

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

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APPENDIX A: CWPP REQUIREMENTS

Healthy Forest Restoration Act,

Criteria for Certification as a Community Wildfire Protection Plan

The National Fire Plan¹ directed federal agencies to "work directly with communities to ensure adequate protection from wildfires, and to develop a collaborative effort to attain the desired future condition of the land."² A CWPP, as defined by the HFRA, is a plan for a community at risk that fulfills the following criteria:

- 6 The plan was developed within the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the applicable local government, local fire department, and State agency responsible for forest management, in consultation with interested parties and the Federal land management agencies managing land in the vicinity of the at-risk community. 9

Collaboration

As documented in *Part 1* and *Appendix B*, this CWPP was collaboratively developed through various channels. Significant efforts were made throughout the planning process to collaborate with local, state, and federal land and fire management agencies. The Humboldt County Fire Safe Council (HCFSC) collaboratively guided the planning process; it is made up of members and advisors from local FSCs, the Humboldt County Fire Chiefs' Association (Fire Chiefs), individual local fire departments and companies, the Humboldt County Office of Emergency Services, the Hoopa Valley Tribe, CAL FIRE, Six Rivers National Forest, North Coast Unified Air Quality Management District, and the insurance industry. In addition, community workshops and outreach efforts were designed and conducted to maximize community input into the process. *For more information on the planning process, see Chapter 1.2, Collaborative Planning Process.*

- 6 The plan identifies and prioritizes areas for hazardous fuel-reduction treatments and recommends the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk communities and essential infrastructure. 9

Prioritized Fuel Reduction

This CWPP identifies priority areas for hazardous fuel-reduction treatments and recommends types and methods of treatment to reduce the risk of wildfire to communities and resources within the planning area. The process and policies to support prioritized treatments can be found in *Part 3, Countywide Action Plan*. Locally prioritized treatment areas are identified in the *Planning Unit Action Plans* in *Part 4*. Detailed community-identified fuel-reduction project data are stored and maintained in a Geographic Information System (GIS); the Humboldt County Web GIS is a web-based mapping tool that allows users to interact with this data and is available at: https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP.

¹An informative summary of the National Fire Plan can be found at: Forests and Rangelands. (n.d.). Resources: Previous Wildland Fire Management Initiatives. Retrieved from <http://www.forestsandrangelands.gov/resources/overview/index.shtml>

²California Fire Alliance. (2018). Organization and History. Retrieved from <http://www.preventwildfireca.org/Organization-History>

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Treatment of Structural Ignitability

‘ The plan recommends measures to reduce structural ignitability throughout the at-risk community. ’

This CWPP recommends measures to reduce the ignitability of structures throughout the planning area. These recommendations can be found in *Chapter 3.2 Wildfire Preparedness of Part 3, Countywide Action Plan; Part 4, Planning Unit Action Plans; and Appendix H, Living with Wildfire*. In addition, the community workshops conducted during the development of the Plan served as an important venue to educate the public about reducing fire risks to structures, both through presentations by CAL FIRE and the local fire service, and through the distribution of educational materials.

National Cohesive Strategy

Although this Community Wildfire Protection Plan process originated with the directives of the 2001 National Fire Plan, new guidance has since been developed, policy titles have changed, and new priorities have been identified—all of which have also been incorporated in this CWPP.

The Wildland Fire Leadership Council (WFLC)—an intergovernmental committee of federal, state, tribal, county, and municipal government officials that provides strategic oversight to ensure policy coordination, accountability, and effective implementation of Federal Wildland Fire Management Policy—directed the development of the National Cohesive Wildland Fire Management Strategy (Cohesive Strategy). The Cohesive Strategy is a collaborative process involving all levels of government, as well as non-governmental organizations and the public in pursuit of “all-lands” solutions to wildfire management issues. It is intended and envisioned “to safely and effectively extinguish fire, when needed; use fire where allowable; manage our natural resources; and as a Nation, live with wildland fire.”³ From that vision, three primary goals emerged:

- Restoring and Maintaining Fire-Resilient Landscapes,
- Creating Fire-Adapted Communities, and
- Improving Response to Wildfires.

This CWPP shares the Cohesive Strategy’s goals and aims to promote the implementation of policies and actions to further these goals. *Chapter 5.2, Wildfire Environment* examines the factors that make landscapes more resilient or vulnerable to catastrophic wildfire events, acknowledges the crucial role that fire plays in shaping healthy landscapes, and examines current issues and potential scenarios related to climate change. *Chapter 3.5, Restoration of Beneficial Fire* identifies innovative actions to restore and maintain fire-resilient landscapes in Humboldt County.

Various sections of the *Countywide Action Plan* found in *Part 3*, as well as the *Planning Unit Action Plans* in *Part 4*, and *Appendix H, Living with Wildfire* identify actions to create, promote, and support fire-adapted communities.

Chapter 5.3, Wildfire-Protection Capabilities, and *Chapter 3.4, Fire Protection* of the *Countywide Action Plan* address the importance of lending administrative and community support to fire-protection entities and identify priority actions to improve wildfire response in Humboldt County.

The synergistic approach of the Cohesive Strategy coincides with the collaborative processes adopted within this CWPP; its development has been widely inclusive and recommendations for moving forward with its implementation advocate for the active involvement of all stakeholders and levels of government.

³ Forest and Rangelands. (2014). National Cohesive Wildland Fire Management Strategy. [PDF]. Retrieved from www.forestsandrangelands.gov/strategy/documents/reports/1_CohesiveStrategy03172011.pdf

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2018 Strategic Fire Plan for California

This County CWPP also aligns itself with the goals of the California Strategic Fire Plan. Adopted in August 2018, the California Strategic Fire Plan was a cooperative effort between State Board of Forestry and Fire Protection and CAL FIRE, and is designed to act as a road map for reducing the risk of wildfire in California. The Strategic Fire Plan is guided by a vision of “a natural environment that is more fire resilient; buildings and infrastructure that are more fire resistant; and a society that is more aware of and responsive to the benefits and threats of wildland fire; all achieved through local, state, federal, tribal, and private partnerships”⁴. The Plan is built upon eight goals and their associated objectives; each goal is meant to build upon the previous one. The Strategic Fire Plan’s goals are intended to “enhance the protection of lives, property and natural resources from wildland fire, as well as improve environmental resilience to wildland fire”⁵. The goals of this County CWPP are consistent with those of the state; they provide an excellent summation of the overarching aspirations and wider purpose of community wildfire protection planning.

⁴ State Board of Forestry and Fire Protection & California Department of Forestry and Fire Protection (CAL FIRE). (2018). 2018 Strategic Fire Plan for California. Retrieved from http://cdfdata.fire.ca.gov/fire_er/fpp_planning_cafireplan

⁵ State Board of Forestry and Fire Protection & CAL FIRE. (2018). 2018 Strategic Fire Plan for California.

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APPENDIX B — PLANNING PROCESS

B.1 CWPP UPDATE COMMITTEE

The CWPP Update Committee was made up of representatives from the Humboldt County Fire Safe Council (HCFSC) and supported by the Project Staff. The Committee’s responsibility was to provide guidance and leadership for the CWPP update and associated public outreach, and make project decisions between HCFSC meetings as needed. Staff worked closely with this committee for much of 2017, until the Work Group process began. Committee members are:

- Bill Eastwood, Southern Humboldt Fire Safe Council
- Dorie Lanni, Humboldt County Sheriff’s Office of Emergency Services (OES)
Alternate (2017): Bryan Lee
- Mike Lake, Fruitland Ridge Fire Protection District and Southern Humboldt Fire Chiefs’ Association
- Robert Rivelle, Six Rivers National Forest
(Non-voting advisor)
Alternates: Amy Ziegler, Eamon Engber
- Will Harling, Orleans/Somes Bar Fire Safe Council//Mid Klamath Watershed Council
- Ronald McLaughlin and Chris Ramey, CAL FIRE, Humboldt – Del Norte Unit (Non-voting advisor)
Alternate: Jason Butcher

B.2 WORK GROUPS

Following the October 2017 Humboldt County Fire Safe Council meeting, and the identification of the six goal areas at that meeting, a Work Group composed of HCFSC members and collaborators was established for each *Countywide Action Plan* goal area—the six chapters of *Part 3* of this CWPP. The following table identifies the members of each Work Group that developed the action plans in *Part 3*, and will be responsible for overseeing their implementation.

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FIGURE B.1 CWPP WORK GROUP MEMBERS

1. WILDFIRE IGNITION PREVENTION	
Ali Freedlund	<i>Lower Mattole Fire Safe Council and Mattole Restoration Council</i>
Mike Lake	<i>Fruitland Ridge Fire Protection District and Southern Humboldt Fire Chiefs' Association</i>
Chris Ramey	<i>CAL FIRE, Humboldt – Del Norte Unit</i>
Jennifer Renner	<i>CAL FIRE, Humboldt – Del Norte Unit</i>
Robert Rivelle	<i>Six Rivers National Forest</i>
Ian Sigman	<i>Lower Mattole Fire Safe Council and Honeydew Volunteer Fire Company</i>
Tracy Katelman	<i>ForEverGreen Forestry, staff</i>
2. WILDFIRE PREPAREDNESS	
Mark Allee	<i>California Conservation Corps</i>
Nancy Bailey	<i>Orleans/Somes Bar Fire Safe Council and Mid-Klamath Watershed Council</i>
Barbara Darst	<i>Willow Creek Fire Safe Council</i>
Bill Eastwood	<i>Southern Humboldt Fire Safe Council</i>
Ali Freedlund	<i>Lower Mattole Fire Safe Council and Mattole Restoration Council</i>
Manny Mello	<i>North West Insurance</i>
Chris Ramey	<i>CAL FIRE, Humboldt – Del Norte Unit</i>
Jennifer Renner	<i>CAL FIRE, Humboldt – Del Norte Unit</i>
Robert Rivelle	<i>Six Rivers National Forest</i>
Tracy Katelman	<i>ForEverGreen Forestry, staff</i>
3. DISASTER PREPAREDNESS	
Barbara Darst	<i>Willow Creek FSC</i>
Will Harling	<i>Orleans/Somes Bar Fire Safe Council and Mid-Klamath Watershed Council</i>
Dorie Lanni	<i>Humboldt County Sheriff's Office of Emergency Services</i>
Manny Mello	<i>North West Insurance</i>
Rod Mendes	<i>Hoopa Tribe Office of Emergency Services and Hoopa Fire Department</i>
Robert Rivelle	<i>Six Rivers National Forest</i>
Lon Winburn	<i>Fortuna Fire Protection District and Humboldt County Fire Chiefs' Association</i>
Tracy Katelman	<i>ForEverGreen Forestry, staff</i>
4. FIRE PROTECTION	
Barbara Darst	<i>Willow Creek Fire Safe Council</i>
Mike Lake	<i>Fruitland Ridge Fire Protection District, and Southern Humboldt Fire Chiefs' Association</i>
Kai Ostrow	<i>Briceland Fire Protection District and Southern Humboldt Technical Rescue</i>
Chris Ramey	<i>CAL FIRE, Humboldt – Del Norte Unit</i>
Jennifer Renner	<i>CAL FIRE, Humboldt – Del Norte Unit</i>
Robert Rivelle	<i>Six Rivers National Forest</i>
Ian Sigman	<i>Lower Mattole Fire Safe Council and Honeydew Volunteer Fire Company</i>
Lon Winburn	<i>Fortuna Fire Protection District, and Humboldt County Fire Chiefs' Association</i>
Tracy Katelman	<i>ForEverGreen Forestry, staff</i>

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FIGURE B.1 CWPP WORK GROUP MEMBERS

5. RESTORATION OF BENEFICIAL FIRE	
Bill Eastwood	<i>Southern Humboldt Fire Safe Council</i>
Ali Freedlund	<i>Lower Mattole Fire Safe Council and Mattole Restoration Council</i>
Will Harling	<i>Orleans/Somes Bar Fire Safe Council and Mid-Klamath Watershed Council</i>
Debra Harris	<i>North Coast Unified Air Quality Management District</i>
Kai Ostrow	<i>Briceland Fire Protection District and Southern Humboldt Technical Rescue</i>
Lenya Quinn Davidson	<i>University of California Cooperative Extension</i>
Tracy Katelman	<i>ForEverGreen Forestry, staff</i>
6. INTEGRATED PLANNING	
Debra Harris	<i>North Coast Air Unified Quality Management District</i>
Will Harling	<i>Orleans/Somes Bar Fire Safe Council and Mid-Klamath Watershed Council</i>
Cybelle Immit	<i>County of Humboldt Public Works</i>
Dorie Lanni	<i>Humboldt County Sheriff's Office of Emergency Services</i>
John Miller	<i>County of Humboldt Planning and Building</i>
Chris Ramey	<i>CAL FIRE, Humboldt – Del Norte Unit</i>
Robert Rivelle	<i>Six Rivers National Forest</i>
Tracy Katelman	<i>ForEverGreen Forestry, staff</i>

B.3 COMMUNITY OUTREACH PROCESS

Many strategies were used to spread the word to communities about the CWPP workshops. The process was kicked off with a press release that was written in collaboration with the planning consultant, County staff, the HCFSC, CAL FIRE, fire chiefs, and the Six Rivers National Forest. The press release was picked up and published by several local newspapers and was used as the basis for follow-up public service announcements (PSAs) and press releases. Local radio stations used the information provided to announce the workshops to their listening audiences. County staff also participated in radio interviews on KMUD and KHSU to promote the workshop series.

Multiple email listserves were used to get the word out. Emails were drafted and distributed to the membership of the Humboldt County Fire Chiefs' Association, the Southern Humboldt Fire Chiefs' Association, individual contact lists of FSC members and fire chiefs, and people who had previously expressed interest in following the activities of the HCFSC. Recipients of these emails were asked to forward them to friends and neighbors who might be interested in the workshops. Workshop posters were created and posted in high-traffic locations within communities and emailed out to potentially interested community members. The HCFSC online homepage was used to post news releases, PSAs, workshop posters and agendas, and general announcements about upcoming workshops.

Local FSCs and fire departments were key partners in spreading the word in their respective communities about the workshop series. In some cases, where these contacts were not as strong, and/or where there was a concentrated population, a mailing was sent out to residents announcing the workshop and providing information about fire planning. There was not sufficient funding available to do this widely but the practice was used on a few occasions.

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B.4 COMMUNITY WORKSHOPS

The table below provides details on the 14 community wildfire preparedness workshops held across the county in the fall of 2017.

Detailed notes, recorded at each workshop, are available on the Humboldt County Community Wildfire Protection Plan webpage: <https://humboldt.gov/fireplanfinal>. The notes summarize the events that took place at each community workshop, including presentations made by CAL FIRE, local fire departments, and other local interest groups. The “What’s on your mind?” section of each workshop—documented in the notes—aimed to capture the ideas and concerns of participants concerning fire safety and emergency preparedness. In most cases, the notes also contain the results from the mapping exercise, during which participants were asked to identify values/assets, risks/hazards, and potential projects in their communities and to vote for the projects they see as most realistic or important to implement.

FIGURE B.2 COMMUNITY WORKSHOPS PARTICIPANTS, LOCATIONS AND DATES

PLANNING UNIT	INVITED COMMUNITY	LOCATION AND DATE
1. Redwood Park	Including Orick and all residences in the surrounding area. *Refreshments provided by the Orick Volunteer Fire Department.	Thursday, November 2, from 6:00 to 8:00 pm. Orick Community Hall at 101 Swan Road, Orick
2. Upper Yurok Reservation	Including Weitchpec, Wautec, Tulley Creek, Pecwan, Notchco, McKinnon Hill, Ke’pel, Bald Hill, and all residences in the surrounding area. *Light dinner provided by the Cultural Fire Management Council. Donations will benefit Cultural Burning.	Monday, December 4, from 4:30 to 7:00 pm. Weitchpec Tribal Office on Hwy-96, Weitchpec
3. Mid-Klamath	Orleans and all residences in the surrounding area. *Chili burgers (with vegetarian option) provided by the Orleans Volunteer Fire Department. Donations will benefit the Orleans VFD.	Monday, October 30, from 5:00 to 8:00 pm Panamnik Building, Downtown Orleans
4. Hoopa	Including all residences in the Hoopa community. *Refreshments provided by the Hoopa Fire Department.	Wednesday, December 6, from 5:00 to 8:00 pm. Hoopa Fire Department at 11121 Hwy-96, Hoopa
5. Trinidad	Including Westhaven, City of Trinidad, Trinidad Rancheria, Big Lagoon, and all residences in the surrounding areas. *Refreshments provided by the Westhaven Volunteer Fire Department.	Tuesday, November 14, from 6:00 to 8:00 pm. Westhaven Fire Hall at 460 6 th Ave., Westhaven
6. Redwood Creek	Including Redwood Valley, Chezem, Titlow, and all residences in the surrounding area. *Refreshments provided by the Redwood Creek Chezem Firewise Community.	Thursday, November 16, from 5:30 to 7:00 pm. Green Point Elementary School at 180 Valkensar Lane, Blue Lake
7. Willow Creek Area	Including Willow Creek and all residences in the surrounding area. *Free hot dogs and chips provided by the Willow Creek Fire Safe Council.	Wednesday, November 8, from 5:00 to 8:00 pm. Trinity Valley Elementary School at 730 Hwy-96, Willow Creek
8. Humboldt Bay Area	Including the Greater Eureka Area, Manila, Samoa, Greater Arcata Area, Blue Lake, Fieldbrook,	Saturday, November 18, from 2:00 to 4:00 pm.

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FIGURE B.2 COMMUNITY WORKSHOPS PARTICIPANTS, LOCATIONS AND DATES

PLANNING UNIT	INVITED COMMUNITY	LOCATION AND DATE
	McKinleyville and all wildland urban interface residences in the surrounding areas. Hosted by the Arcata Fire Protection District. Co-sponsored by the Humboldt County Fire Safe Council, the City of Arcata, the Arcata and Blue Lake Fire Protection Districts, Humboldt Bay Fire, and the Samoa Peninsula and Fieldbrook Volunteer Fire Departments. *Light refreshments provided.	D Street Neighborhood Center at 1301 D Street, Arcata
9. Kneeland–Maple Creek	Kneeland, Maple Creek, and all residences in the surrounding area. *Refreshments provided by the Kneeland Volunteer Fire Department.	Thursday, October 26, from 6:00 to 8:00 pm. Kneeland Elementary School at 9313 Kneeland Road, Kneeland
10. Eel	Including Carlotta, Ferndale, Fortuna, Hydesville, Loleta, Rio Dell, Scotia, Stafford, Table Bluff, and all residences in the surrounding area. *Tri-tip sandwiches provided by the Fortuna Volunteer Fire Department Ladies Auxiliary. Donations will benefit the Eel River Valley Fire Explorers.	Monday, November 27, from 5:00 to 8:00 pm. Fortuna Fire Hall at 320 S. Fortuna Blvd., Fortuna
11. Mad–Van Duzen	Including Bridgeville, Dinsmore, Blocksburg, and all residences in the surrounding area. *Dinner catered by Laurie Church and sponsored by Bridgeville United.	Thursday, November 30, from 5:30 to 8:30 pm. Bridgeville Elementary School Gym at 38717 Kneeland Road, off Hwy-36
12. Mattole–Lost Coast	Including Petrolia, Honeydew, and all residences in the surrounding area. *Food & Refreshments provided by the Lower Mattole Fire Safe Council.	Tuesday, November 28, from 4:30 to 7:30 pm. Mattole Grange at 36512 Mattole Road, Petrolia
13. Southern Humboldt	Including Alderpoint, Palo Verde, Harris, Benbow, Garberville, Redway, Briceland, Ettersburg, Shelter Cover, Whitethorn, Whale Gulch, and all residences in the surrounding area. *Refreshments provided by the Redway Fire Protection District.	Thursday, November 9, from 6:00 to 8:00 pm. Redway Fire Hall at 155 Empire Avenue, Redway
14. Avenue of the Giants	Including Phillipsville, Miranda, Myers Flat, Fruitland Ridge, Weott, Redcrest, Salmon Creek, Shively, and Humboldt Redwoods State Park areas. *Burgers provided by the Fruitland Ridge Volunteer Fire Department. Donations will benefit the Avenue Fire Co-op.	Monday, November 6, from 5:00 to 8:00 pm. South Fork High School Cafeteria at 6831 Hwy-254, Miranda

B.5 MAPPING EXERCISE INSTRUCTIONS

Community Mapping Exercise

Please take a look at the maps displaying community values at risk, risks and hazards, safety resources, and proposed projects. This information was collected over the past decade.

→ Use the markers provided to modify, add to, and update the existing information.

→ What has changed in the last 5 years that needs to be updated?

→ Please mark new information on the maps using the appropriate marker. If any information needs identification (e.g. name), use a thin Sharpie to write that information on the map margin.

Community Values at Risk (Green Highlighter)

- Where are there NEW places/things you most value and want to see protected from wildfire?

Wildfire Risk, and Hazards (Orange Highlighter, Red Marker, Pink Highlighter, Purple Marker)

- Where are there new areas of WILDFIRE RISK where a wildfire might start?
- What are other WILDFIRE HAZARDS in your community?
- What new road or structural issues are there, such as:
 - Road maintenance areas (outages, slides, etc.)
 - Problematic bridges (thin, weak, or wooden), and/or locked gates
 - New power lines or power lines especially vulnerable to wind. (Circle the latter in red.)
- Where have fuels reduction projects already occurred?

Safety Resources (Blue Highlighter and Marker, Brown Marker, Black Marker)

- Where are there new resources for fighting fires? What information needs updating?
 - New water storage: tanks, ponds, pools (Blue dot w/# x 1,000 gallons (e.g. 5 =5,000 gal.)
 - New equipment
 - Updated access routes and potential evacuation routes and locations.
 - Updated road conditions: roads that do not exist on the maps, or are on the maps and do not exist on the ground.

Proposed Projects (Yellow Highlighter on map) plus list on flip charts

- Review existing projects. Any no longer relevant? If so, cross them out. Check key for more info.
- Where do you most want to see fuels treatment occur? What types of treatments?
 - Shaded fuel breaks
 - Roadside brushing
 - Prescribed fire
 - Defensible space
- What other wildfire protection activities would you like to see implemented?
 - Water storage: tanks, ponds, and pools (blue dot w/yellow circle)
 - Education
 - Road and address signs
 - Equipment

Priorities: Which projects are your highest priorities for the next 5 years?

The prioritization method involves taking the total number of identified projects, dividing it by 3, and giving each participant that many sticky dots as votes. Participants can then place one dot on each of their priority projects; only one vote per item. The “votes” are tallied and numbered on a flip chart in red. The top 3-5 projects are identified as the top priorities for the area.

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APPENDIX C — ACCOMPLISHMENTS

C.1 2013 CWPP ACCOMPLISHMENTS

The following lists of accomplishments are organized by action plan topic areas from the 2013 Humboldt County Community Wildfire Protection Plan (CWPP), Countywide Action Plan. The activities of the agencies and groups described below represent implementation of the 2013 CWPP.

C.1.1 ENHANCING FIRE PROTECTION: HELPING FIREFIGHTERS PROTECT THE COMMUNITY

- Local fire departments 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 Humboldt County.
- The **Citizens of Humboldt County** passed Measure Z, a half-cent sales tax to create funds that have been used to maintain and improve essential services, including public safety. Over the three years of funding provided by Measure Z, more than \$5.5 million has been contributed to support local fire services to purchase equipment, pay dispatch fees, and continue a multiyear sustainable fire-services planning effort. These purchases and activities have directly affected and benefitted local fire and rescue agencies and organizations, and contributed to sustaining and improving the Level of Service throughout the county.
- **Humboldt County Office of Emergency Services (OES)** began an annual cross-training program between CAL FIRE and Sheriff's deputies in advance of the fire season. Training includes fire behavior and evacuation policies and procedures.
- **Willow Creek Fire Safe Council (WCFSC)** continues to support the Willow Creek Volunteer Fire Department by promoting recruitment efforts, and participating in the department's annual crab feed fundraiser.
- **WCFSC** continues to maintain the Willow Creek Blue Dot Program, which involves recording the locations of hydrants, tanks, swimming pools, ponds, or other water sources available for fighting any type of fire within the Willow Creek Community and making this information available to the local fire department.
- **Willow Creek VFD (WCVFD)** brought a new rescue truck into service in 2017. It is a great addition to the community and surrounding areas during a time of record emergency calls.
- Public safety funding from Measure Z has helped support **WCVFD's** continued response to out of district calls for service along Highway 299 (primarily vehicle collisions).
- **Mid-Klamath Watershed Council (MKWC)** continues to rent the firehall to the **Orleans Volunteer Fire Department (OVFD)** for \$1/year and is active with **OVFD** through the Firewise® program and the Prescribed Fire Training Program (TREX).
- **MKWC and the OVFD** worked together in 2014, through the Orleans Firewise® program, by installing eight new road signs around town, and helping school children paint water hydrants.
- **Humboldt County Fire Safe Council (HCFSC)** members, staff, and partners provided technical assistance for the establishment of one new fire protection district with sustainable tax revenue to support the continuation of fire and rescue services provided by the Fruitland Ridge Volunteer Fire Department. This same team assisted with boundary expansions for the Telegraph Ridge Fire Protection District and the Fieldbrook Community Services District (for fire services only) through a formal annexation process. The annexed areas are now contributing revenue to support the fire services they receive. Other areas throughout the county without dedicated local fire protection services were evaluated and planning continues in an effort to sustain the "good will" fire protection services they now receive.

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- **County staff, HCFSC members, and Humboldt State University interns** have continued to assist in the production of the Humboldt County Fire Chiefs' Association Annual Report. This annual documentation helps demonstrate the importance of the services provided by local volunteer fire departments and their invaluable contribution to upholding public safety in Humboldt communities.
- The **HCFSC** received sponsorship from **the County of Humboldt, the California Department of Forestry and Fire Protection (CAL FIRE), and Six Rivers National Forest Service** to produce a publication titled "Living with Wildfire in Northwestern California". Two editions of this magazine were produced over the last 5 years. The Living with Wildfire magazine provides contact information for local fire protection service providers and information about how communities can support their local fire department (pp. 3-6). In addition, instructions are given for homeowners on how to set up systems that ensure firefighters can access and make good use of emergency water supplies (pp. 30-31). Copies of this magazine have been distributed throughout Humboldt, Del Norte, and Trinity counties and can be found online on the HCFSC Homepage (<http://www.humboldtqov.org/firesafecouncil>).

C.1.2 ENCOURAGING AND IMPLEMENTING DEFENSIBLE SPACE THROUGHOUT HUMBOLDT COUNTY

- **HCFSC members and staff** encouraged the implementation of defensible space throughout the County on multiple fronts:
 - The countywide Fire-adapted Landscapes and Safe Homes (FLASH) program supported home risk assessments that included an evaluation of defensible space and prescription recommendations for improving it along with a rebate to partially cover the cost of the associated work. Between the 2012 and 2014 FLASH funding rounds, a total of 440 acres of fuel reduction was completed by 149 property owners, 154 home-risk assessments were completed, and 360 site visits were conducted. The current round of funding (2016) is projected to treat 115 additional acres with a minimum of 42 participating property owners. These numbers are countywide and include those mentioned below by individual groups.
 - The Living with Wildfire magazine provides information about how to create and maintain defensible space (pp. 24-28).
- The **Southern Humboldt Fire Safe Council (SHFSC)** consulted with dozens of landowners about the creation and maintenance of defensible space and implemented the FLASH program in Southern Humboldt.
- **CAL FIRE** completed 9,810 Defensible Space Inspections from 2013-2017.
- **WCFSC** maintained a Defensible Space Chipping Program open to any private landowner within WCFSC's district. **WCFSC** continues to promote the Defensible Space Chipping Program by mailing notices to entire neighborhoods and posting notices at the Willow Creek Community Service District Office and other businesses throughout the community.
- **WCFSC** obtained grant funding for a chipper and other equipment to carry out defensible space projects.
- **WCFSC** completed numerous home assessments of defensible space projects through the FLASH program, and worked with landowners to plan fuels reduction projects through the program.
- **WCFSC** began participating in Dream Quest's youth program "Agents of Change" in 2017. Local youth earn community service credit by providing brush removal and yard work services free of charge to elderly and disabled residents to help create defensible space. WCFSC furnishes hand

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tools and safety equipment (gloves, helmets, vest, etc.) for this program, and is responsible for chipping the generated material.

- **MKWC** supports defensible space through the annual (2013-present) **Orleans/Somes Bar Fire Safe Council (OSBFSC)** Mow and Chip Program (a fee for service program). Each year, an **OSBFSC** crew mows between 10 and 20 acres in and around town. Grant funding is available for the program only in some years. **MKWC** (funded in 2014 and 2016) also participates in the FLASH program, which provides reimbursement to landowners who complete defensible space and other fuel reduction projects on their property. In each round of this program, **MKWC** has exceeded their target number of acres.
 - 2013: Through funding from USFWS, a 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 a three-day event. Video 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. A Firewise® Demonstration Project involving neighbors, OSB FSC chipper and crew, and the Hoopa Tribal Civilian Community Corps cleared the roadside along Ishi Pishi Road.
 - 2017: The most recent round of the FLASH program obtained commitments from eight 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.
- The **Lower Mattole Fire Safe Council (LMFSC) / Mattole Restoration Council (MRC)** worked together on the following Defensible Space Projects:
 - Since the development of the LMFSC in 2002 and with the help of sponsored projects by the MRC, hundreds of homes have now been treated in the home ignition zone to provide defensible space. Local communities are more educated than ever before on the need to reduce fuel loads.
 - Lincoln Neighborhood Safety Project and Defensible Space for Neighbors in Need: Two Title 3 funded grants, funded through Humboldt County with support from Petrolia and Honeydew Fire Companies. Treated four parcels: three completed in 2014 and one in 2016.
 - Mattole Chipper Days – 2016 funded SRA project. Treated 15 residences.
 - Between 2011 and 2016, over 238 acres were treated under the FLASH program involving approximately 80 separate parcels. The program has received additional funding for 2016-17 and the goal is to treat approximately 35 additional acres.

C.1.3 CREATING FIRE-SAFE COMMUNITIES: EMPOWERING RESIDENTS TO TAKE RESPONSIBILITY

- **Humboldt County** is home to **5 local fire safe councils and 10 Firewise® communities** that work tirelessly to empower residents and give them the information and support they need to prepare for wildfire.

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- The **HCFSC** has been a forum for agencies and local FSC and Firewise® community representatives to share ideas and collaborate on funding proposals to support community wildfire preparedness efforts.
- **HCFSC members and staff** helped Redwood Valley/Chezem (2014), Shelter Cove (2014), Hydesville (2015), and Kneeland (2015) gain recognition as Firewise® Communities. The **HCFSC** also provided support, through a small grant program and technical assistance, to help maintain existing Firewise® Communities.
- **HCFSC members and staff**, with support from the **Blue Lake Fire Protection District and Humboldt State University students**, organized community meetings and wildfire preparedness planning in the Liscom Hill neighborhood above the City of Blue Lake to evaluate the potential for a new Firewise® Community. Residents received fire safety information, installed a road sign to reduce confusion for responding emergency services, and coordinated with Humboldt County Road Maintenance to improve the surface of the road. However, there was insufficient interest from and coordination among residents to complete the official Firewise® recognition process.
- **SHFSC** representative Dave Khan was featured on three local radio shows and called in to several others to share lessons from the October 2017 North Bay fires. He provided encouragement and information to residents and landowners on how to implement defensible space and harden their homes to fire in late 2017 and early 2018.
- The **LMFSC** continued to hold at least two public meetings of the Lower Mattole Fire Safe Council each year.

C.1.4 PROMOTING FIRE-SAFE EDUCATION

- **CAL FIRE** logged 4,332 Public Education Contact Hours between 2013 and 2017.
- **Hydesville Firewise® Committee** has hosted an annual Firewise® Open House every year since 2015, with over a dozen participants at each event.
- **WCFSC** fire-safe education accomplishments include:
 - Hosting the annual Firewise® Community Fair and Youth Ecology Day on the third Saturday in May each year at the Veteran Park in Willow Creek; 2019 will be their 17th annual event. The event highlights fire-safe education, in addition to other demonstrations and displays prepared by WCFSC, CAL FIRE, U.S. Forest Service, Pacific Gas & Electric, Sheriff Department, Office of Emergency Service and the local fire department.
 - Continuing to use educational booths at local events as an outreach tool. Local events include the Farmer’s Market, Taste of Willow Creek, Bigfoot Days.
 - Partnering with Pacific Gas and Electric to host an in-school fire safety program about trees and home safety at Trinity Valley Elementary School & Preschool to celebrate Arbor Day. Afterward, students plant trees and flowers at the school and park.
 - Hosted the SkyCrest Lake Youth Fish Derby and Firewise® Day in Burnt Ranch for 10 years on the second Saturday in June. The event highlights fire-safe education, in addition to other demonstrations and displays prepared by WCFSC, CAL FIRE, U.S. Forest Service, and the local fire department.
 - Assisting the WCVFD at the Trinity Valley Elementary and Creekside Elementary schools during Fire Safety Week.
 - Creating and publishing the “Living with Fire in the Lower Trinity” newspaper insert.
 - Promoting defensible space and the free chipping program at community meetings such as the Neighborhood Watch and Chamber of Commerce meetings.

