). National Cohesive Wildland Fire Management Strategy. Retrieved from <https://www.forestsandrangelands.gov/strategy>

⁴⁴ Visit the West Regional Strategy Committee website for more information and a copy of the Western Regional Action Plan: <http://wildfireinthewest.blogspot.com/p/p.html>

4.3.8 MID KLAMATH COMMUNITY IDENTIFIED POTENTIAL PROJECTS

As part of the larger collaborative planning process to create this countywide CWPP, 14 community wildfire preparedness workshops were held throughout the County. *See Chapter 1.2 Collaborative Planning, Process and Appendix B, Planning Process Details for more information.* The workshop for this planning unit was held on October 30, 2017 in the Panamnik Building 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 countywide fire-planning process and the 2012 and 2017 Humboldt County 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 4.3.3*). New or confirmed existing project ideas proposed during the 2017 update process are summarized in *Figure 4.3.8* and *4.3.9* 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 4.3.2*) 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 4.3.8 MID KLAMATH: COMMUNITY-IDENTIFIED PROPOSED PROJECTS
○ Outreach to cannabis growers: encourage participation in community wildfire planning/preparedness.
○ Fundraise for and construct new fire hall.
○ Educate residents regarding hazards of wooden fences.
○ Harden homes and support prescribed burns: Gold Dredge Area.
○ Harden homes and support prescribed burns: Camp Creek Area.
○ Collaborate with USFS to organize winter time “chews crews”.

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The local residents who attended the October 30, 2017 workshop identified the following projects 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.

FIGURE 4.3.9 MID KLAMATH: NEW COMMUNITY-IDENTIFIED PROJECTS		
PROJECT DESCRIPTION	PROJECT TYPE	PROJECT ID
Red Cap Road – needs stabilization (road collapsing)	Access/Evacuation	ORL487
Le Perron Road fuels reduction	Landscape	ORL483
Upper Red Cap Creek fuels reduction	Landscape	ORL484
Owl Mine fuels reduction, burn jackpots	Landscape	ORL485
Fuel reduction after snow downs	Landscape	ORL495, 496, 499, 500, 502
Fuels reduction buffers between USFS and private land	Landscape	Non-geographic
Systematic fuels reduction at Tishanik	Landscape	Non-geographic
Burn jackpots in winter (NEPA use moisture gradients)	Landscape	Non-geographic

4.3.9 MID KLAMATH 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, 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.

- **T**he residents of the Mid Klamath Planning Unit are fortunate to live in an area where the Karuk Tribe and local organizations such as MKWC, OSB FSC and OVFD support efforts to prepare for and protect them from wildfire and make progress towards community wildfire resilience. This CWPP recommends that these groups work together and with members of the community to evaluate, further develop, seek funding for, and/or implement—as appropriate and feasible—the community-identified priority actions listed above as well as the community-identified potential projects stored in the Web GIS Portal. Perform this same process for actions identified in the *Orleans/Somes CWPP*, *Orleans Firewise Action Plan*, the Western Klamath Restoration Partnership's *A Plan for Restoring Fire Adapted Landscapes*, the *Karuk Climate Change Projects*, the *Karuk Eco-Cultural Resources Management Plan*, the *Yurok-Hupa-Karuk Healthy Country Plan*, this *Priority Action Recommendations* list, and the *Action Catalogue* below. Different groups will likely be involved at varying levels depending on the focus and scope of each plan. **The capacity within this unit is sufficient to meet the needs of wildfire preparedness ranging from hardening homes to influencing management practices in the Klamath Mountains and watersheds.**
- **M**aintain the plans listed above so that they retain their relevancy and effectiveness as tools to inspire and guide action.

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- **C**ontinue to grow the collaborative relationship between the Karuk Tribe (Karuk DNR and other applicable departments as well as Tribal members), MKWC, OSB FSC, OVFD, CAL FIRE, Six Rivers National Forest, and local community members.
 - Continue participation in the Western Klamath Restoration Partnership.
- **M**aintain and support the OSB FSC as a vehicle for synthesizing the multitude of planning efforts and programs and working with community members on implementing recommended actions as appropriate.
 - Inspire more community and Tribal involvement in the OSB FSC with outreach about what they do and how to get involved.
 - Ensure that the OSB FSC continues to be represented on the Humboldt County FSC and consider nominating a Karuk Tribal member.
 - Increase outreach to marijuana/cannabis growers and encourage participation in community wildfire planning and preparedness.
 - Support the continuation of the Orleans/Somes Bar FSC Mow and Chip/Fee for Service Program.
- **M**aintain 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 in Orleans and neighborhoods throughout the planning unit.
 - Continue to host an annual Firewise® Day.
- **P**riority areas within this planning unit for fuels reduction and outreach, with an emphasis on hardening homes to facilitate safe nearby prescribed burns, 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:
 - Orleans
 - Gold Dredge Area
 - Camp Creek Area
 - Consider using the Perch Creek Watershed as a model, demonstrating the establishment of fire resilient forests protecting a municipal watershed, fire hardened water supply infrastructure, neighborhood home hardening and defensible space maintenance, and coordination with Six Rivers National Forest on the management of hazardous fuels on their lands adjacent to private homes.
 - **Use the Orleans Somes Bar CWPP as a resource for identifying which additional neighborhoods are priorities.**
- **T**he high fire danger, a large and dispersed WUI population, the large number of dead-end roads leading to multiple residences, and a need for increased 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.
 - **Use the Orleans Somes Bar CWPP as a resource for identifying which neighborhoods are priorities.**