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- The **Redwood Valley-Chezem Firewise® Community** has sponsored an annual community Firewise® Day since 2015. The **WCFSC** has supported this event each year by furnishing a crew and chipper for fuels reduction and by providing a demonstration on safety and operation of the chipper to students at Green Point School. Living with Wildfire magazines have also been handed out at the event.
- **MKWC's** fire-safe education accomplishments include:
 - 2014: The annual Firewise® Day was held in conjunction with the Old Timers Parade, which had a fire safety theme. OSB FSC's "Defensible Space" float won first prize. MKWC hosted the fourth Klamath Fire Ecology Symposium (KFES). FLASH technicians completed Home Risk Assessments at ten of the participating properties.
 - 2015: Six separate school Firewise® events coordinated by the Firewise® committee.
 - 2016: Firewise® events at Orleans and Junction elementary schools. FLASH technicians completed 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.
- The **Petrolia and Honeydew Firewise® Communities** have dovetailed their annual Firewise® Day with the Honeydew Fire Company's Roll on the Mattole fundraiser, which attracts people from all over the Mattole watershed and beyond. Educational fire safety materials are provided to attendees at this event.
- **HCFSC's** Living with Wildfire magazine is an excellent fire-safe education resource.

C.1.5 IMPLEMENTING AND MAINTAINING THIS CWPP [and other local plans]

- The **HCFSC** worked to implement the 2013 CWPP over the past five years and secured funding from CAL FIRE in 2017 to complete this most recent update. **HCFSC** action plan implementation committees were formed, progress was reported at quarterly meetings, grant funds were sought, and projects were completed in alignment with CWPP goals. The **HCFSC** also provided support for the update of local CWPPs and the development and maintenance of Firewise® assessments and action plans.
- **CAL FIRE** Humboldt-Del Norte Unit staff logged over 100 hours of CWPP implementation and maintenance between 2013 and 2017. **CAL FIRE** also completed annual updates of the Humboldt-Del Norte Unit Strategic Fire Plan and continually worked to implement it.
- **WCFSC** – The Willow Creek Greater Area Community Wildfire Protection Plan, Willow Creek Action Plan, and Willow Creek Community Assessment Plan are in the process of being updated.
- **Hydesville Firewise® Committee** was formed in 2015 to develop the Hydesville Firewise® Action Plan, which earned Hydesville recognition as a Firewise® Community. Since then, the Committee has worked diligently to implement the Plan.
- The **Honeydew, Kneeland, Orleans, Petrolia, Redwood Valley/Chezem, Shelter Cove, and Upper Jacoby Creek Firewise® Communities** also maintain community assessments and action plans.
- The **LMFSC and MRC** completed an update of the Lower Mattole Community Wildfire Protection Plan in 2016.
- The **OSBFSC** continued to implement their local CWPP over the last five years.
- The **Hoopa Valley Tribe** completed the Hoopa Valley Indian Reservation Community Wildfire Protection Plan in 2016 and continually works to implement it through the **Hoopa Fire Department and the Hoopa Office of Emergency Services**.

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- The **Yurok Tribe** completed the Yurok Tribe Hazard Mitigation Plan, including an embedded CWPP, in 2013.

C.1.6 REDUCING HAZARDOUS FUELS THROUGHOUT HUMBOLDT COUNTY

FIGURE C.1.1 HAZARDOUS FUELS REDUCTION 2013-2017		
CAL FIRE	Broadcast Burn Treated Acres	6,303
	Broadcast Burn Personnel Hours	871
	Fuel Break Treated Acres	51
	Fuel Break Personnel Hours	1,190
	Fuel Reduction Treated Acres	614.1
	Fuel Reduction Personnel Hours	8,883.5
	Right of Way Clearance Treated Acres	50
	Right of Way Clearance Personnel Hours	142
	Total Treated Acres	7,018.1
	Total Personnel Hours	11,086.5
NCUAQMD	Burn Authorizations	1,529
	Acres	19,194
	Piles	37,133

- The **Hoopa Fire Department** has treated approximately 90 acres under the Fuels Management Program and the WUI (Wildland Urban Interface) program has successfully cleared approximately 600 acres of hazardous fuels on the valley floor and Bald Hills area since August 2017.
- **Hydesville Firewise® Committee** completed roadside clearance projects on Quail Hill Lane in 2015 (1400’ of road), Tawndale Fire Lane in 2016 (500’ of fire lane), Hill Lane in 2017 (2,500’), and North and South Fisher Road in 2018 (4,000’).
- **WCFSC** completed and has maintained the following fuel reduction projects since 2013:
 - Worked with the Sheriff Work Alternative Program on implementing fuel reduction projects, including the clearing of brush in two local parks (approx. 30 acres); preparing emergency evacuation routes, including 3 miles of Patterson Road; and creating fuel breaks on the north and south sides of Willow Creek, as well as on the west side of Highway 96 (approx. 20 acres); and 2 acres along Hwy 299 east of Willow Creek.
 - Fuel reduction projects—accomplished in collaboration with CAL FIRE—include projects in downtown Willow Creek, Kimtu Road, Bigfoot Subdivision, and Patterson Road. WCFSC chipped 12.75 acres of brush removed from the projects.
 - Fuel reduction projects—accomplished in collaboration with the California Conservation Corps—include fuel breaks in downtown Willow Creek, on Highway 96, and Kimtu Road. WCFSC chipped 17 acres of brush removed from the projects. An additional 7 acres along Hwy 299 west of Willow Creek was in progress in late 2018.
 - Carried out the Neighborhood Defensible Space Chipping Program whereby WCFSC chips brush and trees removed by homeowners. The program serves 30 to 35 residents per year.
- **WCFSC** has participated in Cal Trans’ “Adopt-A-Highway” program for the last 7 years, which involves litter cleanup and maintenance of shaded fuel break along one mile of Hwy 96 east of Willow Creek.
- **MKWC** completed the following fuel reduction projects since 2013:

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- 2013: The OSB FSC brushing crew—with support from the US Fish and Wildlife Service—thinned 64 acres on seven separate private properties, enhancing wildlife habitat and accomplishing fire-safe fuels reduction at the same time.
 - MKWC partnered with The Nature Conservancy’s Fire Learning Network to host the second Klamath Prescribed Fire Training exchange (TRES), 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 separate private properties funded by the California Fire Safe Council and U.S. Fish and Wildlife. TRES put prescribed fire on 240 acres across 17 properties, protecting 150 homes, including 190 acres in Humboldt County.
- 2015: Brushing crew restored vegetation on 99 acres across nine separate private properties funded by the California Fire Safe Council, U.S. Fish and Wildlife Partners Program, and the U.S. Forest Service.
 - Implemented a highly successful iteration of the TRES program through collaboration with at least 17 partner organizations, including local, tribal, state, and federal fire management entities, leading to the implementation of nearly 400 acres of prescribed fire in five local communities, including 285 acres in Humboldt County.
- 2016: Through FLASH, sixteen 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.
 - TRES burned 405 acres on 27 properties, including 184 acres in Humboldt County.
 - The Western Klamath Restoration Partnership (WGRP) made significant progress on planning the 6,500 acre Somes Bar Integrated Fire Management Project (at the border of Humboldt County).
- 2017: OSB FSC brushing crew reduced fuels on public (Orleans Community Fuels Reduction units) and private land amounting to 130 acres.
 - TRES program burned 310 acres, including 143 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 TRES program burned 270 acres, 186 of which were in Humboldt County.
- **LMFSC / MRC** have completed the following fuel reduction projects since 2013:
 - Prairie/Ridgeline Clearing for Fire Safety:
 - Mill Creek Ridge and Road Fuel Break, funded by USDA and CA FSC Clearinghouse. Completed treatment of 55 acres.
 - Prosper Ridge/North King Prairie on BLM land, federally funded. Treated 110 acres.
 - Prosper Ridge Fuels Reduction Project Phase II, funded by USDA and CA FSC Clearinghouse. Treated 80 acres. Completed in 2013.
 - MRC also assisted the CCC shaded fuel break work along 2.5 miles Mattole road, 2 miles on middle Bull Creek Road, and 4 miles along Wilder Ridge Road.
- The **HCFSC** administered the countywide FLASH program, which contributed to the reduction of hazardous fuels, the details of which are reported in C.1.2.

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- **Hoopa, Karuk, and Yurok** community members and resource offices engaged in hazardous fuels reduction activities, including prescribed fire and/or cultural burning.
- **HCFSC's** Living with Wildfire magazine provides information about reducing hazardous fuels through prescribed fire in the Beneficial Uses of Fire section (pp. 37-40).

C.1.7 PREPARING HUMBOLDT COMMUNITIES FOR EMERGENCIES

- **County OES** established Outreach and Education as a permanent function of the division. OES maximizes participation in community events in order to get preparedness information to the public.

C.1.8 ENSURING SAFE AND EFFECTIVE EVACUATION

- **County OES** has been working with public safety agencies to better coordinate evacuation response. OES will complete the first countywide Evacuation Plan in 2018, and will next meet with individual jurisdictions to discuss all-hazards evacuation coordination. The **HCFSC** "Planning for Safe Evacuation" committee tracked and supported these efforts as applicable.
- **County OES** has established new resources since 2013, including mass transit, mass care, and sheltering partnerships for evacuating large populations.
- **WCFSC** actively works to identify and clear brush off the sides of emergency evacuation roads.
- **WCFSC** informs local residents of potential evacuation routes and provides educational material regarding safe evacuation at all WCFSC events and fundraisers.
- **HCFSC's** Living with Wildfire magazine provides information about safe evacuation in the Ready, Set, Go! section (pp. 41-49).

C.1.9 HARDENING HOMES TO SURVIVE WILDFIRE: REDUCING STRUCTURAL IGNITABILITY

- **WCFSC** distributes educational material concerning home hardening and structural ignitability at all WCFSC events and fundraisers.
- **WCFSC** continues to offer free home risk assessments to homeowners.
- The **HCFSC** countywide FLASH program provides home risk assessments to participating property-owners which include information about hardening homes. Over 150 of these assessments have been provided over the last five years.
- **HCFSC's** Living with Wildfire magazine provides information about hardening homes (pp. 21-23).

C.1.10 ENHANCING EMERGENCY NOTIFICATION AND COMMUNICATIONS

- **County OES** – Acquisition and implementation of modern mass notification system with IPAWS/WEA capability: Humboldt Alert (<https://humboldt.gov/alerts>). The public notification function is in use, and Humboldt County OES is currently populating the internal response personnel side with partner information.
- **WCFSC** provides information on how to register for Humboldt Alert at all WCFSC events and fundraisers.

C.1.11 UTILIZING EXCESS FUELS

- **WCFSC** chips materials on site for landowners to mulch or use for landscaping. For landowners who wish to have the materials removed, WCFSC provides the contact information of a local recycling business that accepts chipped brush. Unwanted material suitable for firewood is donated to seniors or disabled persons.

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C.1.12 MAINTAINING AIR QUALITY

- **NCUAQMD** has been an active participant in HCFSC efforts, facilitating activities and initiating meetings and discussions as needed. Discussions during **HCFSC** meetings and case-specific coordination enabled a deeper understanding of the air-quality considerations necessary when planning prescribed burns. Air-quality information and regulations were included in the first and second editions of Living with Wildfire magazine. **NCUAQMD** also developed Twitter and Facebook accounts to educate the public about open burning, burn regulations, and how to obtain a burn permit. These new education methods are in addition to **NCUAQMD's** website, which is an established communication point for wildfire information.
- **SHFSC** helps maintain air quality by reducing the likelihood and severity of wildfires, and reducing the potential of homes and their contents contributing to whatever wildfire smoke does occur.
- **WCFSC** encourages landowners to contact **NCUAQMD** to acquire a permit before burning and to comply with Air Quality rules and regulations.
- **HCFSC's** Living with Wildfire magazine provides information about maintaining air quality and the **NCUAQMD** (pp. 34-35).

C.1.13 INTEGRATING FIRE-SAFETY ACTIONS WITH LOCAL REGULATIONS AND POLICY

- **WCFSC** works with local agencies and complies with fire-safety regulations and policies.
- **HCFSC members and staff** provided input to the Humboldt County General Plan update process as well as various fire service and wildfire mitigation policy decisions and updates of ordinances and regulations.

C.2 LOCAL GROUP HELPS NEIGHBORS

FIGURE C.1.2 PAY IT FORWARD HUMBOLDT FIRE RELIEF FOR TRINITY, MENDOCINO, AND NORTH BAY FIRES (2017)	
<i>Managed and Distributed</i>	
○	Gift cards (\$5,630 value)
○	12,120 N95 breathing masks
○	51,872 bottles of water
○	8,324 bottles miscellaneous drinks
○	Nonperishable food (\$16,340 value)
○	Medical supplies and medications (\$2,340 value)
○	22,206 baby wipes
○	10,400 diapers
○	Kids toys, school supplies, baby needs, furniture (\$15,000 value)
○	567 blankets, 120 sheet sets, 85 pillows
○	45 tents
○	106 sleeping bags and 110 sleeping pads
○	4,011 toothbrushes and 3,881 toothpastes
○	2,129 bottles shampoo/conditioner/body wash
○	30 cases of toilet paper
○	3,050 lbs. large and small animal food
○	Miscellaneous new socks and underwear (\$2,460 value)
<i>These numbers are an underestimate as many items were not logged in time.</i>	

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APPENDIX D — BACKGROUND INFORMATION FOR ASSETS AND VALUES AT RISK

D.1 COMMUNITIES AT RISK

On January 4, 2001, for the purposes of the National Fire Plan, the Department of Interior (DOI) published in the Federal Register a “Notice of Urban-Wildland Interface Communities within the Vicinity of Federal Lands That Are at High Risk from Wildfire.” On August 17, 2001, the DOI added more communities to the Communities at Risk list. All the Humboldt County communities listed in the table below, were part of these original lists of communities designated as “communities within the vicinity of federal lands that are at high risk from wildfire,” more commonly known as “Communities at Risk” or CAR.

Nearly all of the populated areas within the county have already been designated CAR either at the federal or state level. The existing CARs are shown in the following table, *Figure D.1, Humboldt County Designated Communities at Risk*. *Map D.1, Population and Communities at Risk* below also shows these existing CARs. **Two additional communities are proposed to be added to the CAR list in this CWPP: Redwood Valley and Titlow Hill.**

FIGURE D.1 HUMBOLDT COUNTY DESIGNATED COMMUNITIES AT RISK ¹			
PLACE NAME	FEDERAL THREAT ²	FEDERALLY REGULATED ³	YEAR DESIGNATED
Alderpoint			2001
Alton			2001
Arcata	x		2001
Bayside	x		2001
Bayview			2001
Beatrice	x		2001
Benbow			2001
Berry Glen	x	x	2001
Big Lagoon	x	x	2001
Big Lagoon Rancheria	x	x	2001
Blocksburg			2001
Blue Lake	x	x	2001
Blue Lake Rancheria	x	x	2001
Bracut	x		2001
Briceland			2001
Bridgeville	x	x	2001
Carlotta			2001
Crannell			2001
Cutten			2001
Essex			2001
Ettersburg	x	x	2001
Eureka			2001

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

² “Federal Threat” refers to communities within 1.5 miles of federal lands.

³ According to CAL FIRE: “Federally Regulated” refers to land owned by the federal government. In these cases, these communities are likely inholdings on federal lands.

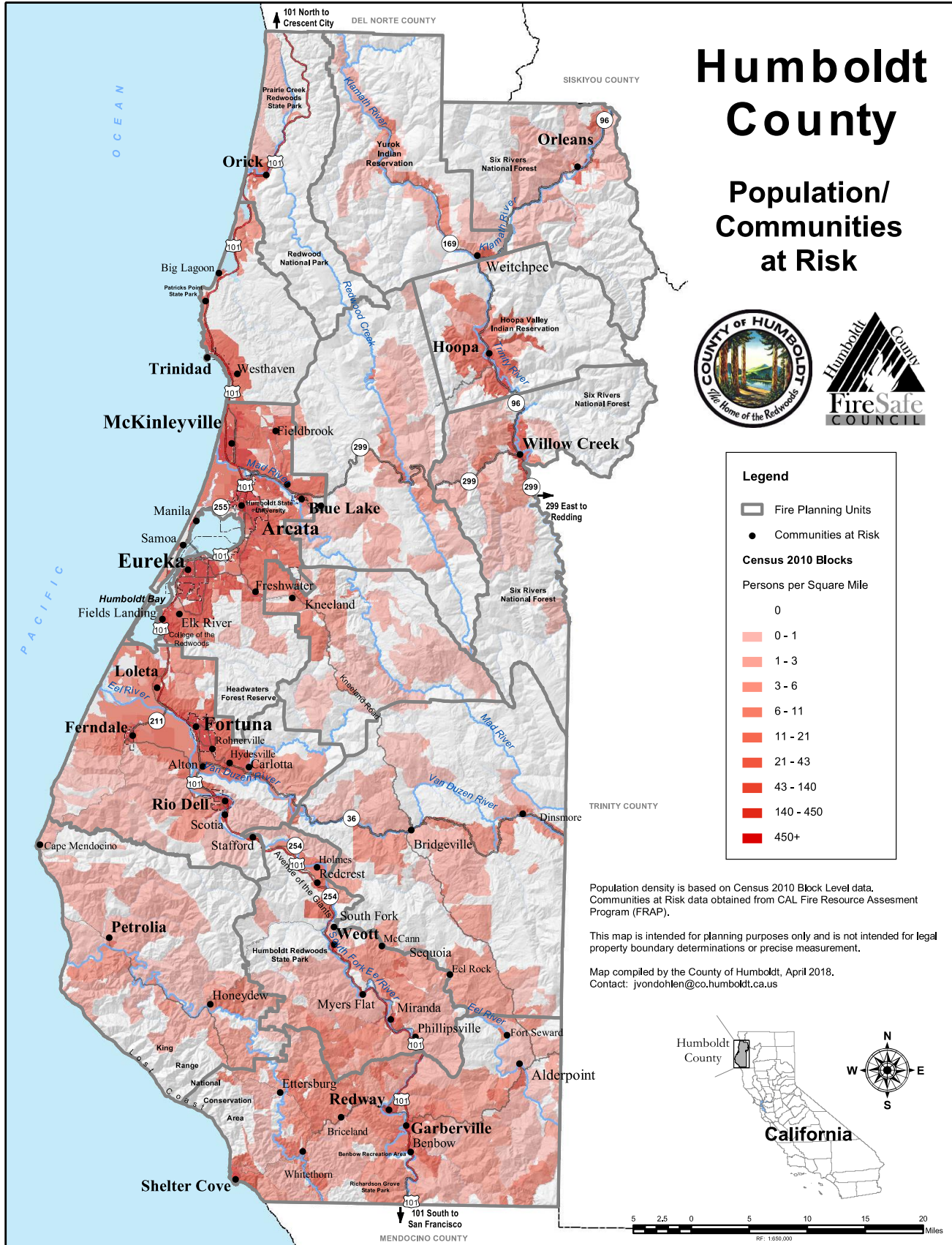
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FIGURE D.1 HUMBOLDT COUNTY DESIGNATED COMMUNITIES AT RISK¹

PLACE NAME	FEDERAL THREAT ²	FEDERALLY REGULATED ³	YEAR DESIGNATED
Fickle Hill		x	2001
Fieldbrook			2001
Fortuna			2001
Freshwater			2001
Friday/Morton Ranch	x		2001
Fruitland			2001
Garberville			2001
Holmes			2001
Honeydew	x	x	2001
Hoop Valley Indian Reservation	x	x	2001
Humboldt Hill			2001
Hydesville			2001
Kneeland			2001
Korbel		x	2001
Kuhn Ranch/Ammon	x	x	2001
Mad River			2001
Maple Creek	x	x	2001
McKinleyville			2001
Miranda			2001
Myers Flat			2001
Myrtle town	x		2001
Orick	x	x	2001
Orleans	x	x	2001
Patrick's Point	x		2001
Pepperwood			2001
Petrolia		x	2001
Phillipsville			2001
Pine Hills		x	2001
Pine Mountain			2001
Redcrest			2001
Redway			2001
Rio Dell			2001
Riverside Park/Swains Flat			2001
Rohnerville	x		2001
Scotia			2001
Shelter Cove	x	x	2001
Shivley			2001
Stafford			2001
Trinidad		x	2001
Trinidad Rancheria	x	x	2001
Weitchpec	x	x	2001
Weott			2001
Westhaven-Moonstone	x	x	2001
Whitethorn (Thorn)		x	2001
Willow Creek	x	x	2001

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Map D.1 Population and Communities at Risk



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D.2 COMMUNITY AND ECONOMIC

Residential Construction and WUI Building Codes

New residential construction permitted in Humboldt County’s State Responsibility Areas (SRA) have been built according to the standards of the 2007 California Building Code Chapter 7A: “Materials and Construction Methods for Exterior Wildfire Exposure” (effective January 1, 2008). (Henceforth, in this plan, the Chapter 7A standards will be referred to as the Wildland-Urban Interface (WUI) Building Standards.) A noteworthy exception to the WUI standards is new residential construction built with a permit under the County’s “Modified Limited Density Owner Built Rural Dwelling Regulations” for alternative owner builders (AOB).⁴ Homes built to AOB standards are exempt from the California Building Code (including the WUI code) but must meet the standards for the electrical, mechanical, and plumbing codes. County Building personnel encourage AOB permit applicants to follow California Building Code standards; however, there is no way to verify compliance.

The County began to keep digital records on building permit activity in 1993. Between 1993 and 2008 (up to the effective date of the WUI code) there were 1,263 permitted, new residential structures built. Records indicate that only three of those were built with an AOB permit. This report is believed to be massively understated, due to inaccuracies in permit coding; there were likely many more AOB permits granted in that time period. As of 2017, there have been 1,885 residential units constructed since the effective date of the WUI code (2008), of those approximately 376 were constructed with an AOB permit.

FIGURE D.2 IMPROVEMENT VALUE BY FIRE HAZARD SEVERITY ZONE ⁵						
PROPERTY TYPE	NON-WILDLAND/ NON-URBAN	URBAN UNZONED	MODERATE	HIGH	VERY HIGH	TOTAL
Agriculture	\$9,955	\$0	\$2,084	\$3,583	\$3,426	\$19,049
Churches & Other Non-profit Org.	\$664	\$4,170	\$5,910	\$5,366	\$2,493	\$18,603
Entertainment & Recreation	\$0	\$22	\$1,098	\$2,559	\$718	\$4,396
Heavy Industrial	\$135	\$1,309	\$3,649	\$0	\$331	\$5,425
Light Industrial	\$1,572	\$901	\$3,907	\$2,113	\$567	\$9,059
Multi-dwellings (10 + units)	\$19	\$10,517	\$1,691	\$1,736	\$0	\$13,964
Multi-dwellings (2 to 4 units)	\$1,210	\$73,862	\$78,524	\$57,503	\$1,463	\$212,562
Multi-dwellings (5 to 9 units)	\$519	\$8,565	\$9,026	\$5,704	\$348	\$24,162
Nursing Home	\$0	\$731	\$137	\$466	\$0	\$1,335
Personal and Repair Services	\$0	\$2,898	\$6,779	\$5,377	\$4,023	\$19,076
Professional/Technical Services	\$93	\$19,085	\$10,353	\$11,238	\$4,639	\$45,407
Public	\$21	\$0	\$62	\$0	\$0	\$84
Retail Trade	\$1,448	\$18,396	\$18,317	\$20,318	\$6,823	\$65,302

⁴ The County of Humboldt adopted the AOB regulations in 1984.

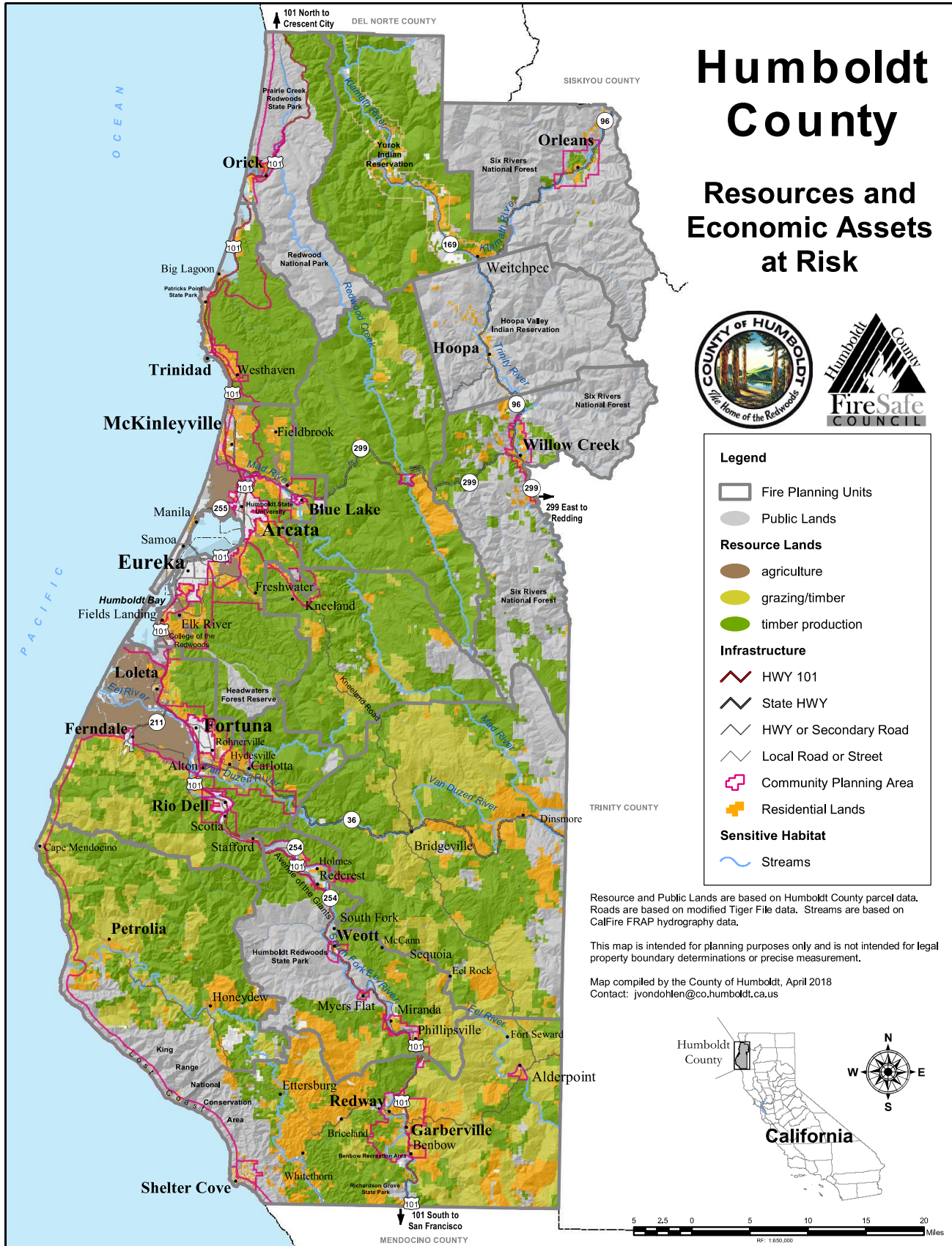
⁵ Figures are in thousands of dollars.

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FIGURE D.2 IMPROVEMENT VALUE BY FIRE HAZARD SEVERITY ZONE⁵						
PROPERTY TYPE	NON-WILDLAND/ NON-URBAN	URBAN UNZONED	MODERATE	HIGH	VERY HIGH	TOTAL
Single Family Dwelling	\$85,206	\$480,198	\$1,145,190	\$1,150,346	\$241,998	\$3,102,937
Temporary Lodging	\$227	\$7,136	\$12,569	\$13,471	\$3,841	\$37,242
Timberland Improvements	\$866	\$0	\$3,338	\$111,364	\$56,390	\$171,957
Utilities	\$0	\$0	\$4	\$0	\$0	\$4
Vacant	\$704	\$3,538	\$8,010	\$10,100	\$6,526	\$28,878
Wholesale Trade	\$0	\$258	\$2,141	\$410	\$286	\$3,095
Total	\$102,639	\$631,585	\$1,312,789	\$1,401,652	\$333,871	\$3,782,536

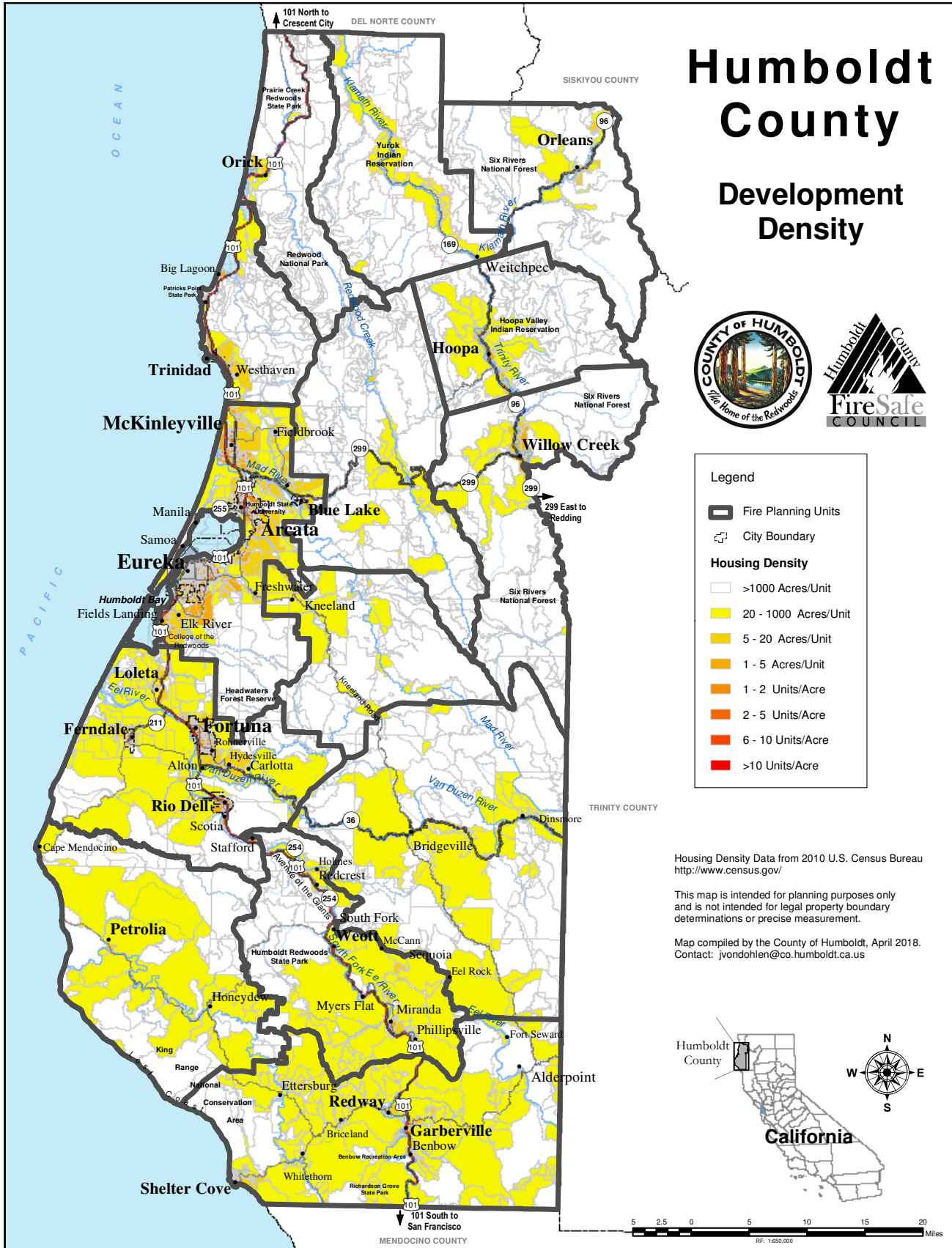
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Map D.2 Resources and Economic Assets at Risk



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Map D.3 Development Density



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FIGURE D.3 MEDICAL FACILITIES

➤ Mad River Community Hospital	3800 Janes Road Arcata, CA 95521	707-822-3621
➤ St Joseph Hospital	2700 Dolbeer Street Eureka, CA 95501	707-443-8051
➤ Jerold Phelps Community Hospital	733 Cedar Street Garberville, CA 95542	707-923-3921
➤ Redwood Memorial Hospital	3300 Renner Drive Fortuna, CA 95540	707-445-8121

FIGURE D.4 AIRPORTS

➤ Arcata-Eureka Airport	➤ Dinsmore Airport
➤ Garberville Airport	➤ Kneeland Airport
➤ Murray Field Airport	➤ Rohnerville Airport
➤ Eureka Municipal Airport	➤ Shelter Cove Airport
➤ Hoopa Airport	

FIGURE D.5 SCENIC HIGHWAYS

➤ Route 36 from Route 101 near Fortuna to the Trinity County line
➤ Route 101 for its entire length in Humboldt County
➤ Route 299 from Arcata to Willow Creek
➤ Route 96 from Route 299 at Willow Creek north to Siskiyou County
➤ Highway 254 , “the Avenue of the Giants,” branching off of Route 101 in the southern portion of the County

D.3 NATURAL

Wildlife

The following table shows a list of federal and state listed species in Humboldt County.

FIGURE D.6 FEDERAL AND STATE LISTED SPECIES IN HUMBOLDT COUNTY ⁶			
SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS
<i>Acipenser medirostris</i>	Green sturgeon	Threatened	None
<i>Agelaius tricolor</i>	Tricolored blackbird	None	Candidate Endangered
<i>Astragalus agnicidus</i>	Humboldt County milk-vetch	None	Endangered
<i>Brachyramphus marmoratus</i>	Marbled murrelet	Threatened	Endangered
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	Threatened	None
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	Threatened	Endangered
<i>Empidonax traillii brewsteri</i>	Little willow flycatcher	None	Endangered
<i>Erysimum menziesii</i>	Menzies' wallflower	Endangered	Endangered
<i>Eucyclogobius newberryi</i>	Tidewater goby	Endangered	None
<i>Haliaeetus leucocephalus</i>	Bald eagle	Delisted	Endangered
<i>Howellia aquatilis</i>	Water howellia	Threatened	None
<i>Layia carnosa</i>	Beach layia	Endangered	Endangered
<i>Lilium occidentale</i>	Western lily	Endangered	Endangered
<i>Lupinus constancei</i>	Lassics lupine	None	Candidate Endangered
<i>Martes caurina humboldtensis</i>	Humboldt marten	None	Candidate Endangered
<i>Noccaea fendleri ssp. californica</i>	Kneeland prairie pennycress	Endangered	None
<i>Oncorhynchus kisutch</i>	Coho salmon	Threatened	Threatened
<i>Oncorhynchus mykiss irideus</i>	Steelhead – northern California DPS	Threatened	None
<i>Oncorhynchus tshawytscha</i>	Chinook salmon – California coastal ESU	Threatened	None
<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	Endangered	Endangered
<i>Rana boylei</i>	Foothill yellow-legged frog	None	Candidate Threatened
<i>Riparia riparia</i>	Bank swallow	None	Threatened
<i>Speyeria zerene behrensii</i>	Behren's silverspot butterfly	Endangered	None
<i>Spirinchus thaleichthys</i>	Longfin smelt	Candidate	Threatened
<i>Strix occidentalis</i>	Northern spotted owl	Threatened	Threatened
<i>Thaleichthys pacificus</i>	Eulachon	Threatened	None

There are other plant and animal species that have not (as of publication) been listed as threatened or endangered at the federal or state level, but which are still rare enough to be listed in the CNDDDB. These species, such as the Pacific fisher (*Pekania pennanti*) and Pacific lamprey (*Entosphenus tridentatus*), meet the criteria for listing but have not yet been formally listed or selected as candidates. Before engaging in wildfire hazard-reduction activities such as clearing vegetation, it is important to be aware of federal, state, and local laws to safeguard listed species. *For more information on protecting endangered species, see Appendix I, Regulations and Compliance.*

⁶ California Department of Fish and Wildlife. California Natural Diversity Database (CNDDDB) [Data]. Retrieved from <https://www.wildlife.ca.gov/Data/CNDDDB>

Case-Study Species: California Condor (*Gymnogyps californianus*)

Due to a number of factors, including lead poisoning, the California condor, *Gymnogyps californianus*, was close to extinction in the 1980s, reaching an all-time low of 22 individuals. Over the last several decades, conservationists and scientists committed themselves to saving the condor from extinction and reintroducing birds to the wild.⁷ As of December 2015, there were 435 condors both in the wild and in captivity. Although the population of condors is increasing, the birds still face many environmental challenges. While only a small fraction of large old-growth redwoods have canopy cavities, these unusual fire features likely provided a unique habitat element along the California coast for generations. There is some documentation showing that coast redwoods provided roosting habitat for condors in the wild. In 2008, one of the released birds (from the captive breeding program at the San Diego Wild Animal Park and the Los Angeles Zoo) decided to nest in a redwood near Big Sur. As if this nesting event were not remarkable enough for redwood ecologists, the site where the nest tree occurred burned in a wildfire that year, and the chick survived. As this one bird's nesting success shows, the viability in the coast redwood forest habitat for condors may be linked to the presence of fire as a source of canopy complexity in this habitat.

The Yurok Tribe started a long process in 2003 with the aim of condor reintroduction in both their territory and throughout the Pacific Northwest,⁸ a region that North America's largest bird has not occupied in more than a century. This is a sacred species for the Yurok. Its feathers are used and its songs are sung in the World Renewal ceremony, in which Yuroks pray and fast to balance the world. The condor is also critical for a flourishing ecosystem. In the absence of sufficient large mammalian carnivores, condors do the work of removing large, decaying carcasses from the ecosystem. They can tear tough hides to open carcasses and make them accessible to other scavengers. The Yurok's collaborative effort and partnership with the National Park Service, Redwood National Park (RNP), and the US Fish and Wildlife Service started a National Environmental Policy Act (NEPA) process.⁹ The objective is to evaluate a range of alternatives and environmental effects for establishing a condor release facility in RNP within the condors' historical northern range and breeding areas, including the possible designation of these condors as an experimental population. Reintroducing a new population of condors into the biologically diverse ecosystem of RNP and the surrounding area has a very real potential to aid in the species' long-term recovery.

Hydrology

The hydrology of an area describes the flow of water across and through the land. Lakes, ponds, streams, wetlands, and springs are just a few examples of an area's hydrological features. The presence of these features tends to increase the humidity of a local site and can make it more resistant to the effects of fire. In the case of ponds and lakes, their availability as water sources for fire suppression is also important.

Humboldt County's hydrologic features are abundant. Humboldt Bay is nestled into the coast at the county's midpoint, and is the only deep-water port between San Francisco and Coos Bay, Oregon. Thousands of waterways flow through the region, from small ephemeral streams to large creeks and rivers, eventually making their way to the Pacific Ocean. Noteworthy rivers running through the county are the South Fork Eel, Eel, Mattole, Van Duzen, Mad, South Fork Trinity, Trinity, and the Klamath. Redwood Creek is a significant watershed that runs through half the length of the county. These watersheds can be grouped into four larger basins: Klamath-Trinity, Mad-Redwood, Eel, and Mattole.

⁷ Condors and Redwood Fire Management: Big Birds in Tall Trees. Coast Redwood Ecology and Management. Retrieved on April 19, 2018 from <https://redwood.forestthreats.org/condors.htm>

⁸ The Yurok Tribe Condor Program. The Yurok Tribe. Retrieved on April 19, 2018 from http://www.yuroktribe.org/departments/selfgovern/wildlife_program/condor/condorproject.htm

⁹ Reintroduce California Condors to Northwestern California. Redwood National Park, National Park Service. Retrieved on April 19, 2018 from <https://parkplanning.nps.gov/projectHome.cfm?projectID=66364>

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Geology

The bedrock geology of Humboldt County is divided generally into two provinces: the Klamath Mountains province in the northeast, and the Coast Ranges province in the central and southwest portion of the county. The dividing line between the two provinces is the South Fork Mountain Ridge, which separates the Trinity River basin from the Mad River and Redwood Creek drainages.

The Klamath Mountains province is an area beginning in northeastern Humboldt County and extending east of the County line with high alpine peaks, some attaining elevations of 8,000 feet or more. The province is drained by the Klamath and Trinity Rivers and farther north by the Smith River. Rocks in the Klamath Mountains province are generally older than those in the Coast Ranges. Rocks of sedimentary origin such as sandstone, chert, slate, and schist occur abundantly, with occasional granite intrusions.

The Coast Ranges province is the dominant geologic province in the county, trending northwest and drained by the Mad, Eel, and Mattole River drainages. The Franciscan and Yager complexes dominate inland, with sand and other alluvial deposits dominating in the lower reaches of the river basins and the area surrounding Humboldt Bay.

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APPENDIX E — BACKGROUND FOR WILDFIRE ENVIRONMENT

E.1 FIRE BEHAVIOR TERMS

The following text provides an introductory definition to some common fire behavior terms.

Surface Fires

On flat or moderate terrain (<30% slopes) in light fuels, fires usually burn as a surface fire; meaning the flames stay near the ground. Surface fires may advance quickly with short or long residence time and a range of heat output and, as such, they respond well to suppression. A manageable fire, such as occurs more frequently with surface fires, is one of the desired results of fuel modifications.

Crown-Fire Potential

Crowning activity happens where fire is expected to travel into and possibly consume the crowns—or tops—of trees. Crown fires typify a fire of high intensity and exhibit high heat output and rates of spread. These attributes challenge suppression efforts. When a fire burns through tree crowns, countless embers are produced and distributed, sometimes over long distances. These embers can start new fires (known as spot fires), which can each grow and confound the finest fire suppression forces.

Crown fire initiation (or torching) occurs when ladder fuels are present, providing a connection between the surface fuels and the crown fuels. The higher the base (the bottom) of the tree canopy away from surface fuels, the more difficult it is for crown fires to ignite. Once in the tree canopy, crown fires are more likely to spread in dense canopies and conditions involving high wind speeds.

Fire Intensity

Fire intensity describes the amount of heat that is released by flaming combustion in a specific unit of time (BTU/ft./sec.¹). This measurement captures the energy of a fire in any location; it is often confused with fire severity, which is a term describing fire effects (see below).

Fire Severity

Fire severity describes the resulting effects of a fire, based on the amount of soil damage and tree mortality. It is determined by observing vegetation and soil conditions after a fire. The relationship between predicted fire behavior characteristics (flame length, heat per unit area, fireline intensity, etc.) and fire severity are being explored, but are not yet well established. Long flame lengths, large amounts of torching, crown fire presence, high fireline intensity, and high heat per unit area are all indicators of potentially severe fires.

Flame Length

Flame length is the span of the flame from the base to the tip, irrespective of its tilt. This factor most influences the probability of structure damage and ease of fire suppression. Flame length is highly correlated with fire intensity, which can help predict fire severity. Flame lengths less than four feet long are associated with fires that are more easily controlled—generally with hand crews²—and are also associated with the widespread low-intensity fires prevalent prior to European settlement. In contrast, flame lengths longer than twelve feet often thwart suppression efforts, and are associated with crown

¹ BTU: British Thermal Units (heat)/feet/second.

² Hand crews are diverse teams of career and temporary wildland firefighters.

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fires seen on the front pages of newspapers. Typically, fuel-management goals aim for conditions in which flame lengths are less than four feet.

Rate of Spread

The rate of spread measures how fast the leading edge of a fire advances. A rate of spread that is faster than fireline-building capacity will challenge fire-suppression efforts. High spread rates also indicate the potential for quick changes in fire spread direction, which could endanger firefighters and increase potential damages. High rates of spread in grass can exceed three hundred feet per minute. In rare crown fires, rates of spread can exceed one hundred feet per minute. A more acceptable rate of spread would be one that is slower than the line-building capacity of fire-suppression forces to encircle the fire. Slow-burning fires in forested fuel types spread at a rate of two-to-eight feet per minute.

Residence Time

The residence time of a fire defines how long the leading edge of the fire burns in any one location. Usually, grass fires are consumed quickly and have a short residence time (e.g. 30 seconds), in contrast to the residence time of fires in a deep duff layer, which can burn for hours. Foliage and suspended dead material are usually consumed in less than 90 seconds. Residence time is useful in predicting tree mortality and potential for fire-induced hydrophobic soils.

Heat Per Unit Area

Heat per unit area is defined as the total heat produced by flaming combustion in any one location. This does not include long burn-out times and smoldering. This factor is especially important in determining soil heating and is a fairly good predictor of potential root damage and cambium heating, all indicators of fire severity. Smoldering produces the vast majority of smoke in a fire, but most fire behavior models don't include smoldering combustion.

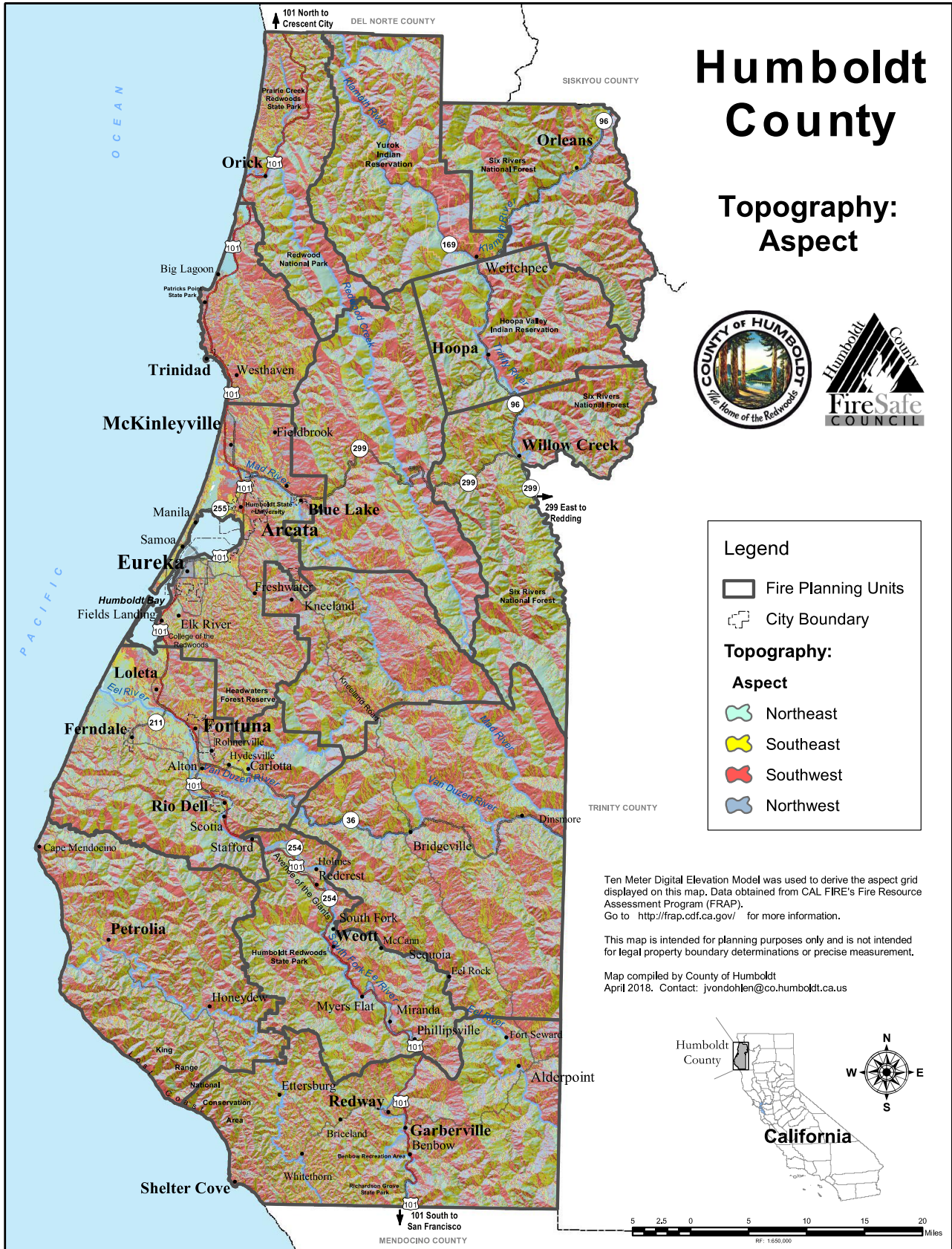
E.2 GENERAL WILDFIRE ENVIRONMENT DESCRIPTION AND MAPS

Topography

Topographic features such as slope and aspect, as well as the overall form of the land, have a profound effect on fire behavior. Topography directly and indirectly affects the intensity, direction, and rate of spread of wildfire. Fires burning in flat or gently sloping areas tend to burn more slowly, and to spread in a wider ellipse than fires on steep slopes. Streams, rivers, and canyons tend to channel local diurnal and general winds, which can accelerate the fire's speed and affect its direction, especially during foehn (warm, dry, and usually strong) wind events. Local winds are greatly affected by topography, which "bend the wind" as it flows around or over landforms. Topography also causes daily upslope and downslope winds. The topographic features of aspect and elevation affect vegetation. Solar exposure affects fuel moisture.

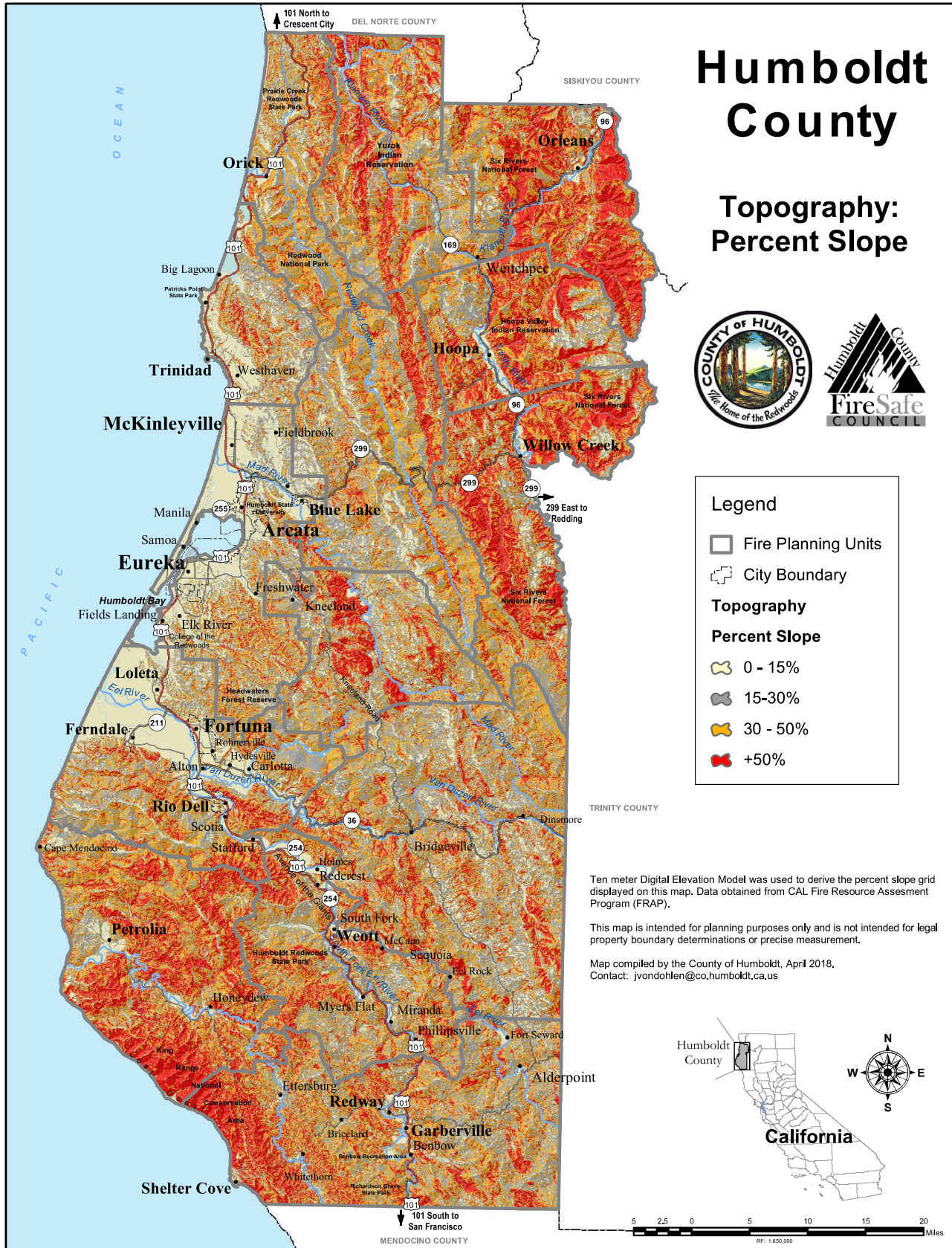
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Map E.1 Topography: Aspect



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Map E.2 Topography: Percent Slope



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Weather

Weather conditions significantly impact the potential for fire ignition, as well as rates of spread, intensity, and the direction(s) a fire burns. Wind, temperature, and relative humidity are the weather variables used to predict fire behavior.³ Fire weather refers to weather elements that influence fire ignition, behavior, and suppression; these elements include temperature, relative humidity, wind speed and direction, precipitation, atmospheric stability, and the presence of aloft (or upper-level) winds.

Wind is considered the most variable and difficult weather element to predict. It increases the flammability of fuels (live or dead vegetation, as well as human-built structures) by removing moisture through evaporation, by pre-heating fuels in a fire's path, and by increasing spotting distances (the distance at which a spot fire might be ignited by a flying ember). Wind velocities and directions may vary across vertical gradients, with somewhat different impacts on fire behavior. The direction and velocity of surface winds can directly control the direction and rate at which the fire spreads. Winds that blow more than 20 ft. above the ground can carry embers and firebrands downwind, causing spot fires to precede the primary front.

Weather conditions can change rapidly as upper-level wind currents and pressure systems in the western states shift locations, and both dry and wet frontal systems move through the mountainous terrain. Frontal winds associated with low-pressure systems moving across the area can create hazardous fire conditions. Winds in advance of the frontal system can reach speeds exceeding 60 mph over ridges. Winds associated with thunderstorms are particularly erratic, radiating in all directions from the center of the storm. Atmospheric instability dilutes and disperses smoke but also tends to increase fire intensity, analogous to opening the damper on a stovepipe. Wind in general is an important factor in initiating and maintaining crown fires.

The local marine influence can reduce fire hazards to those areas of the county affected by moist air.

“ The interesting relationship between fog-stratus and regional temperature is known to those who have lived on the redwood coast for any length of time. Cool water upwells offshore as the California current flows southward. Warmer air moving over this humid surface is chilled and condenses. When interior temperatures rise, this marine layer of air is pulled inland and gets forced against the coastal mountains and is vertically contained under an inversion associated regional high pressure. Given this persistence of this pattern during most years' fire season, the local occurrence probability of fog-stratus helps define the fire hazard as well as the vegetation that is found there.

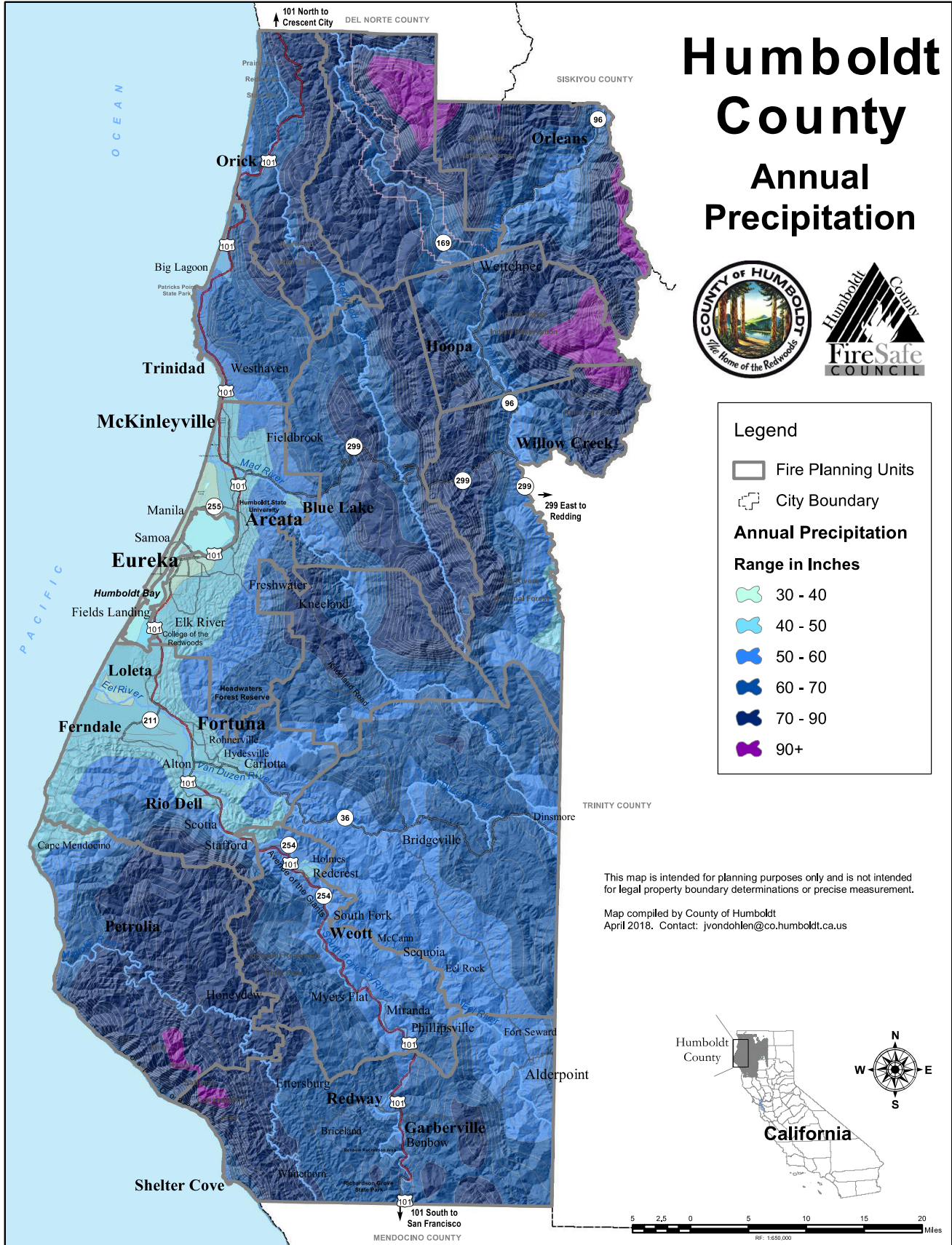
The incidence of coastal fog-stratus varies over time. Less fog was recorded during the fire seasons during the 1920s and 1930s and 1950s, while fog was common during the 1890s, 1910s, 1940s and 1970s. It is common to observe the strongest fire activity in the interior Klamath mountains on days when this coastal fog-stratus pattern is best developed. Variation in fog-stratus over centuries can alter the fire occurrence probabilities which affect the importance of seeding trees, such as Douglas fir and patterns of biodiversity.⁴ ”

³ Husari, S., Nichols, T., Sugihara, N.G. & Stephens, S.L. (2006). Fuel management. In Sugihara, N.G., van Wagtenonk, J., Shaffer, K.E., Fites-Kaufman, J., & Thode, A.E. (Eds.). *Fire in California's Ecosystems*. (pp. 444–465.) Berkeley: University of California Press.

⁴ Climate Change in Coast Redwood Forests. (n.d.). Coast Redwood Ecology and Management. Retrieved September 17, 2018 from www.redwood.forestthreats.org/climatechange.htm

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Map E.3 Precipitation



E.3 FUEL MODELS

Vegetation is highly variable in many respects, including size, height, density, and relative volatility/flammability. The volume, character, distribution, and arrangement, relative presence of volatile oils, and moisture content of fuels are all factors that greatly influence fire behavior.

A fuel model is a standardized description of fuels available to a fire, based on the amount, distribution, and continuity of vegetation and wood.⁵ Among other things, fuel model information helps fire suppression agencies determine what kind of fire might be expected in different areas. Fuel models distinguish between vegetation such as tall and short grass, timber with and without an understory, and oak woodland with and without understory vegetation. Fire managers use fuel models within the Fire Behavior Prediction System (FBPS)—called FBPS #1, 4, 10, etc.—to forecast how fast a fire will spread, how damaging the fire might become (in terms of fire intensity), or whether it is likely to torch in the area. Information regarding fuel volumes and fire behavior descriptions is available from the USDA Forest Service publication *How to Predict the Spread and Intensity of Forest and Range Fires*.⁶

Fuel models describe vegetation structure, in addition to typical species composition; structure largely determines the fuel that will actually support the fire. The understory is more important than the overstory. The most significant factor is the amount and distribution of smaller-diameter fuels because these materials generally contribute to the spread of wildfires. A grassy field with oak trees that cover less than one-third of the slope would be classified as a grass fuel model, because the contribution of oak leaves and branches to fire behavior may be negligible (due to the minor amount of leaf drop or the relative height at which the first branches grow above the ground). Similarly, where brush covers less than one-third of a conifer stand, it would be classified as a conifer stand. The amount and size of dead material distinguishes among the three types of conifer fuel models. Another important factor in fuel models is the amount of dead biomass and the ratio of live-to-dead material where there are significant brush and tree stands. Dead biomass contributes fine fuel litter and carries flames more readily.

The table below shows the fuel models present in Humboldt County, their respective acreages and percentages, and their generally expected flame lengths. Surface fuels (based on these same fuel models) are illustrated in *Map 5.2.1* in *Chapter 5.2 Wildfire Environment*.

FIGURE E.1 FUEL MODELS FOUND IN HUMBOLDT COUNTY				
<i>Fuel Model Description</i>	<i>Typical Fuel Model^{7, 8}</i>	<i>Acreage and Percentage found in Humboldt County</i>		<i>Average Flame Length (ft.)</i>
Grass	1	233,415	10%	4
Pine/Grass	2	141,129	6%	>9
Light Brush	5	89,295	4%	>13
Intermediate Brush	6	7,497	less than 1%	12
Hardwood/Conifer Light	8	624,514	27%	2
Medium Conifer	9	748,023	33%	7
Heavy Conifer	10	295,454	13%	>100
Light Slash/Treated Conifer	11	9,353	less than 1%	3.5

⁵ National Park Service. (2015). Glossary of Fire Terms. Retrieved from http://www.nps.gov/seki/naturescience/fic_firegloss.htm

⁶ Rothermel, R.C. (1983). How to predict the spread and intensity of forest and range fires. General Technical Report INT-143. Ogden, UT: USDA, Forest Service, Intermountain Forest and Range Experiment Station.

⁷ There is a wide variety of fuel volume, structure, and size class distribution within vegetation types; fuel models should be determined by site-specific conditions. Fuel models can be classified by comparing photographs of fuel models with on-site conditions (Anderson 1982), by using expert opinion to translate vegetation types to fuel models, or by using a “key” provided in Rothermel (1983).

⁸ Anderson, H.E. (1983). Predicting Wind-driven Wild Land Fire Size and Shape. Research Paper INT-305 (p. 26). Ogden, UT: USDA, Forest Service, Intermountain Forest and Range Experiment Station.

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FIGURE E.1 FUEL MODELS FOUND IN HUMBOLDT COUNTY				
<i>Fuel Model Description</i>	<i>Typical Fuel Model^{7, 8}</i>	<i>Acres and Percentage found in Humboldt County</i>		<i>Average Flame Length (ft.)</i>
Medium Slash	12	44,144	2%	8
Non-Burnables (such as Urban, Agriculture, Water, and Rock/Barren)	28, 97, 98, and 99	99,398	4%	n/a

The following is a brief description of each of the Fuel Models found in Humboldt County.

Model 1 – 2 Grass Models

Fuel Model 1 – This model contains annual and perennial short grasses, about one foot tall, which are fairly uniform and homogenous. Less than 1/3 of the area contains other types of vegetation such as trees and shrubs. This fuel model is most commonly found distributed throughout the large ranchlands in the southwestern and southeastern portions of the county. Grazing is the predominant use of these areas. There is approximately 3/4 tons⁹ per acre of fuel at a depth of about one foot. Fire spread is governed by the fine, very porous, and continuous herbaceous fuels that have cured or are nearly cured. Fires are surface fires that move rapidly through the cured vegetation and contain flame lengths approximately 4-feet high.

Fuel Model 2 – This model is dominated by grasses approximately one- to two-feet tall. The grasses within this model generally occur under an open, wooded timber canopy. This fuel type constitutes a very small percentage of the land area within the county with concentrations located on Six Rivers National Forest lands at high elevations to the east of the Hoopa Valley Indian Reservation and within the King Range National Conservations Area and Humboldt Redwoods State Park. There is approximately four live/dead tons of <3-inch fuel per acre at a depth of about one foot. Also occurring within the 1-ft. fuel bed are approximately two tons of 1/4-inch dead material as well as a 1/2-ton of live (foliage) material. Fire spread occurs in the live/dead fine surface materials. Areas with high fuel loads associated with the hardwood and conifer component can be intense and cause firebrands. Fires within this model can produce flames over 9 feet.

Model 5 – 6 Shrub Models

Fuel Model 5 – This model consists of stands of mature shrubs with little or no dead material component. Most of the fuels within this model are alive, consisting of green vegetation that is not very volatile. This fuel model occurs on poor sites, on recent burns, and may occur under tree canopies. There are smatterings of this fuel model throughout the county collectively adding up to only about 4% of the land area. A coastal strip with concentrations near Orick, Big Lagoon, Cape Mendocino, and the southern portion of the King Range National Conservation Area include varying combinations of coyote brush, manzanita, and/or lupine; sometimes referred to as coastal scrub. Inland areas, particularly along the eastern edge of the county, are sprinkled with patches of this fuel model.

This fuel model consists of approximately 3.5 live/dead tons of <3-inch fuel per acre to a depth of about two feet. Also occurring within the 2-ft. fuel bed are approximately one ton of 1/4-inch dead material as well as 2 live tons per acre. Fires in this fuel model generally do not burn intensely or rapidly, due to high concentration of live material. Flames can reach heights of over 13 feet.

Fuel Model 6 – This model consists of vegetation that is taller and more flammable than that of Fuel Model 5. In many instances a Fuel Model 5 will evolve into a Fuel Model 6 by the latter part of the summer. Only one percent of the county is classified with this fuel model, showing up in a few patches on Six Rivers National Forest lands in the northeastern corner of the county and southwest of Willow Creek; this is likely

⁹ This includes both live and dead vegetation. Dead vegetation, e.g. dead branches, responds quickly to weather conditions while live fuels, e.g. flowering branches, are slower to change with weather and are less flammable.