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- 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.
 - Continue to develop the Community Liaison Program to provide community input to wildfires and other emergencies.
 - Identify and map local evacuation routes and sites.
 - 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.
 - Address road conditions that inhibit effective evacuation and access by emergency responders. Begin by systematically identifying and mitigating such access impediments. Evaluate areas of Red Cap Road that are collapsing and need stabilization (ORL487).
 - 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 access roads, and roads leading to remote, hard to access residences. **See the Orleans/Somes Bar CWPP for a list of priority roads.**
 - **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.
 - Le Perron Flat Road area prescribed fire project (ORL483).
 - Shelton Butte Road area prescribed fire project (Upper Red Cap Creek) (ORL484).
 - Owl Mine area prescribed fire project (burn jackpots) (ORL485).
 - Fuel reduction after snow downs (ORL495, 496, 499, 500, 502).
 - **S**eek funding and support to extend prescribed fire programs to a longer period so that burning, mop up, and monitoring can continue until a season ending event (heavy rains). Having the resources to maintain a burn team to conduct these activities as long as possible would be beneficial.
 - **S**upport the Karuk Tribe in efforts to establish a program that can safely and effectively facilitate family based burning.
 - **W**ork with PG&E and local landowners to reduce fuels along power line easements.
 - Approve and implement the power infrastructure supplemental addendum submitted by the Karuk Tribe to the Orleans/Somes Bar CWPP.

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- **C**ontinue to explore options and make progress on local fire service sustainability efforts such as:
 - Pursuing funding, in addition to the Public Safety and Essential Services half-cent sales tax, to rebuild the OVFD fire hall;
 - Communicating the need for and help with developing a strategy for the repair of a defective repeater to improve radio communications;
 - Recruiting and retaining volunteers;
 - Establishing consistent and sustainable revenue sources; and
 - Ensuring that all appropriate areas are within the boundaries of a fire related district through district formation, annexation, and consolidation.
- **W**ork with the HCFSC to share successful local strategies to help inspire similar action throughout the county.
- **S**hare GIS data sets between local representatives and County staff to maintain the fire planning features included in the County Web GIS Portal (webqis.co.humboldt.ca.us/HCEGIS2.6_CWPP). Compare GIS fire planning datasets 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 another appropriate location. 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)*.

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Action Catalogue:

This Action Catalogue lists additional 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 Humboldt County Fire Safe Council (HCFSC). To contact the HCFSC, call **(707) 267-9542**, or email cimmitt@co.humboldt.ca.us. In addition, the Orleans/Somes Bar CWPP and other locally developed plans provide detailed recommendations similar to the general guidance listed on the following pages. To guide local action, review those plans first.

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.
- **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/or distribution of a variety of informational materials.
 - Use existing materials as much as possible and develop materials tailored to the local community as needed and able.
 - 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.
 - Include compelling stories about past wildfire events.
 - Encourage local volunteer/service organizations or schools to perform community service activities including delivering literature to homeowners or clearing around and painting fire hydrants.
- **P**rovide residents with information about ways to reduce structural ignitability and maintain adequate defensible space around their homes. See details in the *Priority Action Recommendations* above.
- **C**ollaborate to create defensible space for elderly, disabled, and low-income residents who are unable to do the work themselves.
- **F**ocus roadside fuel reduction efforts on priority ingress and egress routes for safe evacuation. See details in the *Priority Action Recommendations* above.

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- **R**aise awareness of Sudden Oak Death and the fire hazard that afflicted trees pose. Identify hot-spots for Sudden Oak Death infected trees. Conduct fuels reduction projects in those areas to prevent spread and mitigate fire hazard. Seek guidance from organizations such as University of California Cooperative Extension.
- **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 ways 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 a Community Emergency Response Team or CERT. 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. Priority roads to evaluate include:
 - Downs Ranch Road
- **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.
- **I**ncrease the availability of water for fire protection by investing in more community water tanks and ensuring existing water tanks are outfitted with fittings compatible with firefighting equipment.
- **C**onduct maintenance on existing water sources, broaden community awareness about water usage and source locations, work on developing additional water sources, and encourage residents to adapt their water sources to the needs of fire protection equipment. Search for grant funding to aid these efforts.
- **W**ork on ways of improving ingress and egress, such as opening access to emergency response vehicles on connective private roads, and creating fire engine turn-around spaces.

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Fire Protection

- **S**upport the OVFD 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 the OVFD.
- **H**elp the OVFD raise funds by making donations directly and/or organizing fundraising events or efforts.

Restoration of Beneficial Fire

- **C**ontinue TREX burning program.
- **A**ssess and evaluate the effectiveness of strategies within the Burned Area Emergency Response (BAER) program.
- **P**rovide resources to private landowners interested in implementing prescribed burns on their property, including the contact information for the Karuk Tribe, MKWC, CAL FIRE, UC Cooperative Extension, the Humboldt County Prescribed Burn Association, and the Northern California Prescribed Fire Council.⁴⁵
- **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 land managers garner local support for using prescribed fire or managed wildfire on the public lands they manage.

Integrated Planning

- **I**ntegrate the evaluation, development, and implementation of all relevant planning documents. See details in *Priority Action Recommendations* above.
- **C**oordinate the implementation and maintenance of the Orleans Somes Bar CWPP, this CWPP, and Firewise Assessments and Action Plans.
- **A**ugment collaboration between fire protection and forestry organizations as well as community members to develop more cohesive wildland fire-management strategies.
- **S**hare GIS data sets between local representatives and County staff to maintain the fire planning features included in the County Web GIS Portal. See more about this action in *Priority Action Recommendations* above.

⁴⁵ 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 lquinndavidson@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.