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brush related to logging operations in the mixed conifer forests of those areas. There is approximately 6 live/dead tons of <3-inch fuel per acre to a depth of about 2.5 feet. Also occurring within the 2.5-ft. fuel bed are approximately 1.5 tons of 1/4-inch dead material per acre. Fires in this model will burn in the foliage of standing vegetation, but only when wind speeds are greater than eight mph. Fires within this model can produce flames about 12-feet tall.

Model 8 – 10 Timber Litter Models

Fuel Model 8 – This model consists mainly of needles, leaves, and occasionally twigs below a conifer or hardwood canopy. Approximately 27% of the county can be associated with this fuel model making it second only to Model 9 in amount of area covered. Coastal areas are dominated in the north by coast redwood and in the south and east by conifer/hardwood forests with less of an understory than Fuel Model 9. There are approximately 5 live/dead tons of <3-inch fuel per acre to a depth of about 0.2 feet. Also occurring within the 0.2-ft. fuel bed are approximately 1.5 tons of 1/4-inch dead material per acre. Fires within this model are generally slow burning and of low intensity within the compacted vegetation, although the fire may encounter an occasional “jackpot” or heavy fuel concentration that can flare up. Fires in this model do not pose a control threat unless high temperatures, low relative humidity, and high winds allow the fire to spread into the canopy. Fires within this model can produce flames about 2 feet tall.

Fuel Model 9 – This model is similar to Fuel Model 8, except it has more fine fuels, which increase fire severity. This model represents 33% of the county and the associated vegetation type varies depending on geographic location. Coast redwood, Douglas-fir, and spruce are found in coastal areas. Inland areas classified under this model are dominated by Douglas-fir intermingled with hardwoods. There is approximately 3.5 live/dead tons of <3-in. fuel per acre to a depth of about 0.2 feet. Also occurring within the 0.2-ft. fuel bed are approximately 2.9 tons of 1/4-inch dead material per acre. Autumn fires in the hardwoods in this model are predictable, but high winds will actually cause higher rates of spread than predicted because of spotting (spot fires) caused by rolling and blowing leaves. Concentrations of dead and downed woody debris will contribute to possible torching, crowning, and spotting. Fires within this model can produce 7-foot flames.

Fuel Model 10 – This model consists of a shrub, sapling, or immature tree understory with a diseased and/or mature overstory. Much of the county’s old growth forests fall into this category with a mature closed canopy and a thick, lush understory with large amounts of biomass. The largest concentration of this type is located along the South Fork Eel River and the lower Van Duzen River including parts of Humboldt Redwoods State Park, the Avenue of the Giants, and Humboldt Redwood Company and Green Diamond Resource Company lands. The predominant forest type falling into this fuel model is older coast redwood, with patches of Douglas-fir located in the northeastern portion of the county. There is approximately 12 live/dead tons of <3-inch fuel per acre to a depth of about 1 foot. Also occurring within the 1-ft. fuel bed are approximately 3 tons of 1/4-inch dead material as well as 2 live tons per acre. Fires in this model burn with a moderate rate of spread and can be very intense. Crown scorch (and/or torching) of individual trees and spot fires are common within Fuel Model 10. This fuel model poses the most control problem of all the fuel models within the three timber litter models. Fires within this model can produce flames over 100 feet high in extreme conditions.

Model 11 – 12 Logging Slash Models

Fuel Model 11 – This model consists mainly of logging slash produced by thinning operations or light, partial cuts within mixed conifer or hardwood stands, as well as herbaceous material intermixed with slash. Only 1% of the county is characterized by this model and it is lightly sprinkled over the landscape. It is found in many locations associated with past timber harvests. There is approximately 11.5 live/dead tons of <3-inch fuel per acre to a depth of about 1 foot. Also occurring within the 1-foot fuel bed are approximately 1.5 tons of ¼-inch dead material, and there is typically no live material within the fuel bed. Fires in this model generally have a low rate of spread and burn at low intensities. Fire potential can be

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limited by wide spacing between light loads of mostly fine fuels, as well as shade from the remaining overstory. Fires within this model can produce flames 3.5 feet in length.

Fuel Model 12 – This model consists of heavy amounts of slash produced either by clearcuts, medium- or heavy-partial cuts, or heavily thinned mixed conifer or mixed conifer/hardwood stands. Similar to Fuel Model 11, there is a very small percentage of the county (2%) that is characterized by this model and it can generally be associated with areas where timber harvesting has occurred. There is approximately 34.6 live/dead tons of <3-inch fuel per acre to a depth of about 2.3 feet. Also occurring within the 2.3-ft. fuel bed are approximately 4 tons of ¼-inch dead material, and there is typically no live material within the fuel bed. Fires in this model can spread quite rapidly with moderate or high intensities and are capable of generating firebrands. Consistent, even distribution of the fuels within this model continue to sustain fires once they start, until a change or break in the fuel continuity is encountered. Fires within this model can produce 8-foot flames.

E.4 WILDFIRE HAZARD ASSESSMENT AND FIRE HAZARD SEVERITY MAPPING

Fire hazard is a way to measure physical fire behavior to predict the damage a fire is likely to cause and how resistant it will be to control. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat produced by the fire, and most importantly, the burning firebrands that the fire sends ahead of the flaming front. Fire hazard elements include the following, which have been described in more detail in the General Wildfire Environment Descriptions section above:

- **Vegetation** – Whether live or dead, vegetation is "fuel" to a wildfire and it changes over time. The fire hazard severity rating considers the potential vegetation over a 50-year time horizon.
- **Topography** – Fire burns more intensely and spreads more rapidly on steep slopes.
- **Weather** – Fire burns faster and with more intensity when air temperature is high, relative humidity is low, and winds are strong.
- **Crown Fire Potential** – Under extreme conditions, fire burns upwards into tall brush and tree canopies.
- **Ember Production and Movement** – Firebrands are blown ahead of the main fire, which can ignite buildings and spread the fire (spotting).
- **Likelihood of Fire** – The likelihood of an area burning over a 30 – 50 year period.

Fire Hazard Severity Zones represent areas of variable size ranging from 20 acres in urbanized areas to at least 200 acres in wildland areas, with relatively homogeneous characteristics regarding expected burn probability and potential fire behavior attributes based on climax fuel conditions over a 30-50 year time horizon.¹⁰

CAL FIRE completed a major effort to reclassify FHSZs in 2007 as a component of implementing the new Wildland-Urban Interface building code (*See Appendix H, Living with Wildfire of this CWPP for more information on building codes*). These reclassifications included State Responsibility Areas (SRA) and Local Responsibility Areas (LRA).¹¹

¹⁰ Sapsis, D. (n.d.) Fire Hazard Severity Zoning (FHSZ) Draft Map Review and Validation [PowerPoint slideshow]. CAL FIRE. Retrieved September 17, 2018 from

http://frap.fire.ca.gov/projects/hazard/Fire_Hazard_Zoning_workshop_1_8.ppt

¹¹ For more information on Fire Hazard Severity Zone mapping, please see: CAL FIRE. (2007). Fire Hazard Severity Zone Re-Mapping Project. Retrieved from <http://frap.fire.ca.gov/projects/hazard/fhz.html> and for information on hazard mapping and associated building codes, please see: CAL FIRE. (2007). Wildland Hazard/Building Codes. Retrieved from http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland.php

E.5 FIRE REGIME

Fire regime is a description of fire's historic natural occurrence, variability, and influence on vegetation dynamics in the landscape. Fire regimes can provide information for fire planning, as they describe the frequency of fire and the effects a fire is expected to have on a particular area's vegetation. Generally based on fire history reconstructions, fire regime descriptions include the season, frequency, severity, size, and spatial distribution of fires. There is quite a wide variability of "natural" intervals, severities, and seasons, but some generalities have been made. Over the years, foresters and plant ecologists have come to use a small number of standardized fire regime classes to make general comparisons about the fire ecology of different ecosystems and geographic regions. The regimes listed below show fire regime classes commonly used by the USFS and other land management agencies.¹²

The five historical fire regimes are classified based on the average number of years between fires (fire frequency) combined with the fire severity (amount of consumption of the dominant overstory vegetation). The five regimes are:

- **I:** 0 to 35-year frequency and low (surface fires most common) to mixed severity (less than 75% of the dominant overstory vegetation replaced);
- **II:** 0 to 35-year frequency and high (stand replacement) severity (greater than 75% of the dominant overstory vegetation replaced);
- **III:** 35- to 100+-year frequency and mixed severity;
- **IV:** 35- to 100+-year frequency and high severity;
- **V:** 200+-year frequency and high severity.

The above classification system was used to make one of the first nationwide, coarse-scale maps of fire regimes. CAL FIRE used it to produce the somewhat more detailed (but still very coarse scale) statewide fire regime maps.¹³ The LANDFIRE (also known as Landscape Fire Resource and Management Planning) program has since revised the fire regime class definitions and conducted a national analysis for the National Interagency Fire Coordinating Group. They have produced an elaborate methodology for conducting regional scale analyses that could be undertaken to produce more local-scale map products for Humboldt County.¹⁴

The CAL FIRE fire regime data for Humboldt County is shown in *Map E.4 Fire Regime* below. Although the fire regimes in Humboldt have been altered due to fire suppression and other land management activities, there are two pre-settlement fire regimes still found here today. According to information collected and analyzed by CAL FIRE, Humboldt County primarily has a natural fire return interval between 0 – 35 years of low severity fire (Fire Regime I), as well as scattered areas of Fire Regime III (generally on ridgetops, and more often in the eastern parts of the county), with a 35 – 100+ year frequency of mixed severity fire.

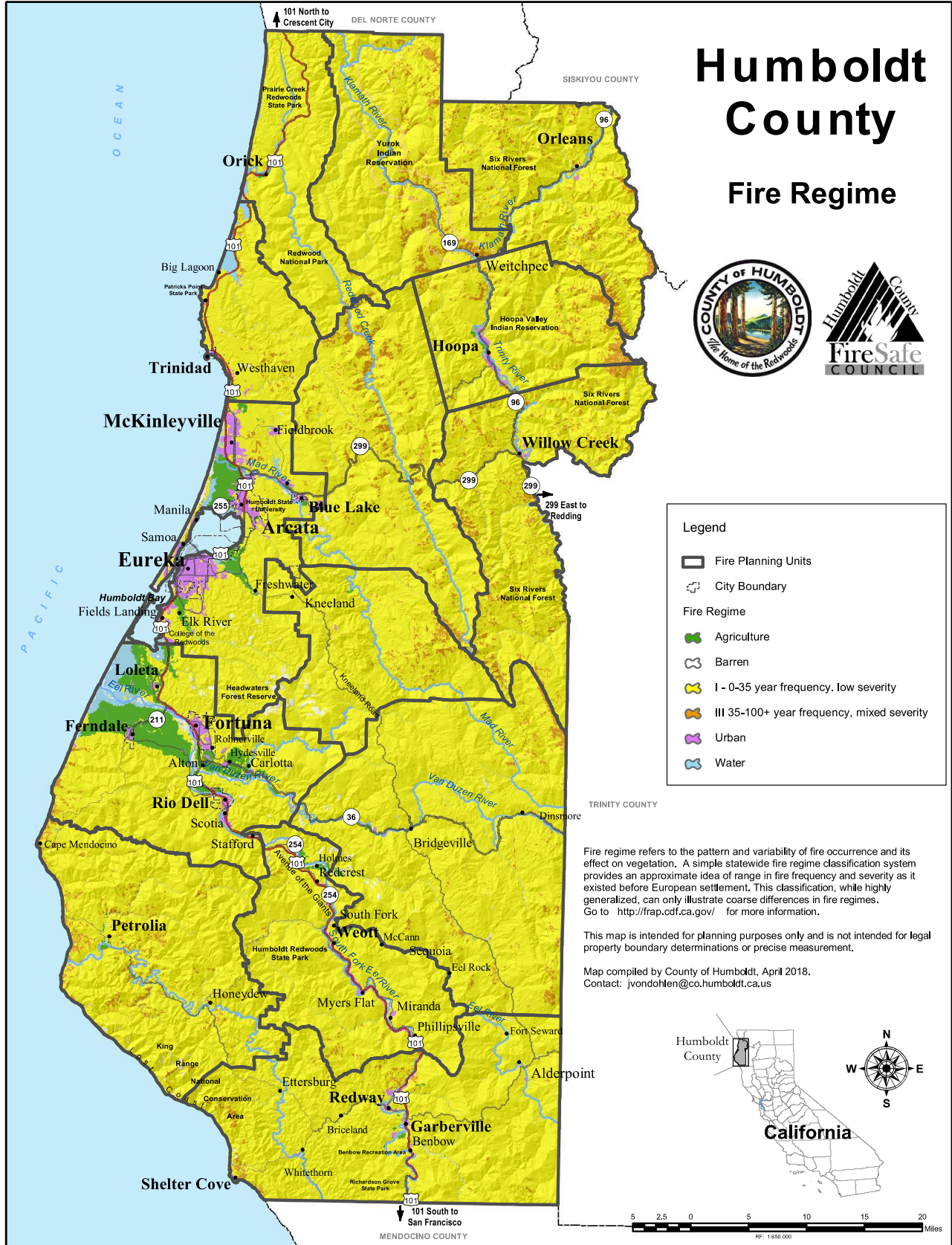
¹² Schmidt, K.M., Menakis, J.P., Hardy, C.C., Hann, W.J., & Bunnell, D.L. (2002). Development of coarse-scale spatial data for wildland fire and fuel management. General Technical Report RMRS-GTR-87. Fort Collins, CO.

¹³ CAL FIRE. (2003). Fire Regime and Condition Class. Geographic Information System data file [ArcInfo grid file]. Cafrc_03v2. Metadata. Retrieved from <http://frap.cdf.ca.gov/data/frapgisdata/download.asp?rec=cafrcc>

¹⁴ Barrett, S., Havlina, D., Jones, J., Hann, W., Frame, C., Hamilton, D., Schon, K., Demeo, T., Hutter, L., & Menakis, J. (2010). Interagency Fire Regime Condition Class Guidebook, Version 3.0. National Interagency Fuels, Fire, & Vegetation Technology Transfer. [PDF]. Retrieved from https://www.frames.gov/files/7313/8388/1679/FRCC_Guidebook_2010_final.pdf

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Map E.4 Fire Regime



E.6 CONDITION CLASS

The difference in fire regime between pre- and post-European settlement is described by the condition class, or the degree of departure from the historical natural fire regime. Mapping of the fire regime condition class has been done nationwide and is widely used. Usually 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.

Fire Regime Condition Class (FRCC)¹⁵ is based on a relative measure describing the degree of departure from the historical natural fire regime. The departure from natural fire regimes results in changes to one or more of the following ecological components: vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated disturbances (e.g. insect and disease mortality, grazing, and drought). There are no wildland vegetation and fuel conditions or wildfire situations that do not fit within one of the three classes.

The three classes are based on low (FRCC 1), moderate (FRCC 2), and high (FRCC 3) departure from the central tendency of the natural (historical) regime. “Low departure is considered to be within the natural (historical) range of variability, while moderate and high departures are outside.”¹⁶ Areas considered at a high or moderate departure from the natural regime are experiencing dramatic increases in fire behavior, intensity, severity, and fire size.¹⁷

The greater the departure from the natural fire regime, the greater the variations to ecological components and the higher the risk of losing key ecosystem components. For example, FRCC 3 classification means that fire regimes have been greatly altered from their natural range (e.g., from 3 – 10 years between fires, prior to European settlement, to 50 – 70 years since) and, likewise, vegetation characteristics have been dramatically altered from their natural range. For example, an area may have experienced a fire regime of small, frequent, low-intensity fires prior to European settlement. However, because fire suppression has been successful, only one fire has burned in the area in the past 100 years. The fuels have become voluminous and hence fire behavior is predicted to be intense, with the potential to kill trees that have survived other fires over the centuries. The fuels have also become more uniform, creating conditions that facilitate fire spread and result in larger fires. Therefore, the risk of losing key ecosystem components is high.

Fuel management projects can restore the vegetation type and structure through prescribed fire and/or other types of management techniques in a spatial distribution that can mimic the effect of natural fire regimes. Thus, fuel management can move a condition class to one more closely resembling pre-European settlement, regardless of recent fire history.

Condition class does not relate directly to fire hazard but is designed to better predict the effects of a fire, specifically the fire-related risks to ecosystems. All three condition classes (1, 2, and 3) exist in Humboldt County, as shown on the following map. Condition class is generally within or near fires’ historical range for the western and lower elevation/riparian areas of the county. As elevation increases, condition class changes from moderately altered to severely altered from historical range, as shown on the following map.

The influence of fire significantly shaped the ecosystems found throughout Humboldt County today. Understanding the local wildfire environment and people’s place in it—through fire history, fire behavior, and fire science—will help Humboldt communities to live safely within this fire-evolved landscape.

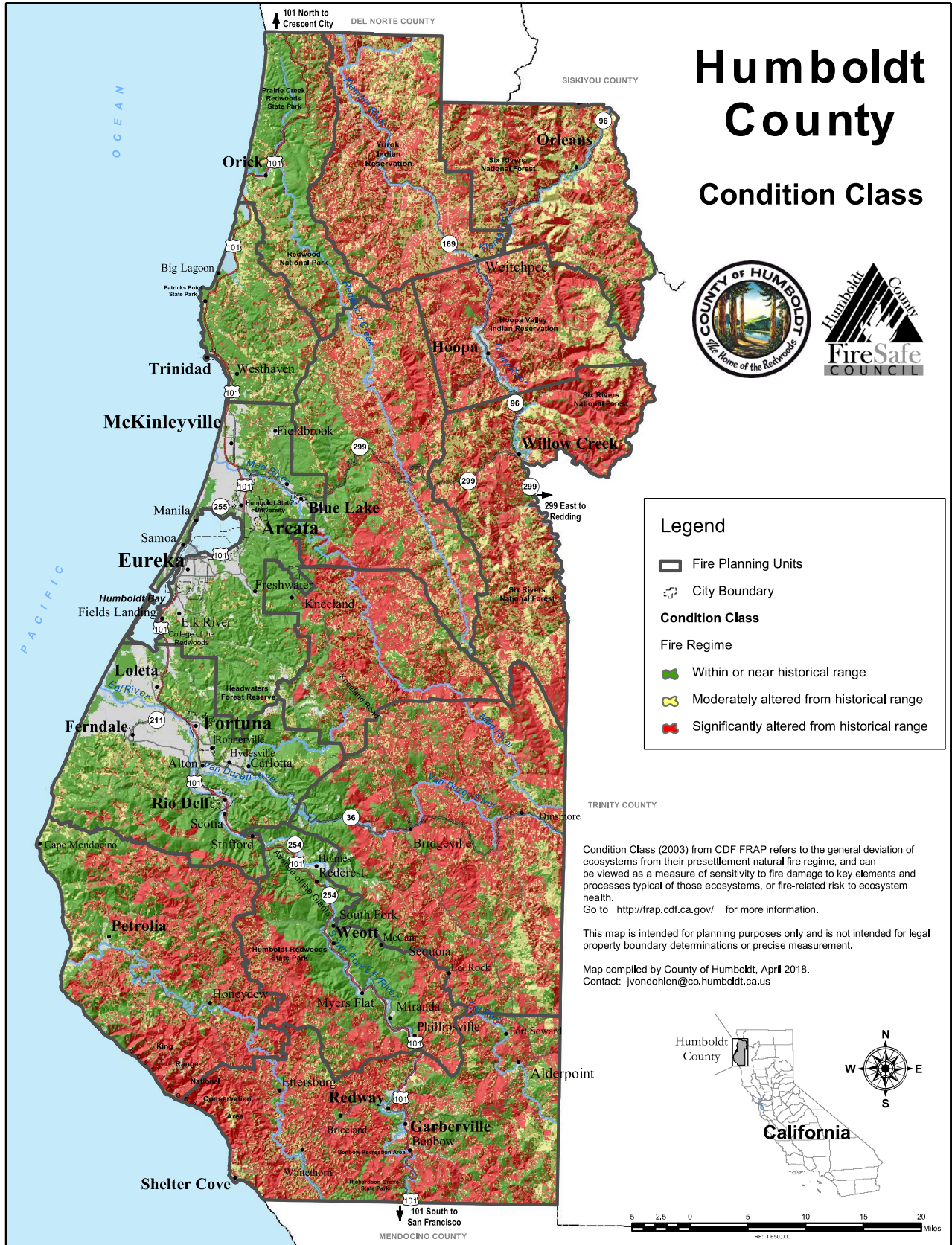
¹⁵ Barrett, S. et al. (2010). Interagency Fire Regime Condition Class (FRCC) Guidebook.

¹⁶ National Wildfire Coordinating Group. (2018). Fire Regime Current Condition Class Definition. Retrieved from <https://www.nwccg.gov/glossary/a-z>

¹⁷ Barrett, S. et al. (2010). Interagency Fire Regime Condition Class (FRCC) Guidebook.

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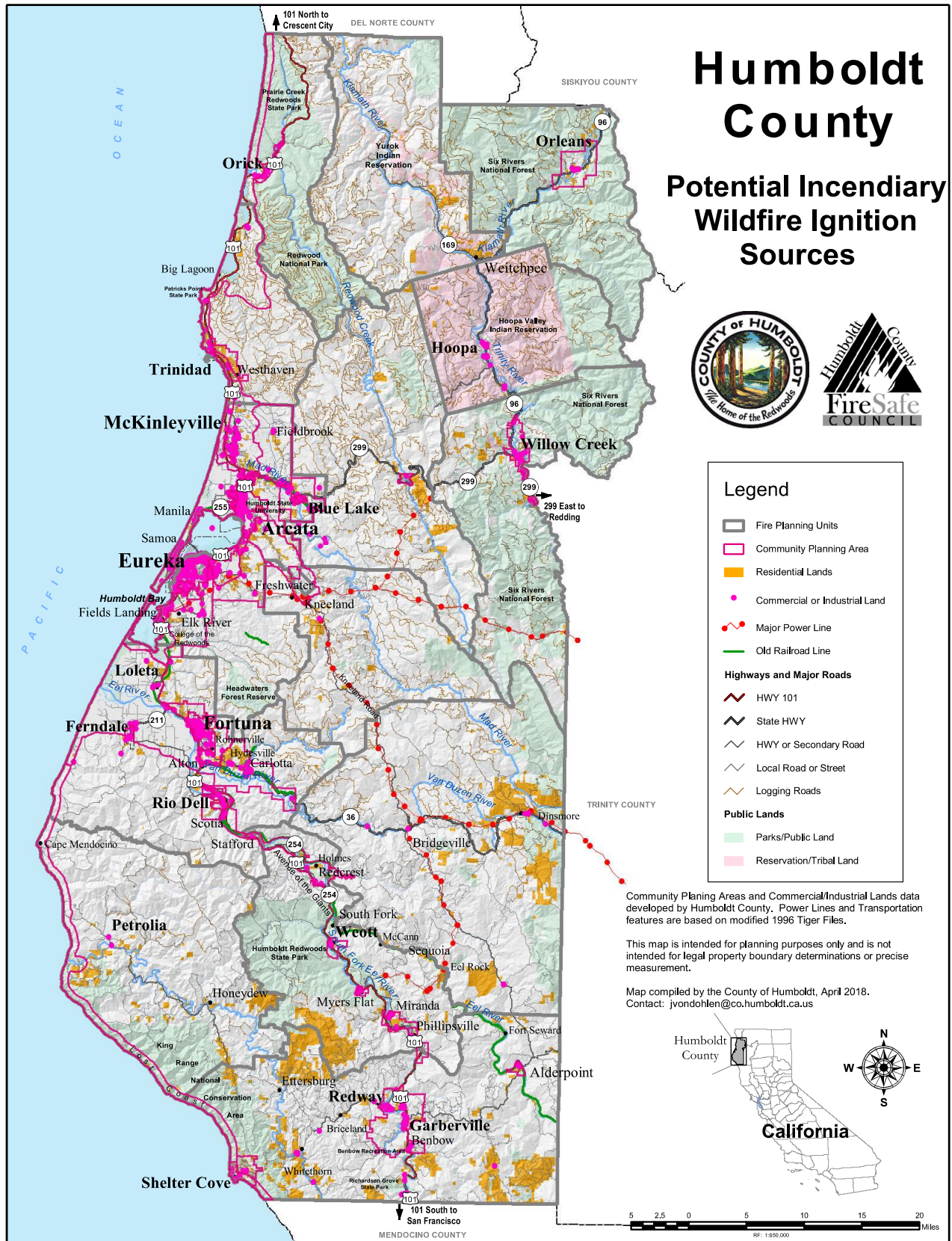
Map E.5 Condition Class



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E.7 WILDFIRE RISK

Map E.6 Potential Incendiary Wildfire Ignition Sources



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APPENDIX F — CLIMATE RESEARCH SUMMARY

NAME	YEAR	AUTHORS	URL	CITATION
A summary of current trends and probable future trends in climate and climate-driven processes for the Six River National Forest and surrounding lands.	2015	Butz, J.R., Sawyer S. and Safford	https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd490216.pdf	Butz, J.R., Sawyer S. and Safford H., 2015. A summary of current trends and probable future trends in climate and climate-driven processes for the Six River National Forest and surrounding lands. USDA FS Report, 38 p.
A summary of current trends and probable future trends in climate and climate-driven processes for the Six River National Forest and surrounding lands.	2010	Butz, R. J. and Safford H.	https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5251124.pdf	Butz, R. J. and Safford H., 2010. A summary of current trends and probable future trends in climate and climate-driven processes for the Six River National Forest and surrounding lands. USDA Forest Service Report, 18 p.
Adapt to more wildfire in western North American forests as climate changes.	2017	Schoennagel, T., Balch, J.K., Brenkert-Smith, H., Dennison, P.E., Harvey, B.J., Krawchuk, M.A., Mietkiewicz, N., Morgan, P., Moritz, M.A., Rasker, R. and Turner, M.G.	http://www.pnas.org/content/114/18/4582.short	Schoennagel, T., Balch, J.K., Brenkert-Smith, H., Dennison, P.E., Harvey, B.J., Krawchuk, M.A., Mietkiewicz, N., Morgan, P., Moritz, M.A., Rasker, R. and Turner, M.G., 2017. Adapt to more wildfire in western North American forests as climate changes. Proceedings of the National Academy of Sciences, 114(18), pp.4582-4590.
Adapting forests to climate change.	2017	Marshall, A., S. Kocher, A. Kerr, P. Stine	http://anrcatalog.ucanr.edu	Marshall, A., S. Kocher, A. Kerr, P. Stine, 2017. Forest Stewardship Series 25: Adapting Forests to Climate Change. 14p. University of California-Agricultural and Natural Resources.
Beyond a warming fingerprint: individualistic biogeographic responses to heterogeneous climate change in California.	2014	Rapacciuolo, G., Maher, S.P., Schneider, A.C., Hammond, T.T., Jabis, M.D., Walsh, R.E., Iknayan, K.J., Walden, G.K., Oldfather, M.F., Ackerly, D.D. and Beissinger, S.R.	https://onlinelibrary.wiley.com/doi/full/10.1111/qcb.12638	Rapacciuolo, G., Maher, S.P., Schneider, A.C., Hammond, T.T., Jabis, M.D., Walsh, R.E., Iknayan, K.J., Walden, G.K., Oldfather, M.F., Ackerly, D.D. and Beissinger, S.R., 2014. Beyond a warming fingerprint: individualistic biogeographic responses to heterogeneous climate change in California. Global change biology, 20(9), pp.2841-2855.

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NAME	YEAR	AUTHORS	URL	CITATION
Carbon dynamics in the future forest: the importance of long-term successional legacy and climate–fire interactions.	2013	Loudermilk, E.L., Scheller, R.M., Weisberg, P.J., Yang, J., Dilts, T.E., Karam, S.L. and Skinner, C	https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.12310	Loudermilk, E.L., Scheller, R.M., Weisberg, P.J., Yang, J., Dilts, T.E., Karam, S.L. and Skinner, C., 2013. Carbon dynamics in the future forest: the importance of long-term successional legacy and climate–fire interactions. <i>Global Change Biology</i> , 19(11), pp.3502-3515.
Climate and Natural Resources Analysis And Planning For The North Coast Resource Partnership [report and tables] and Map And Time Series Data Visualizations [maps]	2018	Micheli, L., C. D., Pepperwood and L. Flint.	https://northcoastresourcepartnership.org/site/assets/uploads/2018/06/NCRP_Report_Pepperwood_v3.pdf	Micheli, L., C. D., Pepperwood and L. Flint, 2018. Climate And Natural Resources Analysis And Planning For The North Coast Resource Partnership. USGS report.
Climate change and disruptions to global fire activity.	2012	Moritz, M.A., Parisien, M.A., Batllori, E., Krawchuk, M.A., Van Dorn, J., Ganz, D.J. and Hayhoe, K.	https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/ES11-00345.1	Moritz, M.A., Parisien, M.A., Batllori, E., Krawchuk, M.A., Van Dorn, J., Ganz, D.J. and Hayhoe, K., 2012. Climate change and disruptions to global fire activity. <i>Ecosphere</i> , 3(6), pp.1-22.
Climate change and future fire regimes: examples from California.	2016	Keeley, J.E. and Syphard, A.D.	http://www.mdpi.com/2076-3263/6/3/37/html	Keeley, J.E. and Syphard, A.D., 2016. Climate change and future fire regimes: examples from California. <i>Geosciences</i> , 6(3), p.37.
Climatic stress increases forest fire severity across the western United States.	2013	van Mantgem P. J., J. C. B. Nesmith, M. Keifer, E. E. Knapp, A. Flint and L. Flint	https://www.fs.fed.us/psw/publications/knapp/psw_2013_knapp001_vanmantgem.pdf	van Mantgem P. J., J. C. B. Nesmith, M. Keifer, E. E. Knapp, A. Flint and L. Flint, 2013. <i>Ecology Letters</i> 16: pp.1151–1156
County-level analysis of the impact of temperature and population increases on California wildfire data	2013	Baltar, M., Keeley, J.E. and Schoenberg, F.P.	https://onlinelibrary.wiley.com/doi/full/10.1002/env.2257	Baltar, M., Keeley, J.E. and Schoenberg, F.P., 2014. County-level analysis of the impact of temperature and population increases on California wildfire data. <i>Environmetrics</i> , 25(6), pp.397-405.
Cultural impacts to tribes from climate change influences on forests.	2013	Voggesser, G., Lynn, K., Daigle, J., Lake, F.K. and Ranco, D.	https://link.springer.com/article/10.1007/s10584-013-0733-4	Voggesser, G., Lynn, K., Daigle, J., Lake, F.K. and Ranco, D., 2013. Cultural impacts to tribes from climate change influences on forests. <i>Climatic change</i> , 120(3), pp.615-626.

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NAME	YEAR	AUTHORS	URL	CITATION
Effects of drought on forests and rangelands in the United States: a comprehensive science synthesis.	2016	Vose, James M.; Clark, James S.; Luce, Charles H.; Patel-Weyand, Toral	https://www.fs.usda.gov/treesearch/pubs/50261	Vose, James M.; Clark, James S.; Luce, Charles H.; Patel-Weyand, Toral, eds. 2016. Effects of drought on forests and rangelands in the United States: A comprehensive science synthesis. Gen. Tech. Rep. WO-93b. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. 289 p.
Factors influencing fire severity under moderate burning conditions in the Klamath Mountains, northern California, USA.	2017	Estes, B.L., Knapp, E.E., Skinner, C.N., Miller, J.D. and Preisler	https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1002/ecs2.1794	Estes, B.L., Knapp, E.E., Skinner, C.N., Miller, J.D. and Preisler, H.K., 2017. Factors influencing fire severity under moderate burning conditions in the Klamath Mountains, northern California, USA. <i>Ecosphere</i> , 8(5).
Contingent Pacific- Atlantic influence on multicentury wildfire synchrony over western North America.	2007	Kitzberger, T., P.M. Brown, E. K. Heyerdahl, T. W. Swetnam and T.T. Veblen.	http://www.pnas.org/content/104/2/543.short	Kitzberger, T., Brown, P.M., Heyerdahl, E.K., Swetnam, T.W. and Veblen, T.T., 2007. Contingent Pacific–Atlantic Ocean influence on multicentury wildfire synchrony over western North America. <i>Proceedings of the National Academy of Sciences</i> , 104(2), pp.543-548.
Greenhouse gas emissions assessment roadmap for the North Coast Resource Partnership Region.	2017	Carman, J.	http://www.northcoastresourcepartnership.org/files/managed/Document/9629/NCRP_Tech-Area-3_FINAL_2017-05-18.pdf	Carman, J. 2017. Greenhouse gas emissions assessment roadmap for the North Coast Resource Partnership Region. Final Technical Report, 49 p.
High-severity wildfire effects on carbon stocks and emissions in fuels treated and untreated forest.	2011	North, M.P. and Hurteau, M.D.	https://www.sciencedirect.com/science/article/pii/S037811271000753X	North, M.P. and Hurteau, M.D., 2011. High-severity wildfire effects on carbon stocks and emissions in fuels treated and untreated forest. <i>Forest Ecology and Management</i> , 261(6), pp.1115-1120.
Human presence diminishes the importance of climate in determining U.S. fire activity.	2017	Syphard, A., J.E. Keeley, A. Pfaff, and K. Ferschweiler	http://www.pnas.org/content/early/2017/12/05/1713885114.short	Syphard, A., J.E. Keeley, A. Pfaff, and K. Ferschweiler. 2017. Human presence diminishes importance of climate in driving fire activity across the United States. <i>PNAS</i> 114(52): 13750- 13755. doi: 10.1073/pnas.1713885114

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NAME	YEAR	AUTHORS	URL	CITATION
Managing forests and fire in changing climates.	2013	Stephens, S.L., Agee, J.K., Fulé, P.Z., North, M.P., Romme, W.H., Swetnam, T.W. and Turner, M.G	http://science.sciencemag.org/content/342/6154/41	Stephens, S.L., Agee, J.K., Fulé, P.Z., North, M.P., Romme, W.H., Swetnam, T.W. and Turner, M.G., 2013. Managing forests and fire in changing climates. Science, 342(6154), pp.41-42.
NCRP climate and natural resources analysis and planning for the North Coast Resource Partnership, map and time series data visualizations.	2016	Micheli, L., Dodge, C. and Flint, L.	http://www.northcoastresourcepartnership.org/files/management/Document/9631/16-12-30%20PW-USGS%20NCRP%20map%20and%20data%20visualizations%20deck.pdf	Micheli, L., Dodge, C. and Flint, L., 2016. Climate And Natural Resources Analysis And Planning For The North Coast Resource Partnership.
North Coast Integrated Regional Planning – healthy communities, functional watersheds and viable economies. Technical Memo: baseline data assessment and analysis.	2017	Micheli L., C. Dodge and L. Flint	http://www.northcoastresourcepartnership.org/app_pages/view/9634	Micheli L., C. Dodge and L. Flint, 2017. North Coast Integrated Regional Planning – healthy communities, functional watersheds and viable economies. Technical Memo: baseline data assessment and analysis.
North coast regional climate adaptation strategies.	2018	Reza, K. & Tinsman, R.	http://www.northcoastresourcepartnership.org	Reza, K. & Tinsman, R. 2018. North coast regional climate adaptation strategies. North Coast Regional Climate Adaptation Strategies Report, 51 p.
North coast resource partnership integrated strategic plan.	2017	Zoellick, J. & Harris, A.	http://www.northcoastresourcepartnership.org	Zoellick J. and Harris, A. 2017. North coast resource partnership integrated strategic plan. North Coast Regional Climate Adaptation Strategies Report.
Projected effects of climate and development on California wildfire emissions through 2100.	2014	Hurteau, M.D., Westerling, A.L., Wiedinmyer, C. and Bryant, B.P.	https://pubs.acs.org/doi/abs/10.1021/es4050133	Hurteau, M.D., Westerling, A.L., Wiedinmyer, C. and Bryant, B.P., 2014. Projected effects of climate and development on California wildfire emissions through 2100. Environmental science & technology, 48(4), pp.2298-2304.
Restoring fire-prone Inland Pacific landscapes: seven core principles	2015	Hessburg, P.F., Churchill, D.J., Larson, A.J., Haugo, R.D., Miller, C.,	https://www.fs.fed.us/pnw/pubs/journals/pnw_2015_hessburg001.pdf	Hessburg, P.F., Churchill, D.J., Larson, A.J., Haugo, R.D., Miller, C., Spies, T.A., North, M.P., Povak, N.A., Belote, R.T., Singleton, P.H. and Gaines, W.L., 2015. Restoring fire-prone Inland

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NAME	YEAR	AUTHORS	URL	CITATION
		Spies, T.A., North, M.P., Povak, N.A., Belote, R.T., Singleton, P.H. and Gaines		Pacific landscapes: seven core principles. Landscape Ecology, 30(10), pp.1805-1835.
The fire frequency-severity relationship and the legacy of fire suppression in California forests	2015	Steel, Z.L., Safford, H.D. and Viers, J.H.	https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1890/ES14-00224.1	Steel, Z.L., Safford, H.D. and Viers, J.H., 2015. The fire frequency-severity relationship and the legacy of fire suppression in California forests. Ecosphere, 6(1), pp.1-23.
The impact of climate change on wildfire severity: a regional forecast for northern California	2004	Fried, J.S., Torn, M.S. and Mills, E.	https://link.springer.com/article/10.1023/B:CLIM.0000024667.89579.ed	Fried, J.S., Torn, M.S. and Mills, E., 2004. The impact of climate change on wildfire severity: a regional forecast for northern California. Climatic change, 64(1-2), pp.169-191.
Trees already stressed by drought may be more likely to die from fire.	2013	USGS Western Ecological Research Center	https://static1.squarespace.com/static/545a90ede4b026480c02c5c7/t/5528b863e4b02488e95eca46/1428732003590/WERC+PubBrief+201309+van+Montgomery+-+Climatic+Stress.pdf	USGS Western Ecological Research Center, 2013. Trees already stressed by drought may be more likely to die from fire. USGS Publication Brief. www.werc.usgs.gov
Trends and causes of severity, size, and number of fires in northwestern California, USA.	2012	Miller, J.D., Skinner, C.N., Safford, H.D., Knapp, E.E. and Ramirez, C.M	https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/10-2108.1	Miller, J.D., Skinner, C.N., Safford, H.D., Knapp, E.E. and Ramirez, C.M., 2012. Trends and causes of severity, size, and number of fires in northwestern California, USA. Ecological Applications, 22(1), pp.184-203.
Twentieth-century shifts in forest structure in California: denser forests, smaller trees, and increased dominance of oaks.	2015	McIntyre, P.J., Thorne, J.H., Dolanc, C.R., Flint, A.L., Flint, L.E., Kelly, M. and Ackerly, D.D	http://www.pnas.org/content/112/5/1458.short	McIntyre, P.J., Thorne, J.H., Dolanc, C.R., Flint, A.L., Flint, L.E., Kelly, M. and Ackerly, D.D., 2015. Twentieth-century shifts in forest structure in California: Denser forests, smaller trees, and increased dominance of oaks. Proceedings of the National Academy of Sciences, 112(5), pp.1458-1463.

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

NAME	YEAR	AUTHORS	URL	CITATION
Vulnerability to forest loss through altered postfire recovery dynamics in a warming climate in the Klamath	2017	Tepley, A.J., Thompson, J.R., Epstein, H.E. and Anderson-Teixeira, K.J.	https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.13704	Tepley, A.J., Thompson, J.R., Epstein, H.E. and Anderson-Teixeira, K.J., 2017. Vulnerability to forest loss through altered postfire recovery dynamics in a warming climate in the Klamath Mountains. <i>Global change biology</i> , 23(10), pp.4117-4132.
What's exacerbating California fires?	2015	Central and Southern California Team- USGS.	-	Central and Southern California Team- USGS, 2015. What's exacerbating California fires? - Research Brief for Resource Managers.
Structure, Diversity, and Biophysical Properties of Old-Growth Forests in the Klamath Region, USA	2015	Van Mantgem, P. J., and D. A. Sarr.	https://pubs.er.usgs.gov/publication/70157197	Van Mantgem, P. J., and D. A. Sarr. 2015. Structure, diversity, and biophysical properties of old-growth forests in the Klamath region, USA. <i>Northwest Science</i> 89:170-181.
Interactions of climate, fire, and management in future forests of the Pacific Northwest	2014	Wimberly, M.C. and Z. Liu	https://www.sciencedirect.com/science/article/pii/S0378112713006579	Wimberly, M. C., and Z. Liu. 2014. Interactions of climate, fire, and management in future forests of the Pacific Northwest. <i>Forest Ecology and Management</i> 327:270-279.
Wildfire trends in northwestern California forests.	2012	Northern California Fire Science Delivery Consortium	http://www.cafiresci.org/research-publications-source/category/wildfire-trends-in-northwestern-california-forests-1?rq=Wildfire%20trends%20in%20northwestern%20California%20forests	Northern California Fire Science Delivery Consortium, 2012. Wildfire trends in northwestern California forests - Research Brief for Resource Managers.
Warming and earlier spring increase western U.S. forest wildfire activity.	2006	Westerling, A.L., Hidalgo, H.G., Cayan, D.R. and Swetnam, T.W	https://www.fs.usda.gov/treesearch/pubs/download/24813.pdf	Westerling, A.L., Hidalgo, H.G., Cayan, D.R. and Swetnam, T.W., 2006. Warming and earlier spring increase western US forest wildfire activity. <i>science</i> , 313(5789), pp.940-943.
Large wildfire trends in the western United States, 1984–2011.	2014	Dennison, P.E., Brewer, S.C., Arnold, J.D. and Moritz, M.A	https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2014GL059576	Dennison, P.E., Brewer, S.C., Arnold, J.D. and Moritz, M.A., 2014. Large wildfire trends in the western United States, 1984–2011. <i>Geophysical Research Letters</i> , 41(8), pp.2928-2933.

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

NAME	YEAR	AUTHORS	URL	CITATION
Impact of anthropogenic climate change on wildfire across western US forests.	2016	Abatzoglou, J.T. and Williams, A.P	http://www.pnas.org/content/113/42/11770.full	Abatzoglou, J.T. and Williams, A.P., 2016. Impact of anthropogenic climate change on wildfire across western US forests. Proceedings of the National Academy of Sciences, 113(42), pp.11770-11775.

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

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APPENDIX G — BACKGROUND FOR WILDFIRE PROTECTION

G.1 LOCAL FIRE-PROTECTION ORGANIZATIONS

Local fire services are provided in Humboldt County through a variety of different organizations including fire related districts, joint powers authorities, and associations. The following is a description of fire organizations in Humboldt County. Each sub-heading is followed by the number of fire organizations of that type, in parentheses.

County Service Area (CSA) – (1)

County Service Areas (CSAs), authorized under §25210.1 of the Government Code, are generally single purpose, dependent special districts governed by the County Board of Supervisors. In Humboldt County, there is one fire related CSA, called CSA No. 4. CSA No. 4 is essentially a funding mechanism developed to provide structural fire protection in the coastal area located south of Orick and north of Crannell, not including the City of Trinidad. Through an *Amador Agreement*,¹ the County contracts with the California Department of Forestry and Fire Protection (CAL FIRE) to provide structural fire protection within CSA No. 4. The Westhaven Volunteer Fire Company also provides service within CSA No. 4, but is not a recipient of CSA No. 4 funding.

Community Services Districts – (4)

Community Service Districts (CSDs) are sometimes called junior cities and are authorized under §61000 et seq. of the Government Code. CSDs can provide a broad range of municipal services (primarily to unincorporated areas), including fire protection. CSDs are normally governed by a five-member elected Board of Directors and can receive revenue from taxes and fees. In cases where a CSD is responsible for fire protection in Humboldt County, services are provided by a volunteer fire department with facilities and funding provided by the CSD. Two CSDs in Humboldt County, Carlotta and Ruth Lake, provide fire protection and no other services. Most of the Ruth Lake CSD is located in Trinity County, along with the District's fire station and firefighters. Consequently, details about the Ruth Lake CSD are not addressed in this plan and the District is not counted here. In 2017, the Weott CSD was not able to renew a lease agreement for the property where the volunteer fire department station was located. The fire station had to be shut down and response operations have ceased. The CSD is considering the process of removing fire protection from its charter and for that reason the district is not counted here as an active fire service provider.

City Fire Departments – (1)

The cities of Eureka and Trinidad have city fire departments. The City of Eureka is the only city in Humboldt County that provides fire protection services with full-time staff members. The City of Eureka's fire department is staffed with career firefighters and the department also maintains a contingent of volunteer firefighters. The City fire department is operationally combined with Humboldt #1 Fire Protection District under a single fire chief. Humboldt Bay Fire represents the consolidation of the Eureka Fire Department (protecting the City of Eureka) and the Humboldt No. 1 Fire Protection District (protecting the greater Eureka area, outside the City limits). Consolidation talks were ongoing for 50+ years until finally the Humboldt Bay Fire Joint Powers Agreement was signed in November of 2012, officially combining the two entities. For that reason Humboldt Bay Fire is counted once below under fire protection districts.

The City of Trinidad receives service from an all-volunteer city fire department. All other cities in the county receive fire protection services from a fire department associated with a fire protection district.

¹ The Amador agreement continues CAL FIRE staffing and station coverage through the winter "off season" and is defined in: California Public Resources Code, sections 4143 & 4144. (2005).

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

Fire Protection Districts – (19)

Fire Protection Districts (FPDs) are authorized under §13800 et seq. of the California Health and Safety Code to provide fire protection and emergency medical services. FPDs are generally governed by a three- or five-member, elected Board of Directors. The Board of Supervisors (BOS) governs three of the FPDs in Humboldt County and, in these cases, it is the BOS that appoints a local board of fire commissioners. The majority of the FPDs in Humboldt County are staffed entirely by all-volunteer fire departments.

Resort Improvement District – (1)

Resort Improvement Districts (RIDs) are authorized under §13000 of the Public Resources Code to provide a broad range of services (similar to CSDs) to unincorporated areas that are occupied seasonally for recreation/resort purposes. In Humboldt County, RID No. 1 provides municipal services to the community of Shelter Cove; the RID provides fire protection services through the Shelter Cove Volunteer Fire Department.

Tribal Fire Departments – (3)

The Hoopa Fire Department is the largest tribal department within Humboldt County and is a chartered stand-alone organization within tribal government, solely operated and managed by the Hoopa Valley Tribe. The Hoopa Fire Department is a national resource and responds across the nation to provide assistance to local, state, and federal agencies when requested. Hoopa Volunteer Fire and Rescue is a volunteer fire company that also provides services to the Hoopa Valley Reservation. The Karuk Tribe supports a fire and fuels program under their Department of Natural Resources with offices in Humboldt County (Orleans) and Siskiyou County (Happy Camp and Yreka). The Wildland Fire Crew is dispatched by the Klamath National Forest for any federal emergency and reimbursed through the BIA. The Karuk program is primarily based outside of Humboldt and is not considered a primary local county resource in this plan. The Yurok Tribe has limited staff and resources to provide contract wildland firefighting services through the BIA. The Yurok Volunteer Fire Department is a local fire company which, when active, provides fire and rescue services to the Upper Yurok Reservation. The Yurok Volunteer Fire Department is not counted in this version of the CWPP because its activity status is unknown.

Volunteer Fire Companies – (11)

Volunteer firefighters are the fire protection backbone of rural Humboldt County. Although almost all fire departments in Humboldt County are staffed by volunteers, most departments are associated with a local government organization such as a city or special district. Most *Volunteer Fire Companies* (VFCs) are organized pursuant to Health and Safety Code §14825 et seq., or by other means, and these organizations often establish themselves as non-profit 501(c)3 corporations.

G.2 COOPERATIVE AGREEMENTS

FIGURE G.1 USFS STATEWIDE AND REGIONAL-LEVEL COOPERATIVE FIRE AGREEMENTS

- Five Party Agreement with CAL FIRE, USFS, BLM, US Fish and Wildlife Service, and National Park Service (Provides for interagency response to wildfires within the state of California)
- California Fire Assistance Agreement with California OES, CAL FIRE, USFS, BLM and NPS (Cooperative Agreement for acquisition of local government resources by the Resource/ Wildland Fire agencies for assistance on wildfires within California).
- Northwest Area and Oregon Cooperative Fire Agreement
- California Fire Service and Rescue Emergency Mutual Aid Plan
- National Park Service Cooperative Agreement
- California Conservation Corps
- Memorandum of Agreement for the Development of a Collaborative Fuels Treatment Program (USDA, DOI, National Association of State Foresters, and the National Association of Counties)

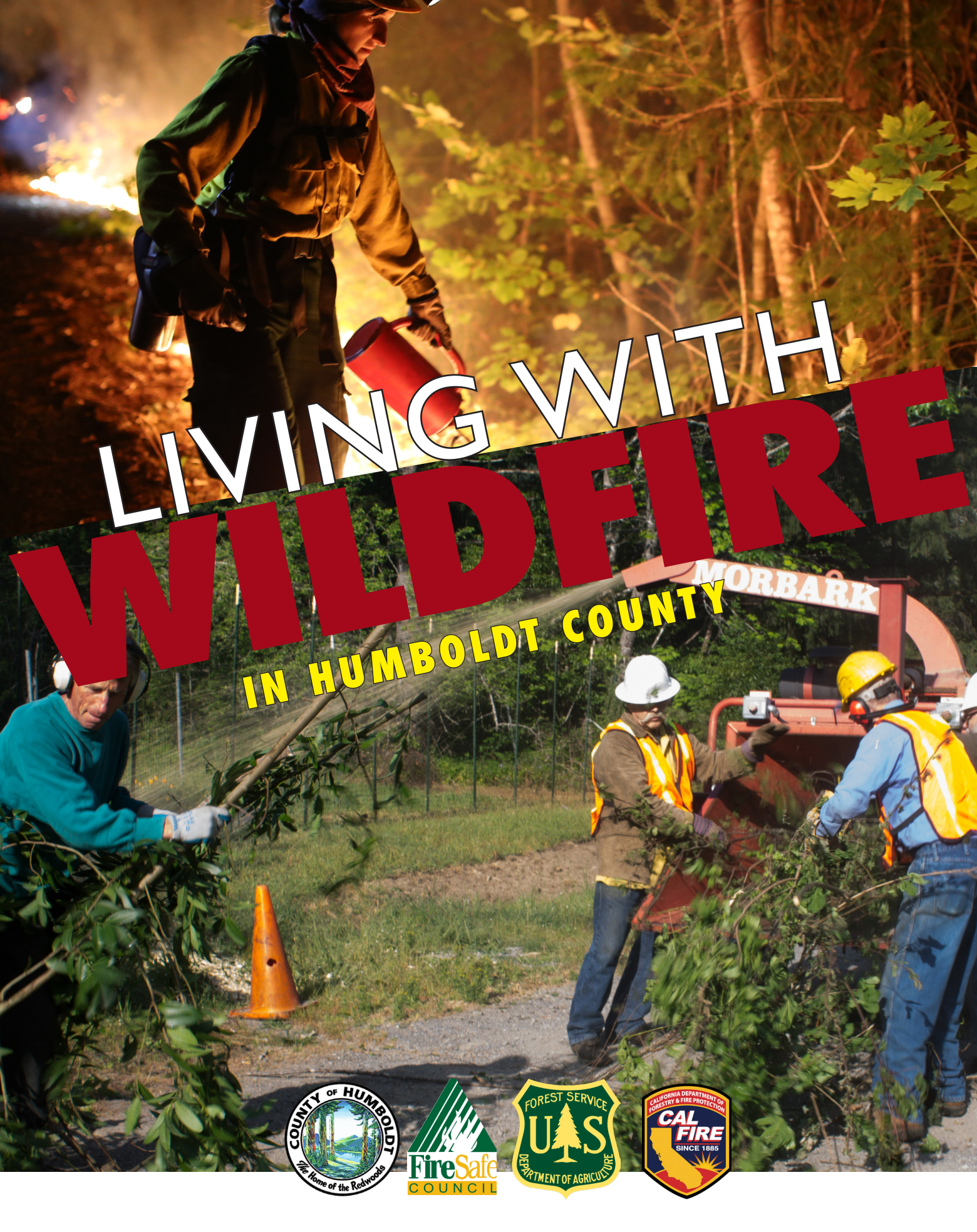
HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

FIGURE G.2 SRNF FOREST-WIDE FIRE ASSISTANCE AGREEMENTS AND LOCAL OPERATING PLANS

- Hoopa Valley Tribe (Fire Department)
- CAL FIRE-Humboldt Del-Norte Unit
- Redwood National Park
- Bureau of Land Management (Kings Range)
- California Conservation Corps (Fortuna)
- Incident Service Agreement with The Native Service Crew
- Local Operating Plan with Six Rivers NF, Siskiyou NF, and Redwood NP
- Humboldt County (use of Rhonerville airport for landing aircraft involving wildfire suppression activities)
- Memorandum of Understanding Between the Karuk Tribe of California and USDA FS Six Rivers and Klamath National Forests
- Memorandum of Understanding Between the Yurok Tribe and USDA FS Six Rivers National Forest

FIGURE G.3 SRNF AGREEMENTS WITH HUMBOLDT COUNTY LOCAL VOLUNTEER FIRE DEPARTMENTS FOR FIRE SUPPRESSION ASSISTANCE AND ASSISTANCE-BY-HIRE FOR WILDFIRE INCIDENTS

- Orleans Volunteer Fire Department
- Willow Creek Volunteer Fire Department
- Hoopa Volunteer Fire Department



LIVING WITH WILDFIRE

IN HUMBOLDT COUNTY





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“When a wildfire is headed straight for our house, it’s great to know **we’re ready** because we’ve **pulled together as a community**. We’ve **cleared flammable forest debris**, dug firelines, and **reintroduced fire** here during autumn controlled burns. **We feel defensible and resilient** as a result.”

— Malcolm Terence

Salmon River resident who experienced fire close to his home in 2006, 2008, and 2013.

Cover: Top photo by Konrad Fisher/Klamath Riverkeeper. Heather Rickard of the Karuk Tribe uses a drip torch during the 2016 Prescribed Fire Training Exchange. Bottom photo: Willow Creek Fire Safe Council members help Redwood Valley residents during a County of Humboldt sponsored Firewise Day. **This Page:** Photo by Stephen Underwood. The Canoe Fire burned over 11,000 acres of coast redwood forest in Humboldt Redwoods State Park in 2003.

Living with Wildfire in Humboldt County A Volunteer Firefighter's Perspective

The monumental 2015 fire season began with brittle dry vegetation and abnormally dry weather due to the drought. By July, Northern California was already experiencing several large fires and fire-fighting resources were becoming limited. Briceland VFD contracts with CAL FIRE to cover their local stations when needed. As fire conditions worsened, we were asked to cover the Thorn Station. I was assigned as captain on our type 3 engine; a big responsibility with concerns for safety, training, and morale.



During the next few weeks, we ran an average of 2 to 3 calls per day, including medical, accidents, fires, and covering other nearby CAL FIRE stations.

By the first week of August, just as the fire situation was improving, Mother Nature had a surprise for us. A thunderstorm rolled through the southern half of the county and into Six Rivers National Forest. This lightning storm set over 60 wildland fires in southern Humboldt alone. CAL FIRE dispatch sent out an ALL CALL for local government engines to respond to the Garberville CAL FIRE Station to be immediately assigned to attack local fires. Good progress was made over that day and night on many of the fires, but we were severely short on resources. The next day some of the fires were still unstaffed, and some had grown substantially.

Over the next 3 weeks, the fires burned thousands of acres and firefighters were pushed to their limits. Except us. We had a daily routine of up at 6 am, do our physical training, engine checks, equipment checks, and station cleaning, to be ready for what the day might bring. I felt somewhat guilty to have slept in a warm bed

each night when my friends were working 24-hour shifts in some very rugged country.

As we listened to radio reports from many fires requesting more resources, I had to remind my crew that we were covering a fire station and therefore would not be dispatched to the big fires as there were no resources to come behind us. To help keep up morale,

I baked goodies such as berry cobbler and apple crisps.

At the end of August, we suddenly got beeped out to a vegetation fire in the King Range, the Horse Fire, that was in very difficult terrain and grew to be 146 acres. We worked with limited resources in difficult conditions for 3 days until a fire management team came to take command. We shifted our focus to protecting Shelter Cove from the fire.

In early September we were finally released from fire duty, only to be called back 4 days later to cover the CAL FIRE Thorn station. We then got a call for an "immediate need" Strike Team assignment out of county. We don't generally leave the area during the height of fire season, but a major fire had developed in nearby Lake County, and we knew their situation was dire. We were able to staff a second engine to ensure the station was covered, and we headed down to the Valley Fire. We worked on the fire for two weeks, and saw first-hand the incredible devastation to the Middletown area.

We returned home in late September when the fire season finally began to wind down. Overall, I had spent over 80 days on fire assignment or on station coverage.

*Diana Totten, Captain
Briceland Volunteer Fire Department*



Help Firefighters Help You

Did you know...

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

Local Fire Service Needs your Support

There are many ways you can support your local fire department!

- ✓ *Make a monthly, yearly, or one-time donation.*
- ✓ *Volunteer as a Firefighter! Fire departments are always seeking new recruits!*
- ✓ *Donate your time and abilities! Fire departments need volunteers for more than just firefighting. You can assist in fundraising efforts, administration tasks, and maintenance activities.*
- ✓ *Remember to drive safe, stay healthy, and maintain your defensible space.*
- ✓ *Use the following Fire Protection Agencies Directory pages to find a local fire department near you and find out how you can help. CALL TODAY!*



Volunteer!

Make a difference and enrich your own life.

Volunteering for your local fire department can: help you learn new skills; fulfill a family tradition; give you a sense of camaraderie as part of a team; help you gain experience; prepare you to pursue an exciting career as a firefighter; increase your sense of community identity and pride; and much more!

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

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

No Experience Necessary to Apply!

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

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

Not sure if firefighting or emergency medical services are for you, but still want to serve your community?

Fire departments are also in need of support volunteers who help with NON-firefighting duties such as logistics, traffic control, administration, public education and fire prevention, and fundraising.

Fire Protection Services in Humboldt County

IF YOU HAVE AN EMERGENCY, CALL 911.

911 Calling Tips

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

CAL FIRE 911 Emergency Command Center, Fortuna, CA

For more information on Humboldt County Fire Agencies, see humboldt.gov/FireProtection-Services.

ALDERPOINT VOLUNTEER FIRE DEPARTMENT

POB 164, Alderpoint, CA 95511
707-923-1665

ARCATA FIRE PROTECTION DISTRICT

631 9th Street, Arcata, CA 95521
707-825-2000
www.arcatafire.org

BLUE LAKE VOLUNTEER FIRE DEPARTMENT

POB 245, Blue Lake, CA 95525
707-668-5765
www.bluelakefire.net

BRICELAND VOLUNTEER FIRE DEPARTMENT
POB 1249, Briceland, CA 95560,
707-923-7204



BRIDGEVILLE VOLUNTEER FIRE DEPARTMENT
POB 51, Bridgeville, CA 95526
707-777-3424

CARLOTTA VOLUNTEER FIRE DEPARTMENT
POB 33, Carlotta, CA 95528
707-768-1714

FERNDALE VOLUNTEER FIRE DEPARTMENT
POB 485, Ferndale, CA 95536
707-599-5382
<http://ferndalefire.org>

FIELDBROOK VOLUNTEER FIRE DEPARTMENT
4584 Fieldbrook Road
Fieldbrook, CA 95519
707-839-0931
www.fieldbrookfire.org



FORTUNA VOLUNTEER FIRE DEPARTMENT
320 South Fortuna Boulevard
Fortuna, CA 95540
707-725-5021

FRUITLAND RIDGE VOLUNTEER FIRE DEPARTMENT
POB 87, Myers Flat, CA 95554
707-943-3402

GARBERVILLE VOLUNTEER FIRE DEPARTMENT
POB 288, Garberville, CA 95542
707-923-3196



HUMBOLDT BAY FIRE
533 C Street, Eureka, CA 95501
707-441-4000
www.hbfire.org

HONEYDEW VOLUNTEER FIRE COMPANY
POB 74, Honeydew, CA 95545
707-373-4631

HOOPA FIRE DEPARTMENT
POB 369, Hoopa, CA 95525
530-625-4366



HOOPA VOLUNTEER FIRE DEPARTMENT
POB 1321, Hoopa, CA 95546
530-625-1118
www.hoopa-nsn.gov

FIRE AGENCIES AND YOU

KNEELAND VOLUNTEER FIRE DEPARTMENT

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

<http://kneelandfire.org/>

LOLETA VOLUNTEER FIRE DEPARTMENT

POB 119, Loleta, CA 95551
707-733-5407

MIRANDA VOLUNTEER FIRE DEPARTMENT

POB 160, Miranda, CA 95553
707-943-3023

MYERS FLAT VOLUNTEER FIRE DEPARTMENT

POB 131, Myers Flat, CA 95554
707-223-3175

ORICK VOLUNTEER FIRE DEPARTMENT

101 Swan Road,
Orick, CA 95555
707-488-3093



ORLEANS VOLUNTEER FIRE DEPARTMENT

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

PALO VERDE VOLUNTEER FIRE COMPANY

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

PETROLIA VOLUNTEER FIRE DEPARTMENT

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



PHILLIPSVILLE VOLUNTEER FIRE DEPARTMENT

POB 39, Phillipsville, CA 95559
707-943-3555

REDCREST VOLUNTEER FIRE DEPARTMENT

POB 27, Redcrest, CA 95569
707-722-1967



REDWAY VOLUNTEER FIRE DEPARTMENT

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

RIO DELL VOLUNTEER FIRE DEPARTMENT

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

www.riodellfire.com

SALMON CREEK VOLUNTEER FIRE DEPARTMENT

POB 662, Miranda, CA 95553
707-943-3502



SAMOA PENINSULA VOLUNTEER FIRE DEPARTMENT

1982 Gass Street
Fairhaven, CA 95564
707-443-9042

www.samoafire.org



SCOTIA VOLUNTEER FIRE DEPARTMENT

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



SHELTER COVE VOLUNTEER FIRE DEPARTMENT

9126 Shelter Cove Road
Whitethorn, CA 95589
707-986-7507

www.sheltercove-ca.gov/fire/fire.htm

FIRE AGENCIES AND YOU



SOUTHERN HUMBOLDT TECHNICAL RESCUE

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

SPROWEL CREEK VOLUNTEER FIRE DEPARTMENT

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



TELEGRAPH RIDGE VOLUNTEER FIRE DEPARTMENT

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

TRINIDAD VOLUNTEER FIRE DEPARTMENT

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



WESTHAVEN VOLUNTEER FIRE DEPARTMENT

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



WHALE GULCH VOLUNTEER FIRE DEPT.

76850 B Usal Road
Whitethorn, CA 95589
707-986-7266



WHITETHORN VOLUNTEER FIRE DEPT.

POB 485, Whitethorn, CA 95589
707-986-7561



WILLOW CREEK VOLUNTEER FIRE DEPT.

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

YUOK VOLUNTEER FIRE DEPARTMENT

POB 194, Hoopa, CA 95546
530-625-9232

CAL FIRE FOREST FIRE STATIONS



CAL FIRE HUMBOLDT-DEL NORTE UNIT – FORTUNA

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

ALDERPOINT STATION

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

BRIDGEVILLE STATION

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

ELK CAMP STATION

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

GARBERVILLE STATION

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

MATTOLE STATION

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

THORN STATION

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





**TRINIDAD STATION
COUNTY SERVICE AREA #4**
POB 749, Trinidad, CA 95570
707-677-3638



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

**REDWOOD
NATIONAL PARK**



**WOLF CREEK FIRE
STATION**
Orick, CA
707-488-5125



**SIX RIVERS
NATIONAL FOREST
RANGER STATIONS**



**SIX RIVERS NATIONAL
FOREST HEADQUARTERS**
1330 Bayshore Way
Eureka, CA 95501
707-442-1721



LOWER TRINITY
POB 68, Willow Creek, CA
95573
530-629-2118

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



ORLEANS
POB 410, Orleans, CA 95556
530-627-3291



**Humboldt County Fire
Chiefs' Association**

The Humboldt County Fire Chiefs' Association (Fire Chiefs) works hard to improve the level of service throughout the county by increasing coordination, communication, standardization, and support. The desire to work together to improve interoperability is the driving force behind the efforts of the Fire Chiefs. At their monthly meetings, the group receives regular reports from committees and/or sub groups of the Association including fire instructors/training, fire prevention officers and a fire/arson investigation unit. Cal OES, CAL FIRE, Cal Chiefs, County OES, North Coast EMS, the Humboldt County Fire Safe Council (HCFSC), and others as available also contribute valuable information. These meetings provide a venue for sharing information about training, prevention, standards, legislation, grants, and new initiatives and innovations. Collaboration with these and other agencies has enabled the growth of productive and effective relationships that have proven to be beneficial to all parties.

FIRE AGENCIES AND YOU

HUMBOLDT COUNTY'S EMERGENCY NOTIFICATION SYSTEM

Humboldt ALERT

The Humboldt County Sheriff's Office of Emergency Services wants you to be safe and informed during emergencies in your area — including public health threats, dangerous weather, and safety incidents. Register now to be notified by land line, email, and/or cell phone about local disasters, hazards, and emergencies for free!



Register at:

humboldt.gov/alerts



OR scan the QR Code on your phone!

Please contact the Humboldt County Office of Emergency Services if you have any questions, at 707-268-2500, or by email at oes@co.humboldt.ca.us.

REMEMBER, WE CAN'T ALERT YOU IF WE CAN'T REACH YOU.



Hoopla Fire Department

The Hoopa Fire Department strives to develop programs and processes for the protection of the Hoopa Indian Reservation and the community of Hoopa. This is accomplished through an aggressive suppression and prevention program. The Fire Department has developed and approved a Community Wildfire Protection Plan starting in 2016. With this plan the development and initiation of our Hoopa Fire Safe Council can now have direction and an opportunity to plan for and protect the community from wildfire within the WUI. Fire Prevention is also a large part of our daily activities. Helping land owners and working on Tribal Lands, we assist with land clearing, utilizing mechanical methods as well as burning. Public presentations, fire prevention drills and talks in the local schools, as well as constantly sending out information to the community is at the top of our priority list for the prevention of catastrophic fire in Hoopa.



For more information about the Hoopa Fire Department and its Tribal Fire program, call the administrative office during normal business hours at 530-625-4366.

FIRE AGENCIES AND YOU

Consider a Career with the USDA Forest Service



To view upcoming employment opportunities, visit the following Forest Service websites:

<https://fsoutreach.gdcii.com/Outreach>

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

For more information about the Six Rivers National Forest, visit:

www.fs.usda.gov/srnf “like” us on Facebook at www.facebook.com/USFSSixRiversNF

or “follow” us on Twitter at www.twitter.com/SixRiversNF



Who Is the CAL FIRE Humboldt-Del Norte Unit?

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



fire prevention planning. These duties are carried out by 11 fire stations, three fire crew camps, one air attack base, one helitack

base, and one emergency command center. HUU maintains 14 frontline engines, two reserve engines, two dozers, 15 inmate fire crews, one helicopter, one air attack, and one air tanker. There are one hundred permanent fire-suppression personnel and six clerical personnel to staff these efforts. Additionally, approximately ninety limited-term and seasonal personnel supplement permanent staff during fire season. We also have 15 resource management foresters who evaluate timber harvesting practices and permitting.



CAL FIRE HUU has several programs funded through the SRA prevention fees (see next page.) Unit prevention efforts include communi-

ty fire safe exhibitions, open burning permits, fire patrols, structure and dooryard premises inspections, and participation on the Humboldt County Fire Safe Council.

The Unit's goals are to reduce ignitions/fires through education, information, planning, and enforcement. Increasing public awareness helps focus efforts by individuals and communities to reduce human loss and property damage from wildland fire. This mission is carried out through defensible space inspections, hazardous fuels reduction projects, fire prevention education and fire-safe building standards. Fire prevention programs are coordinated with Fire Safe Councils and local fire departments. While striving to achieve these goals, the Unit's objective is to see reduced fire ignitions, property loss and damage to the environment.



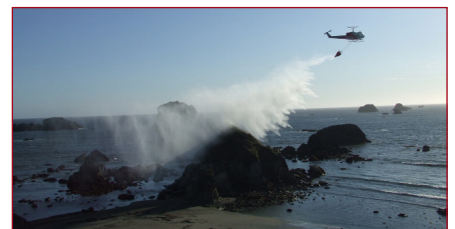
CAL FIRE is one of the largest fire departments in North America. We respond to over 340,000 incidents statewide annually. In Humboldt and Del Norte counties CAL FIRE responds to over 1,500 incidents annually. Over the past several years, emergency response to wildfire has increased due to drought, more construction, and land use activity in the wildlands. In Humboldt and Del Norte counties, calls for emergency service have increased dramatically. Most of Humboldt and Del Norte counties are served by volunteer



fire departments. On average, each volunteer department is committing to thousands of human-power hours each year. There are 44 volunteer fire departments between Humboldt and Del Norte counties. There are also three full-time career fire departments in the two counties. Over the last three years, the volunteers and career staff between both counties have responded to over 15,000 calls for service annually. CAL FIRE works with all the fire departments in both counties.



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



We Live in a Wildfire Environment

The beautiful and scenic landscapes of northwestern California make this area an enticing place to live. For those who have experienced the spectacular natural resources this region has to offer, it is understandable why many residents have sought homes adjacent to or within woodland and back-country areas. The intermingling of human developments such as roads and houses with undeveloped wildlands, is known as the wildland-urban interface (or “WUI” for short). It is critical that WUI residents are aware of their heightened vulnerability to damage from wildfire AND that they know what can be done to reduce their risk and prepare their homes against the threat of wildfire.

The goal of this publication is to raise awareness about wildfire hazards and provide tools and information that can help homeowners, their families, homes and properties survive and thrive in a wildfire-prone environment. Because in California, it’s not a matter of IF a wildfire will happen, but WHEN.

Fire has traditionally been, and will continue to be, an integral part of northwestern California’s landscapes. These ecosystems have adapted to and evolved with fire. Consequently, many native plants are adapted to burn periodically; they need fire to be healthy, reproduce, and survive. Many Native American tribes observed and understood the beneficial effects of fire on the environment and incorporated small, intentional burns in their landscape management. Such practices improved food and cultural resources, such as acorns, basketry material, and grasses favored by deer and elk, which were hunted for food. Agricultural settlers in the 1800s also used intentional burns to improve and maintain grasslands for pasture animals.

These more frequent, low-intensity fires helped keep forest ecosystems healthy by burning away dead vegetation, brush, and regeneration in the understory, which replenishes soil nutrients and prevents forests and shrublands from becoming too overcrowded. Overcrowding can make trees less vigorous and more

vulnerable to insects and diseases, such as the outbreak of Sudden Oak Death in our local hardwood forests.

A history of fire suppression since the early 1930s has interrupted the region’s natural cycle of fire, altering the composition of the landscape and allowing the accumulation of dense vegetation and dead fuels in forest understories. These large amounts of combustible materials, known as *high fuel loads*, increase the likelihood that wildfires will burn at a high intensity, with extremely hot temperatures and fast rates of spread. Such high-intensity wildfires are capable of destroying large areas of forest and threatening our communities. Historic logging and land management practices, as well as urban

and suburban development, have contributed to increased wildfire fuel loads in the WUI, which in turn, has increased the risk of catastrophic wildfires in the forestlands of northwestern California.

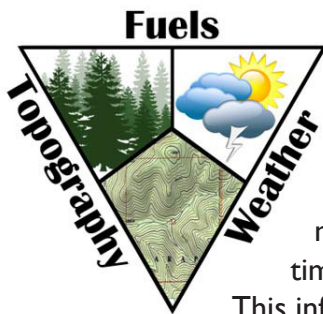
Over the last several years, this area has seen increasing numbers of catastrophic wildfires.

Climate change is causing us to swing between too little and too much precipitation, as well as extreme temperatures. The recent drought brought us some of the biggest and most damaging wildfires in our nation’s history. Excessive rain can lead to lots of grass and other flashy fuels (those that burn quickly). If rains are followed by hot, dry spells, it only takes a spark and some wind to create the scenario for another catastrophic fire.

Given these recent extremes in temperature and precipitation, it is especially important for residents to prepare their homes, communities, and neighborhoods for the eventuality of wildfire. Research on wildfires in California since the 1960s teaches us that there is much we can do to prepare ourselves to coexist with wildfire. Hardened homes with defensible space have a greater chance of surviving wildfire. Within these pages you will find information to ensure your home, family, neighborhood, and community can effectively coexist with wildfire.



Fire Behavior: Do Fires Really Behave?



How quickly a fire spreads, and in which direction (whether horizontally or vertically), how hot it burns, how long its flame lengths are, are all aspects of what's known as *fire behavior*. The faster, hotter, and bigger a fire becomes, the more difficult it is to control and more destructive it can be.

Knowing the attributes of fire behavior is important in order to communicate the various threats from any fire and the benefits of mitigation. Flame length, fire intensity, heat output, rate of spread, residence time, and whether it is a surface or a crown fire, are all aspects of fire behavior.

This information helps us to understand fire's resistance to control, potential damage, and/or positive impacts.

There are three major contributing factors that affect fire behavior:

Weather, Topography, and Fuel



Weather characteristics such as wind, temperature, and relative humidity (i.e., moisture in the air) will influence the way a fire behaves. In general, strong, erratic winds, high temperatures, and low relative humidity will increase fire behavior.

Topography refers to characteristics of the landscape, including slope, aspect, and surface configurations—such as mountains, valleys, canyons, and drainages. Fire behavior tends to increase with steepness of the slope is, particularly in narrow canyons and drainages, which can create a chimney



effect, where a convection column of heat drives the fire quickly upwards. Fire behavior also tends to be greater on slopes with south and southwest aspects, because they receive more sun during the hotter part of the day, drying out fuels and make them more ignitable.

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



The Wildland-Urban Interface (WUI)

Human developments in the WUI create additional wildfire hazards. Vehicles, electrical wiring, appliances, chimneys, other potential ignition sources, and these developments put more values—such as lives, pets, property, and natural resources—at risk. People living in the WUI are at an increased risk of structure fires resulting from wildland fires and, vice versa, causing structure fires that ignite wildland fires. That is why it is especially important for residents living within the WUI to develop an understanding of fire behavior, fire risks, and how to take precautions to harden homes against destruction from wildfire. The pages that follow elaborate on these topics.



Negative Environmental Impacts of High-Intensity Wildfires

The forests of Northern California are valuable ecosystems that sustain a wealth of biodiversity, offer viable wildlife habitat, provide sanctuary for many special status species, and support healthy watersheds by retaining massive amounts of water in their robust soil compositions.

When high-intensity wildfires occur, they can kill wildlife, scorch entire forests, and destroy microbes in the soil, causing negative impacts to ecological functions.

Erosion following wildfires can also cause large amounts of sediments to be deposited into streams and rivers, which can damage aquatic habitat and threaten fish species. Aquatic species can be further impacted when wildfires destroy vegetation that provides shade for water bodies. This causes water temperatures to rise, which can promote algae blooms and limit habitat suitable for fish spawning. Firefighting methods can also have negative impacts on local water. Fire retardant and foam suppressants are toxic to many aquatic species.

Bucket dipping, or drawing water from rivers and creeks for fire suppression, can deplete stream flows that are typically already low during the late summer months when native salmon and steelhead populations are most vulnerable.

Therefore, it's important we prepare our homes and communities so we don't start fires that can spread to our nearby precious wildlands and threaten native flora and fauna.



Ignition Sources, or How Do Fires Start?

Simply put, fire is a rapid combination of fuel, heat and air. When enough heat is applied to a fuel, the result is fire. Heat is necessary to begin the reaction. Once started, fire produces its own life-giving heat and the reaction becomes spontaneous. As long as there is fuel, air and heat present, the fire will continue to burn.

Summer storms – with or without rain – can produce lightning strikes, which have long been among the most common fire starters, or “ignition sources,” in Northern California. Many lightning-caused fires occur in remote, forested areas with few homesteads nearby; however, a single storm can generate numerous wildfires through multiple lightning strikes. Multiple, simultaneous wildfires can spread firefighting resources thin and limit suppression capabilities. However, even when wildfires are remote enough that they do not immediately threaten any human communities, the build-up of hazardous fuels from decades of dramatic fire suppression can produce high-intensity wildfires that have harmful effects on the environment.

Humans Cause 94% of Wildfires in California!

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

HUMANS ACCIDENTALLY CAUSE WILDFIRES BY...



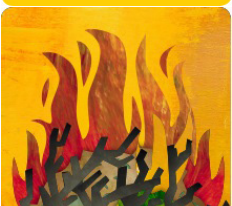
VEHICLES AND TOWING – For many of us, the vehicles we drive become second nature to us, and it is easy to forget that they are potentially dangerous machines that require constant vigilance. Vehicles can create sparks that can lead to wildfires in many ways, and it's the driver's responsibility to be mindful of and take action to prevent that from occurring. See *page 16* for more information on how to avoid vehicle-caused wildfire ignitions.



EQUIPMENT AND MACHINERY USE – Lawn mowers, weed whackers, chainsaws, and other machinery are useful tools for managing vegetation on your property, among other tasks. However, it is important to always be mindful of fire hazard conditions when operating equipment and machinery outside. If it is a hot, dry or windy day, it is not a good time to mow your lawn. These conditions cause low moisture levels in vegetation, making them highly combustible, and all it takes is a single spark from your equipment to ignite a fire. Early morning, when the air is cooler and the wind is calmer, is a better time to use equipment during fire season. See *page 18* for more information on avoiding equipment and machine-caused wildfire ignitions.



CAMPFIRES – Camping is a great way to enjoy and experience firsthand the scenic landscapes and natural resources Northern California has to offer. Campfires are an all-time favorite part of the camping experience, but it's important to remember that summer—the most popular time for camping—is also fire season. Campfires are the 3rd leading cause of human-caused wildfires. Safe and responsible management of campfires is crucial to protecting yourself and others, as well as the natural surroundings you're there to enjoy. See *pages 16 to 17* for more information on appropriate campfire use.



DEBRIS BURNING – Debris or pile burning is one way to dispose of debris from vegetation management on your property. However, there are sensible regulations on how and when this is done, and for good reason. Unattended or oversized burn piles can “escape” and cause wildfires that put homes and people directly at risk. See *pages 19, 25, and 34* for more information on how to pile burn safely.

Unfortunately, not all human-caused fires start by accident...

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

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



OPEN CAMPFIRE SAFETY RULES

Campfire Safety to Prevent Wildfire

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

BUILD

TO BUILD AN OPEN CAMPFIRE:



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

5 FT

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



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

1

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



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



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



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

BURN

THE FIRE IS BURNING



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



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



NEVER LEAVE CHILDREN AROUND A FIRE UNATTENDED.

OUT

COMPLETELY EXTINGUISH AN OPEN CAMPFIRE



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



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



TURN WOOD AND COALS OVER AND WET ALL SIDES.



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

ONE LESS SPARK
ONE LESS WILDFIRE

FOR MORE INFORMATION AND A PRINT-READY CAMPFIRE PERMIT VISIT:
PREVENTWILDFIRECA.ORG
[#PREVENTWILDFIRE #ONELESSPARK](https://twitter.com/1LESSSPARK)

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

ONE LESS SPARK

ONE LESS WILDFIRE

ONE LESS SPARK

ONE LESS WILDFIRE



CAUSED BY: VEHICLES

Safe Towing

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



Nothing Dragging

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



Be Wheel Safe

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



Only You Can Prevent Wildfires.



CARRY A FIRE EXTINGUISHER IN YOUR VEHICLE AND LEARN HOW TO USE IT.

California Wildfire Coordinating Group



Produced in cooperation with the USDA Forest Service, which is an equal opportunity service provider and employer.
Photography by Forest Service: Mark Thibideau and Ron Hodgson
62-PW-000 June 2013



Visitors - Please be safe when enjoying our backyard! **CAMPFIRE SAFETY**

How to Pick Your Spot

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

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

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

Building Your Campfire Pit from Scratch

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

- Choose a spot that is downwind, protected from wind gusts, and at least 15 feet away from your tent and gear.
- Choose a 10-foot-diameter area around the site. Remove any grass, twigs, leaves and firewood. Also, make sure there aren't any tree limbs or flammable

objects hanging overhead.

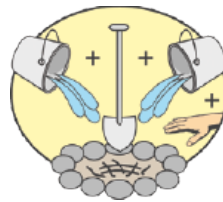
- Dig a pit in the dirt, about a foot deep.
- Circle the pit with medium-large rocks.
- Your pit is built and ready for your campfire!
- Remember to always keep a bucket of water and a shovel ready.

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

Extinguishing Your Campfire

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

- Allow the wood to burn completely to ash, if possible.
- Pour lots of water on the fire, drown ALL embers, not just the red ones.
- Pour water on fire until all hissing sounds stop.
- Stir the campfire ashes and embers with a shovel.
- Scrape the sticks and logs to remove any embers.



- Stir and make sure everything is wet and they are cold to the touch.
- If you do not have water, use dirt. Mix enough dirt or sand with the embers. Continue adding and stirring until all material is cool.
- Do NOT bury the fire as the fire will continue to smolder and could catch roots on fire that will eventually get to the surface and can start a wildfire.

REMEMBER: If it's too hot to touch, it's too hot to leave!

Do Not Burn Dangerous Things!

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

Get Your California Campfire Permit for Free Online at:
www.preventwildfireca.org/Campfires/

ONE LESS SPARK ONE LESS WILDFIRE

ONE LESS SPARK ONE LESS WILDFIRE



CAUSED BY: HOMEOWNERS

Use the Right Equipment

Use string vegetation trimmers to cut tall, dry grass.



Remove Rocks

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



Be Ready!

Have water and a fire extinguisher readily available.



Only You Can Prevent Wildfires.



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



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



EQUIPMENT SAFETY

Practice Using Equipment Safely

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

MOWING

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

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

METAL BLADES STRIKING ROCKS CAN CREATE SPARKS AND START FIRES.

SPARK ARRESTERS

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

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

6 C
Carbon 12.011

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

EQUIPMENT USE

KEEP A SHOVEL AND A FIRE EXTINGUISHER READY TO USE.

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

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

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

TERRAIN

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

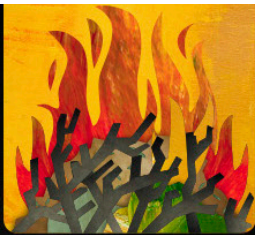
VEGETATION REMOVAL CAN CAUSE SOIL EROSION, ESPECIALLY ON STEEP SLOPES.

KEEP SOIL DISTURBANCE TO A MINIMUM.

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

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

www.preventwildfireca.org



LANDSCAPE DEBRIS BURNING

Proper Debris Burning Prevents Wildfire

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

HOW



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



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



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

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

4 FT



10 FT

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

WHAT



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



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

WHEN



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

PERMITS

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

ONE LESS SPARK
ONE LESS WILDFIRE

FOR MORE INFORMATION AND A PRINT-READY CAMPFIRE PERMIT VISIT:

PREVENTWILDFIRECA.ORG

#PREVENTWILDFIRE #ONELESSPARK

BROUGHT TO YOU BY THE CALIFORNIA WILDLAND FIRE COORDINATING GROUP (CWC6)

How to Safely Burn Landscape Debris

Burning yard waste is unfortunately a major cause of fire in our region. All burning requires a permit. Follow the requirements of your burn permit and the information below to safely burn your yard waste.

- ✓ On a burn day, yard waste piles for a Standard permit up to 4 feet and Non-Standard up to 10 feet, may be burned.
- ✓ Clear all flammable material and vegetation within 10 feet of the outer edge of the debris pile.
- ✓ Keep a water supply and shovel close to the burning site.
- ✓ A responsible adult is required by law to be in attendance until the fire is out.
- ✓ No burning shall be undertaken unless weather conditions (particularly wind) are such that burning can be considered safe.

It is important for residents to stay mindful of current weather conditions when burning. If it's windy and the surrounding vegetation is very dry, it may be best to wait and burn landscape debris another day.

Continued on page 25.



To find out if it is a Permissive Burn Day, or to get your permit, contact your local Air Quality District at 707-443-3093. For more information, visit: www.preventwildfireca.org/Debris-Burning and see page 23.

How Homes Catch Fire

Three factors are required for fire: fuel, oxygen, and heat; together they comprise what we call the fire triangle. If any one of these elements is missing, a fire won't start; or should it start, it won't spread. Fuel is the one element of the fire triangle that we can modify. For this reason, the general principle behind making an area "fire safe" (making it as safe as possible for when a fire does pass through) is to reduce the amount of fuel that a fire could consume and to alter its arrangement and type. In other words, you do not want anything near your home that could ignite, burn, or spread fire. The fuels closest to a home – including the home itself – are often what make the difference between surviving a wildfire or not. Wildfire ignites homes through transferring heat in three ways: flying embers, radiant heat, or direct contact by flame.



Three Ways Your Home Can Be Exposed to Fire*

Burning Embers

Burning needles, leaves, branches and cones create embers or brands in a "blizzard" during a wildfire, and land on combustible materials on the home or enter the home through vents and other openings.

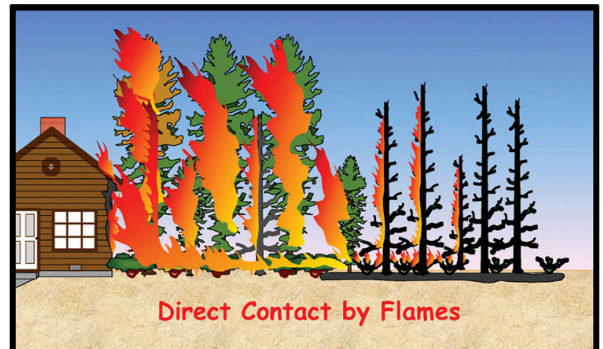
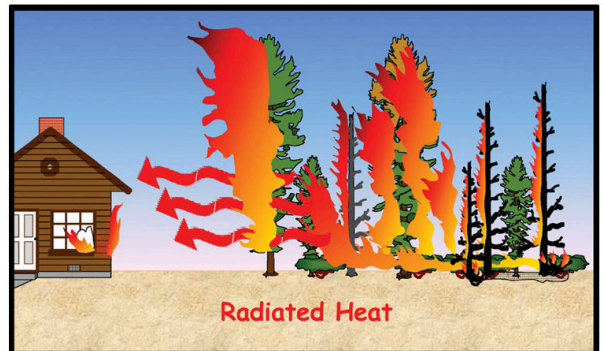
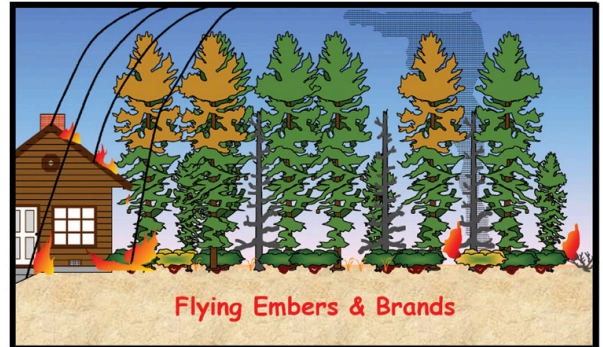
Radiated Heat

Heat from burning vegetation or structures ignites the home's roof, siding, decks, or porches, or breaks windows, allowing ignition of the interior of the home.

Direct Flame

Combustible fuels (e.g., grass, pine needles, dry leaves, woodpiles, furniture, doormats) on or immediately adjacent to the home ignite and spread the fire to the home itself. This is also referred to as "Flame Impingement," which is the transfer of heat through direct flame exposure.

* Reprinted from "Safer From the Start: A Guide to Firewise-Friendly Development," produced by the NFPA in cooperation with the US Forest Service. Available at: www.firewise.org/wildfire-preparedness/teaching-tools/brochures-and-booklets.aspx.



Know the Law for Defensible Space and Hardening Your Home

If you live in a State Responsibility Area (SRA), you are responsible for ensuring that your property is in compliance with California’s building and fire codes that call for homeowners to take proactive steps to protect their property from a wildfire.

California law requires that homeowners in an SRA clear out flammable materials such as brush or vegetation around their buildings to 100 feet (or the property line) to create a defensible space buffer. This helps halt the progress of an approaching wildfire and keeps firefighters safe while they defend your home.

The law also requires new homes to be constructed with fire-resistant materials. By building your home with materials like fire-resistant roofing, enclosed eaves and dual-paned windows, you are hardening your home and giving it a fighting chance to survive a wildfire.

By following the law, you will help prevent buildings from being ignited by flying embers, which can travel as much as a mile away from a wildfire.

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

Want to know more? Check out CAL FIRE and the State Board of Forestry’s *General Guidelines for Creating Defensible Space*, http://bofdata.fire.ca.gov/PDF/Copyof4291finalguidelines9_29_06.pdf



Winners & Losers?

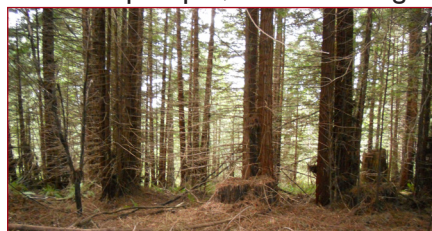
Firefighters used to use the terms “winners” and “losers” – preferable terms now are “defendable” and “not defendable” – to distinguish between those houses with defensible space versus those that do not have it. In a larger emergency situation (where many homes are threatened), homes without defensible space may get passed over in favor of protecting those with defensible space, which have a greater chance of survival and offer firefighters a safer environment. Firefighter safety is often more threatened in structure protection (i.e., homes and buildings), than in wildland situations. Homeowners should provide an inviting condition; after all, firefighters may be your friends, neighbors, or relatives. If it is too dangerous for firefighters to get in and out of an area, they are instructed not to risk their lives and equipment to save something that is not defensible.

What Are Ladder Fuels?



Ladder fuels are the continuous line of vegetation from the ground into the canopy (or upper branches) of trees, which allows fire to climb up into the tree canopy. The concept of fuel continuity is similar and includes both vertical and horizontal directions. Vertical continuity is the fuel ladder concept; horizontal fuel continuity is a continuous horizontal line of fuel (usually on the ground). In the latter case, the fuel extends from something – like your house – continuously out into the wildland. A

good example of this is seen with decks on steep slopes, where the edge of the deck is next to the crowns or tops of the trees (forest canopy). If a fire started either at the house or in the forest, it would have a continuous line of fuel to spread from one to the other via the deck.



Being Ready—Preparing Your Home and Property for Wildfire

Being ready for wildfire starts with maintaining an adequate defensible space and by hardening your home by using ignition-resistant building materials.* Defensible space is the buffer you create by removing dead plants, grass and weeds. This buffer helps to keep the fire away from your home. Hardening your home means using construction materials that can help your home withstand flying embers finding weak spots in the construction, which can result in your house catching fire. It takes the combination of both defensible space and the hardening of your home to really give your house the best chance of surviving a wildfire.

Flying embers can destroy homes up to a mile from a wildfire. “Harden” your home now before a fire starts by using ember-resistant building materials.

Here are some things you can do to harden your home and make it more fire resistant.



Roof

The roof is the most vulnerable part of your home. Homes with wood or shingle roofs are at high risk of being destroyed during a wildfire.

- Build your roof or re-roof with materials such as composition, metal or tile.
- Block any spaces between roof decking and covering to prevent embers from catching.

Vents

Vents on homes create openings for flying embers.

- Cover all vent openings with 1/8-inch to 1/4-inch metal mesh. Do not use fiberglass or plastic mesh because they can melt and burn.

Hardening Your Home

- Protect vents in eaves or cornices with baffles to block embers (mesh is not enough).

Eaves and Soffits

Eaves and soffits should be protected with ignition-resistant* or non-combustible materials.

Windows

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

- Install dual-paned windows with one pane of tempered glass to reduce the chance of breakage in a fire.
- Consider limiting the size and number of windows that face large areas of vegetation.

Walls

Wood products, such as boards, panels or shingles, are common siding materials. However, they are combustible and not good choices for fire-prone areas.

- Build or remodel your walls with ignition-resistant* building materials, such as stucco, fiber cement, wall siding, fire-retardant-treated wood, or other approved materials.
- Be sure to extend materials from the foundation to the roof.

Decks

Surfaces within 10 feet of the building should be constructed with ignition-resistant,* non-combustible, or other approved materials.

- Ensure that all combustible items are removed from underneath your deck.

Rain Gutters

- Screen or enclose rain gutters to prevent accumulation of plant debris.

Patio Cover

- Use the same ignition-resistant* materials for patio coverings as a roof.

Chimney

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

***Ignition-resistant building materials** are those that resist ignition or sustained burning when exposed to embers and small flames from wildfires. Examples of ignition-resistant materials include “non-combustible materials” that don’t burn, exterior grade fire-retardant-treated wood lumber, fire-retardant-treated wood shakes and shingles listed by the State Fire Marshal (SFM) and any material that has been tested in accordance with SFM Standard I2-7A-5.

Hardening Your Home to Survive Wildfire

- ❑ Use metal screen material with openings no smaller than 3/8 inch and no larger than 1/2 inch to prevent embers from escaping and igniting a fire.

Garage

- ❑ Have a fire extinguisher and tools such as a shovel, rake, bucket, and hoe available for fire emergencies.
- ❑ Install weather stripping around and under the garage door to prevent embers from blowing in.
- ❑ Store all combustible and flammable liquids away from ignition sources.

Fences

- ❑ Consider using ignition-resistant* or non-combustible fence materials to protect your home during a wildfire.



Driveways and Access Roads

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

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

Address

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

Water Supply

- ❑ Consider having multiple garden hoses that are long enough to reach all areas of your home and other structures on your property.
- ❑ If you have a pool or well, consider getting a pump.

Useful Links

There are many great online resources for fire-safe construction, several from the University of California, Berkeley. Their *Homeowner Wildfire Assessment* is a simple questionnaire to assess your home's preparedness. Their *Homeowner's Wildfire Mitigation Guide* is an easy-to-use guide showing the different areas of your home and what you can do to make each one fire safe.

[Fire Information Engine – Homeowner Wildfire Assessment: http://firecenter.berkeley.edu/homeassessment/home_assess_intro.html](http://firecenter.berkeley.edu/homeassessment/home_assess_intro.html)

[Homeowner's Wildfire Mitigation Guide: http://ucanr.edu/sites/Wildfire/](http://ucanr.edu/sites/Wildfire/)



Additional Home Fire-Safety Steps

are available at: www.readyforwildfire.org/Hardening-Your-Home.

What is a Hardened Home?



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

Part of learning to live with wildfire is cultivating an understanding that we have much control regarding how we address this vulnerability, and how we can prepare and manage for fire in our individual communities. Hardened-home features are mandatory for new construction, yet these suggested standards are also useful when remodeling or making improvements to your home to enhance its fire safety. Three priority considerations and target areas for hardening your home to wildfire are: the roof, the vents, and materials immediately surrounding the home.

Visit **Wildfire Protection Building Construction**, <http://osfm.fire.ca.gov/codedevelopment/wildfireprotectionbuilding-construction> for detailed legal requirements in California.

Maintaining Defensible Space Around Your Home

Protect Your Family, Home, and Property by Creating and Maintaining Defensible Space Now

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



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

Defensible space and clearing does not mean that you denude or clearcut your property. Rather, your goal is to remove the most flammable materials. Balance your fire-safety actions with general ecosystem health. Don't disturb the ground around streams or you will cause erosion that will harm fish. If you have the good fortune to live along a stream or river with fish in it, make sure you stay at least 100 feet away from the stream or outside of the Streamside Management Area in your clearing activities. It's okay to remove some dead vegetation there (like pruning in your garden); however, don't take out live vegetation—especially trees—near streams or rivers. Always maintain a dense shade canopy for fish. Finally, many species of wildlife—such as bear, fox, bobcat, songbirds, and others—use streams as corridors in which to move from one area to another. Leave them some cover to be able to do this without disturbing you, or vice versa. If you feel that more intensive treatment is necessary near a stream (which may be the case in some instances), in Humboldt County, contact the Planning and Building Department to determine if a Special Permit is required for work within the Streamside Management Area. County Planning and Building may be reached by calling 707-445-7245 or visiting www.co.humboldt.ca.us/planning.



Defensible Space Basics

You will learn how to create your defensible space in the following pages. Here is a summary of some of the basics to keep in mind.

- ✓ Provide a minimum 100 feet of clearance of flammable materials around your home. Clearance does not mean dirt or gravel—it's about flammability—so remove things that are easily ignitable from this area. If you live on a hill, you should extend this up to 200 feet, depending upon the steepness of the slope and the presence of surrounding fuel.
- ✓ Landscape your defensible space with fire-resistant plants. While no plant is immune to fire, certain plants do exhibit traits that can slow or reduce the spread of fire. Most deciduous trees and shrubs are fire-resistant. Fire-resistant plants generally look green (not brown), healthy, and vibrant. In addition, they have:
 - Leaves that are moist and supple;
 - Little dead wood, and tend not to accumulate dry, dead material within the plant;
 - Sap that is water-like (versus thicker or stickier) and does not have a strong odor.
- ✓ Keep your gutters and roofs clean of vegetation and debris, especially redwood, Douglas-fir, and/or pine needles.
- ✓ Move all flammable materials (such as firewood or propane tanks) at least 30 feet from homes or structures.
- ✓ Remember the other species that share the land. Leave a vegetation buffer around streams and other wild-life corridors.



Continued from page 17.

What to Do with the Materials from your Defensible Space Activities

More on Landscape Debris Burning

What can be burned?

Dry, natural vegetation, grown on the property can still be burned outdoors in open piles, unless prohibited by local ordinances. No household trash or garbage can be burned outdoors at residences.

When can you burn?

Burning can only be done on permissive burn days. Burning permits are only valid on “Permissive Burn Days” as determined by the State Air Resources Board or the local Air Quality District. To find out if it is a Permissive Burn Day, contact your local Air Quality District. For more information, see www.preventwildfire.ca.org/Debris-Burning and page 32.



Defensible Space Zones

Two zones make up the required 100 feet of defensible space.

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

- 1 Remove all dead plants, grass and weeds.
- 2 Remove dead or dry leaves and pine needles from your yard, roof and rain gutters.
- 3 Trim trees regularly to keep branches a minimum of 10 feet from other trees.
- 4 Remove dead branches that hang over your roof. Keep branches 10 feet away from your chimney.
- 5 Relocate exposed woodpiles outside of Zone 1 unless they are completely covered in fire-resistant material.
- 6 Remove or prune flammable plants and shrubs near windows.
- 7 Remove vegetation and items that could catch fire from around and under decks.
- 8 Create separation between trees, shrubs and items that could catch fire, such as patio furniture, swing sets, etc.

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

- 9 Cut or mow annual grass down to a maximum height of 4 inches.
- 10 Create horizontal spacing between shrubs and trees. (See diagram next page.)
- 11 Create vertical spacing between grass, shrubs and trees. (See diagram next page.)
- 12 Remove fallen leaves, needles, twigs, bark, cones, and small branches. However, they may be permitted to a depth of 4 inches if erosion control is an issue.

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

- 13 Mow before 10 a.m., but never when it's windy or excessively dry.
- 14 Protect water quality. Do not clear vegetation near waterways to bare soil. Vegetation removal can cause soil erosion—especially on steep slopes.



Plant and Tree Spacing in Your Defensible Space

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

Vertical Spacing

- ✓ Remove all tree branches at least 6 feet from the ground.
- ✓ Allow extra vertical space between shrubs and trees. Lack of vertical space can allow a fire to move from the ground to the brush to the tree tops, like a ladder.

Minimum Vertical Spacing Between Trees and Shrubs

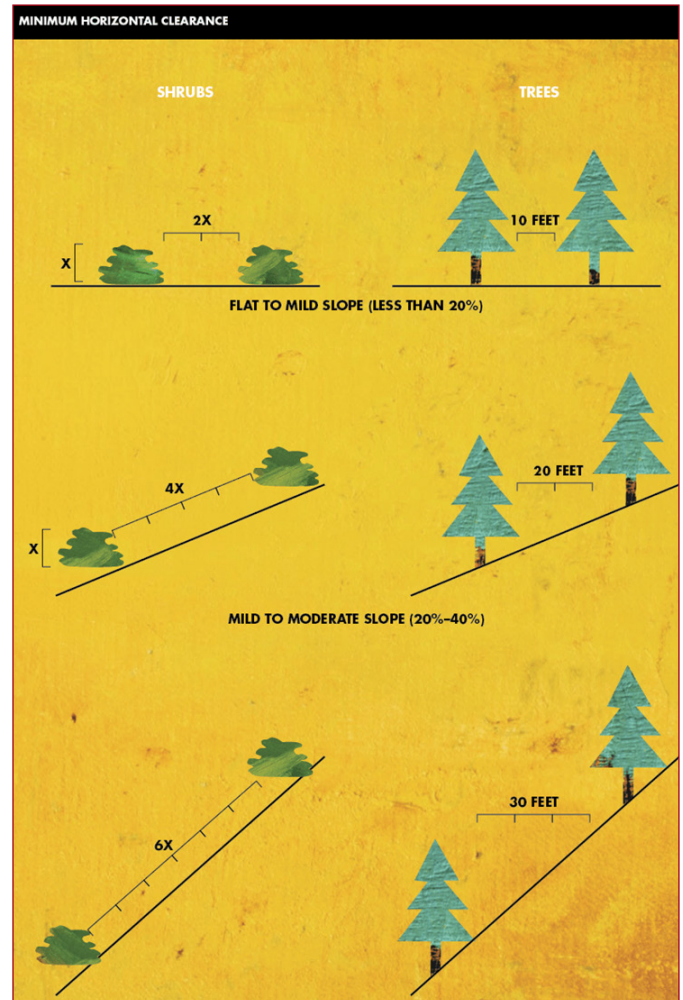
- ✓ For the proper vertical spacing between shrubs and the lowest branches of trees, create at least three times the shrub height in space between the top of the shrub and the bottom of the tree.

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



Minimum Horizontal Spacing for Trees and Shrubs

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

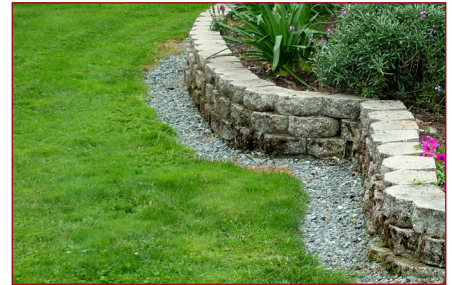


Fire-Resistant Landscaping

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

Choose Fire-Resistant Plants and Materials

- ✓ Create fire-safe zones with stone walls, patios, decks and roadways.
- ✓ Use rock, mulch, flower beds and gardens as ground cover for bare spaces and as effective firebreaks.
- ✓ There are no "fire-proof" plants. Select high-moisture plants that grow close to the ground and have a low sap or resin content.
- ✓ Choose fire-retardant plant species that resist ignition such as rockrose, ice plant and aloe.
- ✓ Select fire-resistant shrubs such as hedging roses, bush honeysuckles, currant, cotoneaster, sumac and shrub apples.
- ✓ Plant hardwood, maple, poplar and cherry trees that are less flammable than pine, fir and other conifers.
- ✓ Check your local nursery, landscape contractor or county's UC Cooperative Extension service for advice on fire-resistant plants that are suited for your area.



Fire-Resistant Plant Characteristics*

Remember, any plant can burn under the right conditions. For all plants, make sure to trim back and remove any dead vegetation and litter. When choosing species to plant or keep when performing fuel modification, look for plants with fire-resistant characteristics:

- ✓ Able to store water in leaves and stems
- ✓ Produce limited dead and fine material
- ✓ Extensive, deep root systems for controlling erosion
- ✓ Maintain high moisture content with limited watering
- ✓ Low-growing or prostrate form
- ✓ Open loose branches with a low volume of total vegetation
- ✓ Low levels of volatile oils or resins
- ✓ Ability to re-sprout after a fire
- ✓ Slow growing with little maintenance needed
- ✓ Not considered invasive.

The moisture content of plants is important because high levels of plant moisture can lower fire risk and act as a heat sink, reducing the intensity and spread of fire.

Characteristics of Flammable Plants

Consider removing plants from your property and avoid purchasing new plants that tend to retain large amounts of dead material within the plant, produce a large volume of litter, and contain volatile substances such as oils, resins, wax, or pitch.

For More Information:

- ✓ Home Landscaping for Fire

http://firecenter.berkeley.edu/docs/CE_homelandscaping.pdf University of California Division of Agriculture and Natural Resources (UCANR)

- ✓ Fire-Resistant California Friendly® plants

www.bewaterwise.com/gardensoft/gardensoft_back-up_03-18-2015_vh/tips_06.html

- ✓ Fire-Resistant Plants for Home Landscapes: Selecting plants that may reduce your risk from wildfire (Oregon), www.firefree.org/wp-content/uploads/2016/02/Fire-Resistant-Plants.pdf

*UCANR (2009). Making Your Property Fire-Safe.

Los Angeles County: UCCE.

<http://ucanr.edu/sites/safelandscapes/files/79454.pdf>

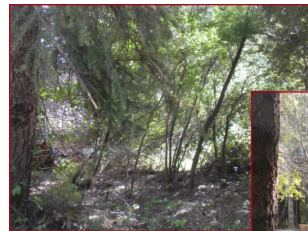
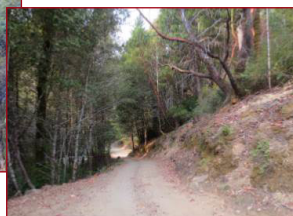
FLASH: Fire-Adapted Landscapes and Safe Homes **Reducing Wildfire Hazards One Property at a Time**

Humboldt County's landscape is made up of dense forests and rural country stretched over 110 miles of coastline. Living among the beautiful redwoods and various other vegetation means that residents need to consider ways to keep their homes and driveways clear of hazardous fuels that could ignite their homes in the event of a wildfire. To assist homeowners with recommendations on hazard reduction around their homes, the Humboldt County Fire Safe Council (FSC) helped create and supports the Fire-adapted Landscapes and Safe Homes (FLASH) program: a cost-share program designed to assist property owners with the job of reducing their risk to wildfire by thinning flammable vegetation around their homes and along their access routes.

To participate in the program, property owners can contact the Humboldt County FSC, and a representative will schedule a site visit. During site visits, local field technicians assess wildfire hazards, make fuels reduction treatment recommendations, and once the work is completed, verify that it meets the standards of the program. Rebates, based on a per acre rate, are awarded for successfully completed work. Each interaction between property owners and FLASH technicians provides an opportunity to discuss topics such as local fire history, forest health, wildlife habitat, homestead fire preparedness, thinning techniques, and disposal of hazardous materials, and serves as a means to widely share the fire safety message. In addition to fuels reduction, some landowners have followed through with fire safety measures as recommended during the home risk assessments, such as hardening their homes and developing water sources.

To help cover costs of this program, Humboldt County applied and received funding from the California Fire Safe Council State Clearinghouse program funded by the US Forest Service. These federal dollars are matched by local in-kind and cash support, with federal funding covering approximately 50% of the cost of the work with a rebate and the property owner's payment or labor for the balance counted as a funding match. Over the past seven years, the FLASH program has supported 263 landowners, conducted 627 site visits and 227 risk assessments, and helped to treat and reduce fuel hazards on 751 acres in Humboldt County.

To receive more information on this program, contact: Cybelle Immitt, cimmitt@co.humboldt.ca.us, 707-267-9542.



Water Needs to Protect your Home from Fire

Prepare to Put Out Fires Fast!

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

Water is your best weapon when you need to quickly put out a fire. To save precious time when fighting a fire around your home it's a good idea to have 5/8- or 3/4-inch garden hoses attached to faucets with enough hose length to reach both inside and around your home and outbuildings.

Good-quality, variable stream garden hose nozzles are adequate.

A high-flow "fireman's" nozzle is better.

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



High-flow fire nozzle.

Always keep strategically placed fire extinguishers in your home.

Ensure Firefighters Can Make Good Use of Your Emergency Water Supply

A fire engine's water tank will often need to be filled several times during a firefighting event. If your home is not included in a community water/hydrant system, it is important to maintain a water supply reserved **ONLY** for fire protection. **Firefighters need to be able to quickly and safely find your water source and get close enough to transfer the water from your tank to theirs.** Some basic guidelines for your fire water storage are:

✓ **Have a clearly marked source of firefighting water near your home or driveway.** If you are not on a community water system, the law requires you have a water tank with at least 2,500 gallons of water available for fire suppression. The two common installations of fire water storage are: 1) an elevated tank with a water line delivering pressurized water to the home site, or 2) a fire water "suction tank" near the home that can be pumped out of by a fire truck.

✓ **An elevated pressure tank should ideally be at least 100 feet in elevation above the home to give adequate pressure at the standpipe to directly connect fire hoses to fight the fire or fill a fire engine.** Because of the cost of larger pipes, the supply line from the tank to the house site is usually a 1½- or 2-inch-diameter pipe leading to a standpipe located 50 feet or more from the house. The standpipe/hydrant is equipped with a "fire valve" with a 1½-inch or 2½-inch National Hose Thread (NHT) discharge outlet. Some landowners buy their own lightweight 1½-inch fire hose, usually 100 feet or more, with a variable stream fire nozzle. One hundred feet of such hose with a nozzle fits nicely into a 5-gallon waterproof bucket. For isolated rural residents, this can give serious firefighting capacity until a local fire department engine can arrive. In some areas it can take a ½ hour or more for a fire engine to arrive – long enough for a fire to dramatically increase in size and intensity.



Fire valve.



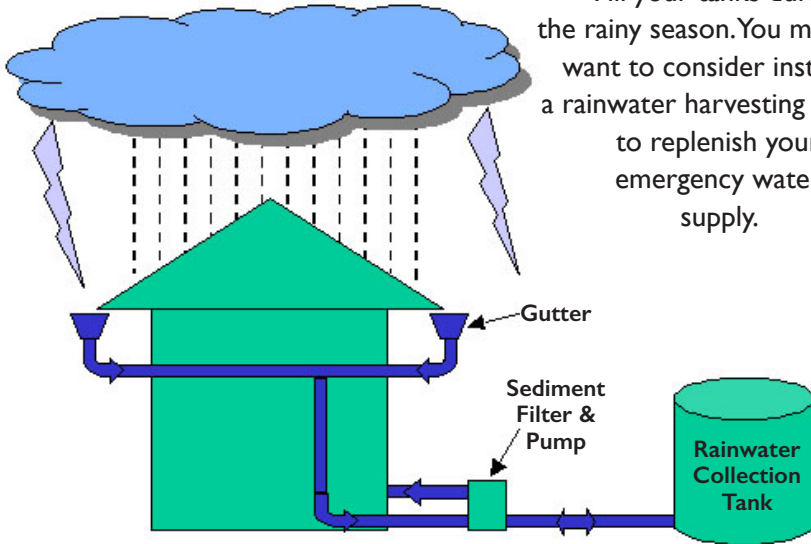
✓ **A "suction" tank should be sited no closer than 50 feet from the house, and 4 to 12 feet from a place where a fire engine can park, to effectively pump water from the tank.** For maximum flow to the fire engine, 3- to 4-inch pipe should be used for the short distance to connect between the 2½-inch fire valve standpipe/hydrant and the tank.

✓ **Clean water from nearby streams, ponds, and swimming pools can also be used for firefighting, as long as a fire truck can get close enough to pump water (the water source must be 7 to 12 feet from a firm parking surface).**

✓ **Make sure the area around your water source is clear of flammable vegetation.**

BE PREPARED: MAKE YOUR HOME FIRE SAFE

✓ Finally, make sure that your emergency water system is maintained and tested several times a year. Finding an empty water tank or water that cannot be easily accessed can seriously hinder firefighters' ability to save your home!



Fill Your Tanks in the Rainy Season

Do your part to keep water flowing in streams and rivers during the critical dry season.

Fill your tanks during the rainy season. You may even want to consider installing a rainwater harvesting system to replenish your emergency water supply.

Help Firefighters Find Your Water!

Emergency water supplies must be easily seen and visibly signed from the nearest road.

Here are some tips to help:

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

Find Out About Emergency Water Standards

Consult your local fire department, CAL FIRE, and your local County Planning and Building Department when developing water supplies for firefighters to ensure you are complying with local building standards and that your system's fittings are compatible with the needs of local fire engines. Some types of new development require emergency water supplies to meet very specific local standards. Contact your local planning and building department for details: www.humboldt.gov.org/156/Planning-Building, www.trinitycounty.org/index.aspx?page=73, and www.co.del-norte.ca.us/departments/commu-nity-development-department.



Water Theft

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

Tour a Wildfire-Ready Home

Home Site and Yard: Ensure you have at least a 100-foot radius of defensible space (cleared vegetation) around your home. Note that even more clearance may be needed for homes in severe hazard areas. This means looking past what you own to determine the impact that a common slope or neighbor's yard will have on your property during a wildfire.

Cut dry weeds and grass before noon when temperatures are cooler to reduce the chance of sparking a fire.

Landscape with fire-resistant plants that have a high moisture content and are low growing.

Keep woodpiles, propane tanks, and other combustible materials away from your home and other structures, such as garages, barns, and sheds.

Ensure that trees are far away from power lines.

Roof: Your roof is the most vulnerable part of your home because it can easily catch fire from wind-blown embers. Homes with wood-shake or shingle roofs are at high risk of being destroyed during a wildfire.

Build your roof or re-roof with fire-resistant materials such as composition, metal, or tile. Block any spaces between roof decking and covering to prevent ember intrusion.

Clear pine needles, leaves and other debris from your roof and gutters.

Cut any tree branches within ten feet of your roof.

Vents: Vents on homes are particularly vulnerable to flying embers.

All vent openings should be covered with 1/8-inch or smaller metal mesh. Do not use fiberglass or plastic mesh because they can melt and burn.

Attic vents in eaves or cornices should be baffled or otherwise protected to prevent ember intrusion (mesh is not enough).

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

Install dual-paned windows with the exterior pane of tempered glass to reduce the chance of breakage in a fire.

Limit the size and number of windows in your home that face large areas of vegetation.

Inside: Keep working fire extinguishers on hand. Install smoke alarms on each level of your home and near bedrooms. Test them monthly and change the batteries twice a year.

Address: Make sure your address is clearly visible from the road.

Walls: Wood products, such as boards, panels, or shingles, are common siding materials. However, they are combustible and not good choices for fire-prone areas. Build or remodel with fire-resistant building materials, such as brick, cement, masonry, or stucco. Be sure to extend materials from foundation to roof.

BE PREPARED: MAKE YOUR HOME FIRE SAFE

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

Install a solid door with self-closing hinges between living areas and the garage. Install weather stripping around and under door to prevent ember intrusion.

Store all combustibles and flammable liquids away from ignition sources.

Driveways and Access Roads:

Driveways should be designed to allow fire and emergency vehicles and equipment to reach your house.

Access roads should have a minimum 10-foot clearance on either side of the traveled section of the roadway and should allow for two-way traffic.

Ensure that all gates open inward and are wide enough to accommodate emergency equipment.

Trim trees and shrubs overhanging the road to a minimum of 13 1/2 feet to allow emergency vehicles to pass.

Chimney: Cover your chimney and stovepipe outlets with a non-flammable screen of 1/4-inch wire mesh or smaller to prevent embers from escaping and igniting a fire.

Make sure that your chimney is at least 10 feet away from any tree branches.

Non-Combustible Boxed-In Eaves:

Box in eaves with non-combustible materials to prevent accumulation of embers.

Rain Gutters: Screen or enclose rain gutters to prevent accumulation of plant debris.

Water Supply: Have multiple garden hoses that are long enough to reach any area of your home and other structures on your property. If you have a pool or well, consider a pump.

Deck/Patio Cover: Use heavy timber or non-flammable construction material for decks.

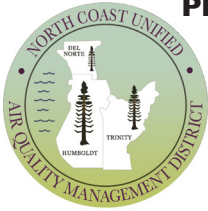
Enclose the underside of balconies and decks with fire-resistant materials to prevent embers from blowing underneath.

Keep your deck clear of combustible items such as baskets, dried flower arrangements, and other debris.

The decking surface must be ignition-resistant if it's within 10 feet of the home.

Non-Combustible Fencing: Make sure to use non-combustible fencing to protect your home during a wildfire.

Burn Permits and Air Quality



Planning to do any burning of vegetation on your property?

If so, you will need a burn permit issued by the

North Coast Unified Air Quality Management District (AQMD), 707 L Street, Eureka, CA 95501. A permit can be obtained online at www.ncuaqmd.org or by calling 707-443-3093.

The two most common types of burn permits issued in the District (Humboldt, Del Norte and Trinity counties) are:

Standard permits are for residents with less than a 1/2 acre. It allows for one 4-foot-diameter pile with burn hours of 6 am to 12 noon on permissive burn days in Humboldt and Del Norte. In Trinity, burn hours are 6 am to one hour before sunset until CAL FIRE declares “fire season”. After fire season is declared, fires must be out at noon. This permit is for residential properties only and costs \$20 per calendar year.

Non-Standard permits are for residents, commercial burners, land

managers, and businesses. It allows for one maximum 10-foot-diameter burn pile between 6 am to one hour before sunset on a permissive burn day. You must have at least a 1/2 acre of property to qualify. If you are burning more than one acre of material, have a Timber Harvest Plan, or 3-acre exemption, please contact AQMD staff to discuss additional permit requirements.



Your permit will contain all information needed to burn your vegetation. Be a good neighbor and burn responsibly.

Burn Days

The goal of a burn day is to ensure that any smoke produced gets up and out of the breathing zone. A permissive burn day is determined daily by the California Air Resources Board (ARB) and provided via the **Burn Day Status phone line 866-287-6329**,

at www.ncuaqmd.org or on Facebook at NCUAQMD.

Air Resources Board meteorologists assess weather and criteria from the Health and Safety Code to issue each day’s decision. This may include inversion layers, wind direction, and temperature from ground level to 5000 feet.

In Case of a Fire Event

If a fire event occurs in your area, be aware that generated smoke can affect your health. The AQMD works with state, federal and local fire agencies, public health, and tribal entities to provide air quality public service announcements, advisories, and alerts during a fire event. **To be included on the daily PSA list-serve during a wildfire event, contact AQMD staff at 707-443-3093 or support@ncuaqmd.org.**



Air Quality Guide	
Air Quality	Protect Your Health
Good	None
Moderate	Unusually sensitive people should consider reducing prolonged or heavy exertion.
Unhealthy for Sensitive Groups	People with heart or lung disease, older adults, and children should reduce prolonged or heavy exertion.
Unhealthy	People with heart or lung disease, older adults, and children should avoid prolonged or heavy exertion.
Very Unhealthy	People with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion.
Hazardous	Everyone should avoid all physical activity outdoors; people with heart or lung disease, older adults, and children should remain indoors and keep activity levels low.

Some Steps You Can Take to Protect Yourself During a Fire Event

- 1. Pay attention to air quality information issued by the AQMD.** This information is online at www.ncuaqmd.org or by calling 866-287-6329. Radio, TV, or newspaper reports will include information about outdoor activities and safety measures.
- 2. Keep indoor air as clean as possible.** Close all windows and doors. Use your air conditioner if you have one with the fresh air intake closed and the filter clean. Don't use a swamp cooler if smoke is visible outside. If you don't have air conditioning or a swamp cooler, consider visiting a clean air shelter or area with clean air. Avoid smoking, vacuuming, frying food, or burning candles as they increase the amount of particulates.
- 3. Use common sense.** If it is smoky outside, do not exercise or work outdoors. Keep children occupied with indoor activities. Keep windows closed while driving and run the air conditioner on the inside air setting.
- 4. Children, the elderly, pregnant women, and people with heart and lung problems are more likely to be affected by health threats from smoke.** Talk to your doctor about whether and when you should leave the area affected by smoke.
- 5. Air cleaners can help – but buy them before a fire!** Air cleaners can help reduce particulate levels indoors. Get the right type and size for your home. Do not use an air cleaner that generates ozone. For more information about air cleaners, go to www.epa.gov/iaq/pubs/residair.html.
- 6. Dust masks aren't enough!** Use a "particulate respirator" instead. Paper "comfort" or "dust" masks are designed to trap large particles and they will generally not protect your lungs from the fine particles in smoke. Use a mask called a "particulate respirator" and make sure it is labeled "NIOSH" and either "N95" or "P100" to protect you from the fine particulates in smoke.
- 7. Use visibility guides, where they're available.** Not every community has a monitor to measure particulate levels in the air. The AQMD provides the following guide to help estimate air quality level based on visibility. Often, it is difficult to assess "the point at which even high-contrast objects (e.g., a dark forested mountain viewed against the sky at noon) totally disappear." Instead, it may be more useful to use known landmarks at a given distance away to assess possible visual ranges. For example, target A is 2 miles away and visible, but target B, which is 4 miles away, is not visible. Therefore, the visual range is somewhere between 2 and 4 miles.

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

	You Are:		OR You Have:
Distance You Can See	A Healthy Adult, Teenager, or Older Child	Age 50 and Over, Pregnant, or a Young Child	Asthma, Respiratory Illness, Lung or Heart Disease
>10 Miles	Watch for changing conditions and moderate outdoor activity based on personal sensitivity.		
5-10 Miles	Moderate outdoor activity.		Minimize or avoid outdoor activity.
< 5 Miles	Minimize or avoid outdoor activity.		Stay inside or in a location with good air quality.

The AQMD may issue any of the following during a wildfire event.

Public Service Announcement (PSA) – issued when smoke conditions from a fire event are expected to remain below levels considered Unhealthy, (139-351 ug/m3 on a 3-hour average).

Advisory – issued when smoke conditions from a fire event are expected to reach levels considered Unhealthy to Very Unhealthy, (139-526 ug/m3).

Alert – issued when smoke conditions from a fire event are expected to reach Hazardous levels, (greater than 526 ug/m3).

Sheriff's Work Alternative Program (SWAP)

As an alternative to jail, qualified offenders may apply to serve their sentence on the Sheriff's Work Alternative Program or SWAP. Participants on SWAP, under supervision, are assigned to a variety of manual labor work projects, including brush removal to reduce community wildfire hazards. This program allows individuals to live at home with their families, maintain employment or continue their education, while serving out their sentence in a productive manner that also benefits the community. In addition to SWAP, there are work crews made up of inmates housed in the Humboldt County Correctional Facility who work on projects outside the facility under the supervision of a correctional officer. The majority of their time is dedicated to roadside vegetation management under a contract with CalTrans but they are also available to assist with community wildfire hazard reduction projects, on a case-by-case basis. Inmates are screened by the Sheriff's Department staff before they are allowed outside the facility.

Over the past six years, the Sheriff's Department has made a seven- to eight-member crew available to help the Willow Creek Fire Safe Council (FSC) remove brush to eliminate wildfire hazards in and around the



community of Willow Creek. During this time, the crew worked in the community once or twice a month from September to May, under the supervision of officers from the Sheriff's Department and with guidance and support from the Willow Creek FSC. These crews removed brush (wildfire fuel) from local parks, from around downtown businesses and businesses along Highway 96, as well as a critical area behind the Trinity Valley Elementary School. Recently, crews helped establish the Patterson Road wildfire emergency evacuation route. Residents of more than 300 homes use Patterson Road as their only access route. For

that reason, the Sheriff's Department is supportive of continually making crews available to help maintain a 50-foot firebreak on either side of this important evacuation route. The Willow Creek FSC cannot express enough thanks to the work crews and the county officers who help keep the community fire safe.

For more information, please contact the Humboldt County Sheriff's Department:

Lieutenant Marco Luna, mluna@co.humboldt.ca.us

Sargent Mitch Gratz, mgratz@co.humboldt.ca.us

707-441-5113



Prescribed Fire/Controlled Burning: USING FIRE AS A TOOL

Prescribed fire, or controlled burns, is one of the tools used to remove unhealthy and dangerously overgrown vegetation for ecosystem restoration, to improve the growing conditions of native plants, enhance wildfire habitat, and prevent catastrophic wildfire.

Prescribed fire can be complex in nature. Successful implementation requires careful planning, adherence to specific weather conditions, public support, and compliance with the laws and regulations designed to protect public health. Prescribed fire practitioners navigate these planning and permitting steps to protect communities from wildfire and restore cultural resources.

Regulators at the federal, state, and local levels, and prescribed burners continue to explore workable solutions to address the increased fuels, costs, and severity of wildfire, while still protecting the public.

As concerns increase about the destructive potential of wildfire in California, the use of prescribed fire is



an important tool to reduce hazardous fuels around communities and prepare for managing wildfires differently.

How is a prescribed fire burn implemented?

A prescribed fire project is only ignited if all conditions – weather, fuel, equipment, personnel, and regulatory compliance – designated in the burn plan are met. Fire engines and crews must be available to monitor and manage the burn. It can't be too hot or windy, and humidity levels must be within prescribed limits. How the burn is ignited can significantly affect fire behavior and



Will Harling, a local leader in prescribed fire, igniting a fire with his drip torch.

fire effects on the landscape and vegetation. Some projects can be ignited from the ground using fairly simple devices such as drip torches.

Large or complex burns can be ignited from specially equipped helicopters.

What are the benefits and drawbacks of prescribed burns?

Benefits:

- ✓ By reducing the risk of destructive wildfires, prescribed fire reduces the threat to life, property, and natural resources.
- ✓ Prescribed burns also increase firefighter safety by creating defensible space from which bigger blazes can be battled.
- ✓ Controlled burning can improve native plant and animal habitat, stimulate the growth of culturally significant plants, restore productivity of grazing lands, and control the spread of noxious and invasive weeds.
- ✓ Appropriate burning conditions can be chosen, which can result in less impacts to air quality and public health as compared to wildfire.



Drawbacks:

- ✓ Smoke is often the main complaint against prescribed burning. However, while wildfires can burn for weeks generating heavy smoke, prescribed burning allows the practitioner to choose the time, location and weather conditions that will minimize smoke impacts. Most prescribed burn projects only last one or two days.
- ✓ Fire is difficult to control. Even with all the planning, preparation, and staffing that is part of a prescribed fire project, fires can escape.

In recent years, Prescribed Fire Training Exchange (TREX) events throughout our region have improved our ability to manage prescribed fire. See the following pages for more information on TREX.



The Vegetation Management Program (VMP)

CAL FIRE conducts a Vegetation Management Program (VMP), a cost-sharing program with landowners that focuses on the use of prescribed fire and mechanical means for addressing wildfire fuel hazards and other resource management issues on State Responsibility Area (SRA) lands. Although acres treated under the program have decreased in recent years, it remains a means of controlling invasive weeds, improving wildlife habitat, and maintaining strategic fuel breaks where the practice is physically possible and socially acceptable.

How is a VMP prescribed burn planned?

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

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

All prescribed burns are developed in compliance with state and federal rules and regulations including the California Environmental Quality Act (CEQA), and California and Federal Clean Air and Rare and Endangered Species Acts. Pages 34-35 contain additional information regarding required air quality burn permits for all burn projects.

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

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

Cultural Fire Management Council

The Cultural Fire Management Council (CFMC), culturalfire.org, was formed out of a Building Healthy Communities program in 2013 by Yurok tribal and community members to put fire back into the ecosystem. Yurok and other local tribes have for generations used fire in local ecosystems to achieve important benefits, ranging from cultivating new forage for animals to propagating strong basket materials, controlling pests, and protecting communities from out-of-control wildfire. *The CFMC's mission is to facilitate the practice of cultural burning on the Yurok Reservation and Ancestral lands, which will lead to a healthier ecosystem for all plants and animals, long-term fire protection for residents, and provide a platform that will in turn support the traditional hunting and gathering activities of Yurok.* The group is guiding the implementation of a long-term plan of cultural burning with support from: The Nature Conservancy, Northern California Indian Development Council, US Forest Service, Fire Storm Inc., Terra Fuego, Mid Klamath Watershed Council, and the Yurok Tribe.



Wildfire Protection Plan to guide the landscape-level restoration effort that encompasses the ancestral territory of the Yurok people. Returning fire to the land in a good way enables us as Yurok people to continue the traditions of our ancestors. Educating and enabling the local community on the proper use of fire is of paramount importance. Restoring a traditional fire regime to the land is a generational endeavor. The CFMC is using multiple strategies to achieve these long-term goals.

The CFMC offers entry-level fire training, and opportunities to increase fire qualifications at all levels on a yearly basis. Our goal is to have fully trained and qualified local crews, equipped with all necessary equipment to implement prescribed burns at the landscape level. We also provide a Citizen Burner workshop for community members to reinforce safe burning practices. The goal of the workshop is to help families assume responsibility for safely burning their own private land. Fire curriculum in the schools and field trips to observe prescribed burns help ensure an intergenerational transfer of knowledge.

The CFMC is developing a Community Health and

Northern California Prescribed Fire Council

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

In 2016, the Council hosted its fourth annual Northern California Prescribed Fire Training Exchange, or “Nor Cal TREX.” The TREX is a two-week, hands-on prescribed fire training event that welcomes participants from diverse backgrounds and gives them an opportunity to gain skills and experience in prescribed fire. During the event, Nor Cal TREX participants travel throughout northwestern California, burning with different host agencies and organizations in a wide variety of landscapes and fuel types. In 2016, the Nor Cal TREX had a special focus on women in fire, and brought women and men from 11 states and 4 countries to burn together, work on leadership skills, and foster a support network for women with careers in fire management. This event, WTREX, was



an unprecedented training event, and sent positive ripples throughout the fire management world. Plans are already underway for Nor Cal TREX 2017.

In addition to TREX, the Council is providing training events for private landowners, volunteer fire departments, and other local groups. In 2016, the Council worked with University of California Cooperative Extension, CAL FIRE, and other partners to host three workshops in Humboldt County, and more are planned for 2017, including live-fire trainings in Bridgeville and Shelter Cove. These events are intended to rekindle local landowners’ connections with fire, which was historically a very important tool for Native Americans, ranchers, and others in our region, and is an undeniably important part of our local landscape.

Council training events are supported by the Fire Learning Network, a partnership between the US Forest Service, Department of the Interior agencies, and The Nature Conservancy. *For more information on the Council’s events and trainings, visit www.norcalrxfirecouncil.org or email Lenya Quinn-Davidson, Council Director, at nwcapfc@gmail.com.*



The Evolution of Smokey Bear

Nearly everyone has heard of Smokey Bear and his decades-old campaign to prevent wildfire. Perhaps less familiar is the story of his origins and how his message evolved.

During World War II, fire-prone parts of our country suffered from a lack of firefighters. After a Japanese attack on an oil field along the California coast, people feared that fire could be used as a war weapon. In response, the US Forest Service (USFS) sought to prevent forest fires using *The Cooperative Forest Fire Prevention Campaign*. This campaign used slogans like *Forest Fires Aid the Enemy*, and *Our Carelessness, Their Secret Weapon*.



nutrients to feed the forest floor. Native peoples had known this forever and had historically used fire as a management tool. But by then, Smokey had convinced the general public to fear fire, and fire suppression was a full-fledged industry entrenched in land management business and culture.

In the 1990s, Smokey's message changed subtly to *Only You Can Prevent Wildfire*, still implying that *preventing* wildfire is the ultimate goal.

By the 2000s, recognizing that fire is inevitable and responding to increased development in the wildland-urban interface, or WUI, the USFS joined the *Fire Adapted Communities* program to encourage people who live in the WUI to protect their homes.

Western forests are now so stressed and packed with fuel that they are prone to bigger and more destructive blazes. With so many homes located in a direct path of danger, personal responsibility now includes making one's home in the WUI fire safe.

Today, Smokey's official website – though still highlighting prevention – has many pages dedicated to understanding that fire can be beneficial and necessary. Promoting prescribed fire under controlled conditions, Smokey is starting to change his tune.

For the public to support prescribed fire or wildfire managers allowing certain fires to burn, we will need to see a cultural shift away from fear of all fire. Perhaps Smokey's evolving message will help with this transformation as he encourages increased commitment to creating fire-resilient communities and shifts from *Only You Can Prevent Wildfires* to *Learning to Live with Wildfire*.

Into this atmosphere of fear, Smokey Bear entered, a stern-faced cartoon character created in 1944 to give severe public warnings about the dangers of forest fires. By 1947, Smokey's primary slogan – *Only You Can Prevent Forest Fires* – promoted a sense of individual responsibility.



A few years later, a bear cub survivor of a New Mexico wildfire became the first real-life Smokey. This increased Smokey's notoriety to such a degree that by the 1960s he received so much mail that he had his own zipcode at the National Zoo in Washington, DC.

With the public love of Smokey, resultant fear of fire, timber companies anxious to protect their investments, and the availability of post-war equipment, the USFS and other agencies increased their capacity and intention to put out all fires. Smokey began saying *This Shameful Waste Weakens America*.

This increased dedication and capacity for fire suppression quickly altered the ecological integrity of western forests. As early as the 1970s and '80s, forest ecologists recognized that fire exclusion wasn't good for our forests. Research clearly showed how fire is a necessary force in our forested lands, creating openings in the canopy, promoting new growth and diversity, and supplying needed



Reddy the Squirrel

In 2002, an environmental watchdog group, Forest Service Employees for Environmental Ethics, introduced a new mascot named *Reddy the Squirrel*. Reddy, a cheeky squirrel in work boots and hard hat, carrying a rake, says: *Forest Fires Happen. Be Ready!* Reddy was a fire mascot with a new attitude. She encouraged homeowners to trim trees and clear brush. *Preparation not Prevention*, says Reddy, is the key. This icon unfortunately never caught hold in American popular culture the way Smokey did.





GET READY, GET SET, GO!

Wildfire Is Coming. Are You Ready?

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

BEING READY



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

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

GETTING SET



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

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

CREATE A WILDFIRE ACTION PLAN.



ASSEMBLE AN EMERGENCY SUPPLY KIT.



FILL OUT A FAMILY COMMUNICATION PLAN.

BEING READY TO GO



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



REVIEW YOUR EVACUATION PLAN CHECKLIST.

GO!

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



ENSURE YOUR EMERGENCY SUPPLY KIT IS IN YOUR VEHICLE.



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



LOCATE YOUR PETS AND TAKE THEM WITH YOU.

ONE LESS SPARK
ONE LESS WILDFIRE

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

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

Wildfire Is Coming Are You Ready?

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

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

✓ **Be Ready:** Create and maintain your defensible space and harden your home against flying embers, as shown in the *Be Prepared* section, pages 20-36.

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

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



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

GET SET

Prepare Yourself and Your Home for the Possibility of Having to Evacuate

Now that you've got your home **READY** by creating your defensible space, it's time to prepare your family for a potential evacuation by getting **Set**. There are three main preparation actions that should be completed and familiar to all members of your household long in advance of a wildfire.

3 Steps to Getting Set

- ✓ Create a Wildfire Action Plan that includes evacuation planning for your home, family and pets. See the following pages, and www.readyforwildfire.org/Wildfire-Action-Plan/, and www.readyforwildfire.org/Pre-Evacuation-Preparation.
- ✓ Assemble an Emergency Supply Kit for each person in your household. See next page, and www.readyforwildfire.org/Emergency-Supply-Kit/
- ✓ Fill out a Family Communication Plan that includes important evacuation and contact information. See the back cover of this magazine to create yours, and visit: www.readyforwildfire.org/Prepare-Your-Family/.



Sign up to receive
**EMERGENCY
NOTIFICATIONS**

from the
**Humboldt County
Office of Emergency Services
(OES)**

<http://humboldt.gov/OES>

707-268-2500

HUMBOLDT ALERT

[https://humboldt.gov/2014/
Emergency-Notifications/alerts](https://humboldt.gov/2014/Emergency-Notifications/alerts)

Always Call 911 for Emergencies



Be Prepared

- Have fire extinguishers on hand and train your family how to use them (check expiration dates regularly).
- Ensure that your family knows where your gas, electric, and water main shut-off controls are located and how to safely shut them down in an emergency.
- Assemble an Emergency Supply Kit for each person, as recommended by the American Red Cross.
- Maintain a list of emergency contact numbers posted near your phone and in your Emergency Supply Kit.

Prepare Your Family

Evacuation plans for families with young children should include helping toddlers understand how to quickly respond in case of fire, and how adults can escape with babies. Prepare ahead of time by practicing your family's fire escape plan, and what to do to be safe when there is a wildfire nearby. It is important to talk to toddlers and small children at a level that they understand and that does not frighten them. Here are a few resources that offer guides and tips for families with young children about fire safety and preparing for a disaster:

- [A Parent's Guide to Fire Safety for Babies and Toddlers](#): The U.S. Fire Administration's information site for parents and caregivers to help prevent fire death of young children. www.usfa.fema.gov/prevention/outreach/children.html
- [Let's Get Ready! Planning Together for Emergencies](#): Sesame Workshop campaign with tips, activities, and other easy tools to help the whole family prepare for emergencies. www.sesamestreet.org/toolkits/ready#
- [Ready.gov Kids](#): FEMA's site for older kids to prepare and plan for a disaster. Includes safety steps, tips, and games to help children learn about and be ready for an emergency. www.ready.gov/kids
- [Smokey Kids](#): U.S. Forest Service's interactive Smokey Bear site with games, information and resources on how to prevent forest fires. <https://smokeybear.com/en/smokey-for-kids>

Keep These Six "P's" Ready in Case Immediate Evacuation is Required

6

- ✓ People and pets
- ✓ Papers, phone numbers, and important documents
- ✓ Prescriptions, vitamins, eyeglasses
- ✓ Pictures and irreplaceable memorabilia
- ✓ Personal computer hard drives & disks
- ✓ "Plastic" (credit cards and ATM cards) and cash

Preparing Seniors and Disabled Family Members

Seniors and people with disabilities also need special consideration when preparing for a disaster. The following resources can help individuals and families with special needs plan and prepare for an event such as a wildfire:

- [Special Populations Fire-Safe Checklist](#): US Fire Administration's fire safety guide for individuals with special needs to help them protect themselves and their home from fire. www.usfa.fema.gov/prevention/outreach/disabilities.html
- [Disaster Preparedness for Seniors by Seniors](#): The American Red Cross booklet designed by and for older adults to prepare them for a sudden emergency. www.redcross.org/images/MEDIA_CustomProductCatalog/m4640086_Disaster_Preparedness_for_Srs-English.revised_7-09.pdf
- [Disaster Preparedness for People with Disabilities](#): American Red Cross Disaster Services booklet with information and resources to help people with physical, visual, auditory, or cognitive disabilities design a personal disaster plan. www.redcross.org/prepare/location/home-family/disabilities
- [Special Populations: Emergency and Disaster Preparedness](#): US Department of Health and Human Services website with information and resources for emergency planning. <https://sis.nlm.nih.gov/outreach/specialpopulationsanddisasters.html>
- [Individuals with Disabilities and Others with Access and Functional Needs](#): Resource site from Ready.gov for people with disabilities with information on planning and preparing for disaster. www.ready.gov/individuals-access-functional-needs

Your Wildfire Action Plan Checklist

Create an Evacuation Plan that includes the following:

- Designate an emergency meeting location outside the fire or hazard area. This is critical to determine who has safely evacuated from the affected area.
- Locate several different escape routes from your home and community. Practice these often so everyone in your family is familiar with them in case of emergency.
- Have an evacuation plan for pets and large animals such as horses and other livestock.
- Develop a Family Communication Plan that designates an out-of-area friend or relative as a point of contact to act as a single source of communication among family members in case of separation. (It is easier to call or message one person and let them contact others than to try and call everyone when phone, cell, and internet systems can be overloaded or limited during a disaster.) See the back page of this magazine for your copy.

EMERGENCY SUPPLY KIT CHECKLIST

Put together your Emergency Supply Kit long before a wildfire or other disaster occurs and keep it easily accessible so you can take it with you when you have to evacuate. Plan to be away from your home for an extended period of time. Each person should have a readily accessible Emergency Supply Kit. Backpacks work great for storing these items (except food and water) and are quick to grab. Storing food and water in a tub or chest on wheels will make it easier to transport. Keep it light enough to be able to lift it into your car. For more information on emergency supplies, visit www.ready.gov.

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

Items to take if time allows:

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

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



GET SET: As the Fire Approaches

- Evacuate as soon as you are set! Alert family and neighbors.
- Dress in appropriate clothing (i.e., clothing made from natural fibers, such as cotton, and work boots).
- Have goggles and a dry bandana or particle mask handy.
- Ensure that you have your Emergency Supply Kit on hand that includes all necessary items, such as a battery-powered radio, spare batteries, emergency contact numbers, and ample drinking water.
- Stay tuned to your TV or local radio stations and social media for updates, or check the fire department website.
- Remain close to your house, drink plenty of water, and keep an eye on your family and pets until you are ready to leave.

INSIDE CHECKLIST

- Shut all windows and doors, leaving them unlocked.
- Remove flammable window shades and curtains and close metal shutters.
- Remove lightweight curtains.
- Move flammable furniture to the center of the room, away from windows and doors.
- Shut off gas at the meter. Turn off pilot lights.
- Leave your lights on so firefighters can see your house under smoky conditions.
- Shut off the air conditioning.



OUTSIDE CHECKLIST

- Gather up flammable items from the exterior of the house and bring them inside (e.g., patio furniture, children's toys, door mats, etc.) or place them in your pool.
- Turn off propane tanks.
- Don't leave sprinklers on or water running – they can waste critical water pressure.
- Leave exterior lights on.
- Back your car into the driveway. Shut doors and roll up windows.
- Have a ladder available.
- Patrol your property and extinguish all small fires until you leave.
- Seal attic and ground vents with pre-cut plywood or commercial seals if time permits.

IF YOU ARE TRAPPED: SURVIVAL TIPS

- Shelter away from outside walls. www.readyforwildfire.org/What-To-Do-If-Trapped
- Bring garden hoses inside house so embers don't destroy them.
- Patrol inside your home for spot fires and extinguish them.
- Wear long sleeves and long pants made of natural fibers, such as cotton.
- Stay hydrated.
- Ensure you can exit the home if it catches fire (remember if it's hot inside the house, it is four to five times hotter outside).
- Fill sinks and tubs for an emergency water supply.
- Place wet towels under doors to keep smoke and embers out.
- After the fire has passed, check your roof and extinguish any fires, sparks or embers.
- Check inside the attic for hidden embers. Patrol your property and extinguish small fires.
- If there are fires that you cannot extinguish with a small amount of water or in a short period of time, call 911.

GO! Evacuation Guide

Give your family the best chance of surviving a wildfire by being ready to go and evacuating early.

Remember: When immediate evacuation is necessary, follow these steps as soon as possible to get ready to GO!

- Review your Evacuation Plan Checklist.
- Ensure your Emergency Supply Kit is in your vehicle.
- Cover up to protect against heat and flying embers. Wear long pants, long-sleeve shirt, heavy shoes/boots, cap, dry bandana for face cover, goggles or glasses. 100% cotton is preferable.
- Locate your pets and take them with you.



GO! Early

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

When To Leave

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

Where To Go

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

How To Get There

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

What To Take

- ✓ Take your Emergency Supply Kit containing your family and pet's necessary items.



Evacuation Planning for Pets

- ✓ Plan ahead. Know where you will take or leave your pets. In case you are not home when disaster strikes, arrange in advance for a neighbor to check on or transport your pets. Make sure your neighbors have your contact numbers (cell phone, work, home, etc.). In the event of evacuation, pets may not be allowed inside human emergency shelters – have an alternate prearranged location to take your animals.
- ✓ Make sure your pets are always wearing properly fitted collars with personal identification, rabies, and license tags.
- ✓ Each animal should have its own pet carrier. Birds, rodents and reptiles should be transported in cages. Cover cages with a light sheet or cloth to minimize their fear.
- ✓ Store vaccination/medical records, veterinary contact information, proof of ownership, a current photo, and a Emergency Supply Kit in one location.

Pet Emergency Supply Kit

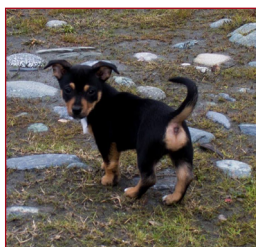
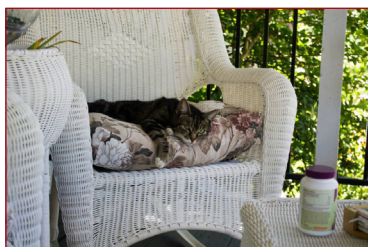
- | | |
|--|---|
| <input type="checkbox"/> Pet carrier for each pet | <input type="checkbox"/> Cat litter box and litter or newspaper |
| <input type="checkbox"/> Two-week supply of food and water | <input type="checkbox"/> Plastic bags for waste disposal |
| <input type="checkbox"/> Non-spill food and water bowls | <input type="checkbox"/> Paper towels |
| <input type="checkbox"/> Pet first-aid kit | <input type="checkbox"/> Disinfectants |
| <input type="checkbox"/> Medications and dosing instructions | <input type="checkbox"/> Blankets |
| <input type="checkbox"/> Leashes/collars/harnesses | <input type="checkbox"/> Toys and treats |



If You Must Leave Your Pet

- ✓ Bring them indoors. NEVER leave pets chained outdoors!
- ✓ Use a room with no windows and adequate ventilation, such as a utility room, garage, bathroom, or other area that can be easily cleaned. DO NOT tie pets up!
- ✓ Leave only dry foods and fresh water in non-spill containers. If possible, open a faucet to let water drip into a large container or partially fill a bathtub with water. Do not leave vitamin treats, which could be fatal if over-eaten.
- ✓ House cats and dogs separately, even if they normally get along.
- ✓ Leaving your pets is NOT recommended and should never be done unless it is the last possible resort.

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

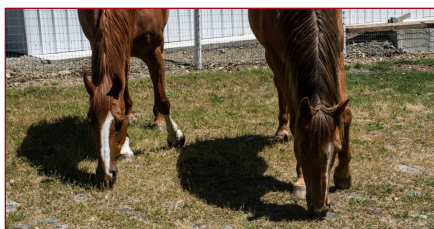
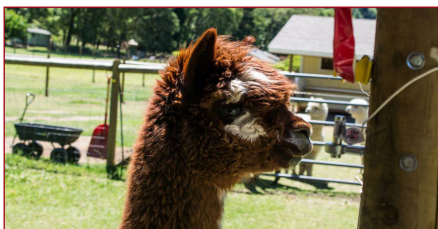


Evacuation Planning for Large Animals

- ✓ Clear defensible space around your barns and pastures, just as you do your home. California law (PRC 4291) requires clearance around all structures on your property.
- ✓ Plan ahead, know where you would evacuate the animals. Contact your local fairgrounds, stockyards, equestrian centers, friends, etc., about their policies and ability to take livestock temporarily in an emergency. Have several evacuation routes in mind. If you don't have your own truck and trailer, make arrangements with neighbors or local companies before disaster strikes. Make sure your neighbors have your contact numbers.
- ✓ Have vaccination/medical records, registration papers, and photographs of your animals (proof of ownership) and your Disaster Preparedness Kit.

Large Animal Emergency Supply Kit

- Hay, feed and water for three days
- Non-nylon leads and halters (embers can easily melt or ignite nylon materials)
- First-aid items
- Wire cutters and a sharp knife
- Hoof pick
- Leg wraps
- Shovel
- Water buckets
- Plastic trash barrel with a lid
- Portable radio and extra batteries
- Flashlights



If You Must Leave Your Large Animals

- ✓ Leave them in a preselected, cleared area.
- ✓ Leave enough hay/feed and water for 48 to 72 hours. DO NOT rely on automatic watering systems. Power may be lost.
- ✓ Leaving your horses and livestock is not recommended and should never be done unless it is the last possible resort.

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

For more information on evacuating pets and large animals, see the following resources:

- ✓ Wildland Fire Safety For Your Livestock And Pets: www.readyforwildfire.org/Animal-Evacuation
- ✓ CAL FIRE Animal Evacuation Fact Sheet: www.fire.ca.gov/communications/downloads/fact_sheets/Animalevacuation.pdf
Also available in Spanish: www.fire.ca.gov/communications/downloads/fact_sheets/Animalevacuationspanish.pdf
- ✓ Ready – Pet and Animal Emergency Planning: www.ready.gov/animals
- ✓ ASPCA – Disaster Preparedness website: www.asPCA.org/pet-care/general-pet-care/disaster-preparedness

What To Expect After A Wildfire Returning Home

Coming home after a wildfire can be difficult. The damage is often unknown until the homeowner returns days or weeks later. ALWAYS check with officials before attempting to return to your home. Once home, check for the following:

- ✓ Check grounds for hot spots, smoldering stumps, and vegetation.
- ✓ Check the roof and exterior areas for sparks or embers.
- ✓ Check the attic and throughout your house for any hidden burning sparks or embers.
- ✓ Check for fire damage to your home, turn off all appliances, and make sure the meter is not damaged before turning on the main circuit breaker.
- ✓ Check the well or pump-house to ensure it is in working order.
- ✓ Contact 911 if any danger is perceived.
- ✓ Consult local experts on the best way to restore and plant your land with fire-safe landscaping.

Find out more about what to do before, during and after a wildfire at http://calfire.ca.gov/communications/downloads/fact_sheets/BeforeDuringAfter.pdf and when returning home after a wildfire at http://calfire.ca.gov/communications/downloads/fact_sheets/PGE_ReturningHomeAfterAfterAFire_print.pdf.

Watershed Impacts After a Wildfire

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

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

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

Learn more at: <http://albertawater.com/how-wildfires-impact-a-watershed> and www.fs.fed.us/pnw/research/fire-effects.shtml.

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



Humboldt County Fire Safe Council

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

The HCFSC's mission is to: *serve as a forum for the implementation of Humboldt County's Community Wildfire Protection Plan (CWPP), share fire-safety information, assess fire risk, promote community fire-safe planning and coordination, link fire-prevention programs, and support the fire service and local FSCs.*

The HCFSC membership consists of 16 individuals representing federal, state, and local fire service agencies and organizations, along with local FSCs, the Hoopa Valley Tribe, the Humboldt County Office of Emergency Services (OES), CAL FIRE, the Bureau of Land Management (BLM), Six Rivers National Forest, and the insurance industry.

Since overseeing the development of a countywide fire plan in 2006 and its update into a CWPP in 2013, the HCFSC has made much progress implementing several elements of the fire plan. Accomplishments include:

- Funding for and implementation of a cost-share program for treating flammable vegetation (Fire-adapted Landscapes and Safe Homes, or FLASH, Program);
- Assisting local FSCs with their CWPPs and Firewise® activities with grant funds and/or technical assistance (assisted 10 communities to receive Firewise recognition);
- Creating a Web GIS tool showing the current level of fire service and community-identified needs for hazardous fuels reduction;
- Assisting with fire protection district expansion and formation;
- and much more...

The HCFSC meets quarterly at varying locations from 10 am to 1 pm to discuss progress on projects and share ideas. There is often a special presentation provided by a content expert related to one of the major themes of wildfire mitigation and management or community preparedness. These meetings are open to the public and all are welcome.

For more information: humboldt.gov.org/FireSafeCouncil, 707-267-9542
1106 Second St., Eureka, CA 95501, cimmitt@co.humboldt.ca.us



Humboldt County Community Wildfire Protection Plan (CWPP)

To ensure success, HCFSC sub-committees review and implement CWPP recommendations. Their work focuses on priority CWPP implementation measures in the following categories:

- ✓ **Helping Firefighters Help You**
 - Enhancing fire protection
 - Improving the level of service of fire protection
 - Securing resources for fire protection
 - Developing a reliable revenue source for fire protection
 - Improving road and home address signage
- ✓ **Ensuring Adequate Water Supplies for Fighting Fire**
 - Providing information and securing resources to address insufficient firefighting water supply.
- ✓ **Firewise Communities**
 - Creating fire-safe communities
 - Empowering and educating residents
- ✓ **Managing Hazardous Fuels**
 - Reducing hazardous fuels
 - Utilizing excess fuels
- ✓ **Maintaining Air Quality**
 - Educating citizens about regulations
 - Encouraging compliance with laws
- ✓ **Planning for Safe Evacuations**
 - Educating citizens about how to be ready to evacuate
 - Supporting the development of evacuation plans

Crooked Prairie Fire Safe Council

The Crooked Prairie Fire Safe Council (CPFSC) works in the Ettersburg area of southern Humboldt. It was established in 2005 with the dissolution of the Crooked Prairie Fire Crew (one of the first volunteer fire companies in the area), due to the high cost of insurance.

CPFSC's mission is to improve and maintain fire safety for community members and the environment through education, fuel reduction work and support of local firefighting efforts.

The CPFSC's goals and objectives are to:

- Educate community members, especially new residents, on fire-safe practices and the importance of 100 feet of defensible space.
- Assist individual landowners with FLASH grant applications.
- Educate community on Sudden Oak Death risk and assist with identification and testing.
- Create and maintain shaded fuelbreaks along the privately maintained roads within the community.
- Support resident volunteer firefighters with equipment acquisition.

- Coordinate with adjacent fire safe councils (SHFSC and LMFSC) to create and improve fire safety for the entire southern Humboldt region.

The CPFSC works hand-in-hand with Crooked Prairie Community Association, whose main function is the maintenance of about 4 miles of gravel road. The Mattole Restoration Council is another valuable resource through which the CPFSC received a grant for a 5,000-gallon water tank to support the firehouse in 2008, and a FLASH grant for fuel hazard reduction along about 2 miles of Crooked Prairie Road in 2013. In 2010, with the support of MRC and University of California Forestry Advisors, CPFSC hosted a Sudden Oak Death workshop and continues to assist landowners with identification and testing. The CPFSC greatly appreciates and benefits from CAL FIRE's annual "Fire Hazard Inspection" reports for individual properties.

For more information about the CPFSC, contact:

Kathy Weber, kw@asis.com, 707-986-7705

POB 631, Garberville, CA 95542

Lower Mattole Fire Safe Council

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

Since its inception, the LMFSC has partnered closely with the Mattole Restoration Council (MRC) on fuels reduction and fire safety projects. One such project is participation in the Fire-adapted Landscapes and Safe

Homes (FLASH) program – a rebate program that reimburses property owners for hazardous vegetation management completed on their properties. The LMFSC and the MRC collaborated with the Humboldt County FSC in the development of the Lower Mattole Community Wildfire Protection Plan (CWPP), with involvement from local, state, and federal land and fire management agencies. The CWPP was finalized in 2016. Other recent projects include prioritized ridgeline and neighborhood fire breaks. Honeydew and Petrolia were recognized as Firewise communities in 2011. The annual Firewise event at "Roll on the Mattole" features the firefighters' challenge, always popular in inspiring support for our volunteers.



For information about the LMFSC, contact:

Ali Freedlund, ali@mattole.org, 707-629-3514

Ian Sigman, iansigman@hotmail.com, 707-629-3445

POB 160, Petrolia, CA 95558

www.mattole.org/programs/land-management/fire/

Orleans/Somes Bar Fire Safe Council

The Orleans/Somes Bar Fire Safe Council (OSBFSC) was established in 2001 and is now a program of the Mid Klamath Watershed Council (MKWC). *Its mission is to help plan, implement, and monitor the reinstatement of historic fire regimes.* This is primarily done through strategic fuels reduction in a manner that protects life and property, improves forest health, and enhances the resources valued by its stakeholders. The OSBFSC has received grant funding from a variety of partners in support of projects, including the construction of shaded fuelbreaks, prescribed burning programs, community defensible space workdays, landowner reimbursement programs, and Firewise educational events.



Since its inception, the OSBFSC has completed brushing and thinning on over 1,600 acres of private lands. It has been instrumental in accomplishing prescribed burns on over 1,200 acres of private lands, and trained over 150 local, regional, and national participants in the safe and effective use of prescribed fire through the annual Klamath Prescribed Fire Training Exchange (Trex).

Through Trex, OSBFSC continues to develop local capacity to implement prescribed burns to reduce their community's risk to wildfire and prepare for a day when all fires are no longer suppressed. The OSBFSC/MKWC is currently collaborating with diverse stakeholders through the Western Klamath Restoration Partnership, to prioritize strategic fuels reduction projects on public and private lands spanning a 1.2-million-acre project area. Pilot projects propose linear, manual, and mechanical fuels treatments to allow for more than 40,000 acres of prescribed burns in the wildland-urban interface.

Through the Western Klamath Mountains Fire Learning Network, successes are shared and new strategies for getting more good fire on the ground are gleaned at the national scale.

For more information about the OSBFSC, contact:

Will Harling, will@mkwc.org or Nancy Bailey
nancy@mkwc.org 530-627-3202

POB 409, Orleans, CA 95556

www.mkwc.org/programs/fire-fuels/

Southern Humboldt Fire Safe Council

The Southern Humboldt Fire Safe Council (SHFSC) was formed in 2002 by residents in the region who recognized the danger for community devastation by wildfire.

Its mission is to protect the region's natural and man-made resources by mobilizing the community to make their homes, neighborhoods, and communities



fire safe. The SHFSC has collaborated with a variety of fire and forestry organizations to achieve its goals. The SHFSC has completed numerous shaded fuelbreak projects and over the last four years has emphasized the FLASH program, a fire-hazard reduction and education reimbursement program. During the 2015-16 period, 19 landowners completed FLASH fire hazard reduction

projects ranging from creating defensible space around homes, to removing Douglas-fir encroachments in oak woodlands, to completing a fuelbreak along a major



access road. In 2016, the SHFSC also partnered with CAL FIRE to complete a fuelbreak along the north edge of

Garberville and maintenance of the Perry Meadow/Elk Ridge fuelbreak.

For information about the SHFSC, contact:

Bill Eastwood, bill@asis.com, 707-923-9109

POB 71, Redway, CA 95560

www.newforestry.org/shfsc/

Van Duzen Watershed Fire Safe Council

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

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

assisted the Forest Service with fuelbreak pile burning and roadside clearance on Forest Service land. The VDWFSC has also sponsored numerous workshops and yearly informational booths at public events and participated in the FLASH program. In addition to fire prevention, the VDWFSC participates in services related to stream restoration, erosion control, trail building, tree planting, wildlife habitat enhancement, and has a crew that is certified in wildland firefighting. Bridgeville has been a Firewise Community since 2010.

For more information on the VDWFSC, contact:
**Jean-Louis Carmona, jlc4660@gmail.com
707-446-4530**

**Bridgeville Community Center
POB 3, Bridgeville, CA 95526**

Willow Creek Fire Safe Council

The Willow Creek Fire Safe Council (WCFSC) began in 2007 with a small group of residents committed to improving community fire preparedness. This group grew, and in 2008 WCFSC became incorporated as a non-profit 501(c)3. *Its mission is to reduce wildfire risk and increase survivability by implementing fuels reduction projects and encouraging residents of the greater Willow Creek area to make their homes, neighborhoods, and communities fire safe.* Projects of the WCFSC include “Chipper Days” (to help clear brush from around homes) and implementation of the “Blue Dot Program” (which makes pre-approved water sources available for fire protection more apparent to firefighters). The WCFSC also hosts an annual public information “Firewise Community Fair & Youth Ecology Day” in May, as well as an annual “Sky Crest Lake Youth Fish Derby” and “Firewise Day” in June. WCFSC participates in the widely attended “Bigfoot Day” celebration on Labor Day weekend as well as the “Taste of Willow Creek” in October, providing information on fuels reduction and fire safety including fundraising booths. In an effort

produced and distributed a local “Living with Fire” publication. Additionally, WCFSC has worked with Humboldt County FSC, CAL FIRE and the US Forest Service on this *Living with Wildfire in Northwestern California* publication. The WCFSC also has collaborated and participated in the Humboldt County FSC’s FLASH program, as well as developing and maintaining the Willow Creek Greater Area Community Wildfire Protection Plan, which was completed in 2011. Willow Creek was the first certified “Firewise Community” in Humboldt County, and has been an active Firewise Community since 2010.

For more information on the WCFSC, contact:
**Barbara Darst, admin@willowcreekfsc.org
707-499-0767, www.willowcreekfsc.org
P.O. Box 224, Willow Creek, CA 95574**



to educate and empower residents with fire safety information and resources, WCFSC has

Firewise Communities USA Recognition Program



The Firewise Communities/USA Recognition Program teaches people living within the wildland-urban interface (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. Some preparedness actions include creating and

maintaining defensible space around structures by reducing vegetation and removing debris, and hardening homes with fire-resistant construction materials and landscaping techniques. For more information, visit: www.firewise.org.

Using a five-step process, community residents collectively develop an action plan that identifies their wildfire hazard risks and guides action to reduce those risks.

The Five Steps to Becoming Firewise

- ✓ Create a Community Wildfire Risk Assessment with assistance from a state forestry agency and/or local fire department;
- ✓ Form a board or committee and create an action plan based on the Community Assessment;
- ✓ Conduct a “Firewise Day” event;
- ✓ Invest a minimum of \$2 per capita in local Firewise actions for the year; and
- ✓ Submit an application and subsequently an annual report to the state Firewise liaison.

Some of the many ways communities benefit from Firewise:

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

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

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

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

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

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

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

Local Firewise Communities

Humboldt County

Honeydew, 2011
Hydesville, 2015
Kneeland, 2015
Orleans, 2011
Petrolia, 2011
Redwood Valley/Chezem, 2014
Shelter Cove, 2014
Upper Jacoby Creek, 2012
Willow Creek, 2010

Trinity County

(All since 2008)
Big Bar & Big Flat
Coffee Creek
Douglas City
Hawkins Bar
Hayfork
Hyampom
Junction City
Lewiston
Mad River & Ruth
Post Mountain
Salyer
Trinity Center
Weaverville
Burnt Ranch, 2013

Interagency Prescribed Fire Implementation in Redwood National Park

Every September in Redwood National Park the falling of oak leaves and curing of grasslands signal the transition into plant dormancy and the fall prescribed-fire season. Cooler temperatures, higher relative humidity, and the first wetting rains signal the waning of wildfire season. It is during this shoulder season that the park utilizes prescribed fire to restore and maintain fire-dependent plant communities and reduce hazardous fuels.



Interagency crews from Six Rivers National Forest, Redwood National Park, and CAL FIRE participate in a pre-burn briefing.

personnel provided the much-needed fireline resources required by the burn plans, and received substantial training opportunities in the process.

RWP's 2015 Fire Management Plan provides for the use of fire to restore natural and cultural processes, manage exotic plants and conifers encroaching into prairie and oak woodland plant communities, and interpret and educate the public about the role of fire in the park. The park has successfully used prescribed fires to achieve these objectives since the early 1980s. Individual burn units have seen repeated prescribed fire ranging from 3 to 7 entries since the early 1980s, with the goal of applying fire on a 2- to 5-year return interval. This short interval favors maintenance of native oak woodland and

grassland species, while limiting the establishment of encroaching conifers, hardwoods, and shrubs that shade the understory plant community, reduce biodiversity, and create hazardous fuels.

The prescribed-fire program at RWP is grounded in the science of fire ecology, as well as the history of management by the Yurok, Tolowa, Chilula, and Hupa peoples. For generations, intentional burning provided grazing and hunting areas for elk and deer, maintained important resources like mature tanoak and white oak trees, and basket weaving resources, and kept trail and travel corridors open. Early settlers who homesteaded the prairies continued the practice of broadcast burning until it was outlawed by the state in the early 1930s. The park remains committed to using fire as a land management tool and will continue to work with its partners to achieve desired management goals.



Prescribed fire ignitions proceed along Bald Hills Road during the 561-acre Child's Hills burn, with Schoolhouse Peak in the background.



A crew member of the Smith River Hotshots applies dot ignitions during the 1,063-acre Coyote Creek burn.

Collaboration in the Mid Klamath Watershed

There is an old proverb that says it takes an entire village to raise a child. It also takes an entire village to manage a landscape. In the “village” of Orleans, a small town located along the Klamath River, in the Orleans/Ukonom Ranger District of the Six Rivers National Forest, there is a lot of effort from the community to find agreement on proposed treatments in the forest surrounding the town. These treatments aim to change how wildfires are managed in this landscape. Fire has been a major factor in shaping the vegetation of the Klamath Mountains. The US Forest Service has done too good of a job suppressing fires in the area. As a result, forests are choked with excess brush and trees that would have never grown there in a historic fire regime. Due to dense stands, fires in the area are burning larger amounts of area with higher portions at unnaturally high severity.



The Orleans/Ukonom Ranger District covers 409,449 acres. That’s a large landscape for an organization to manage. Over the past few years, great progress has been made in collaborative efforts to manage the wildland-urban interface lands that surround us. The best example of how we are collaboratively working together is the Western Klamath Restoration Partnership (WGRP). The WGRP is a large group of diverse stakeholders, including but not limited to land management agencies, tribes, Fire Safe Councils, environmental groups, and citizens working to develop a shared vision for restoring fire reliance in the Western Klamath Mountains at the landscape scale. The group aims to demonstrate a new approach to fire and resource management by developing shared values to which everyone has agreed. The Mid Klamath Watershed Council and the Orleans/Somes Bar Fire Safe Council are important collaborators with the Forest Service and the Karuk Tribe. Together they ensure that the communities on the river are active in wildfire preparedness. This includes helping private landowners with creating and maintaining defensible space on their property, school programs that teach the younger generation that not all fire in the forest is

bad, and building local capacity for prescribed fire. In October 2016, the Orleans Ranger District worked side-by-side with the Karuk Tribe’s K-1 fire crew to reduce fuels and promote culturally important species using prescribed fire. Together they accomplished five acres of understory burning before the season-ending storms. They have fought fires side-by-side before in suppressing fires, but had not worked together restoring forests and promoting important forest resources using prescribed fire. It was a small but important step in building relationships, skill sets, and experience together. If a significant impact on the health of our forests is to be made, and the processes that shape our landscapes restored, it’s going to take all of us working together.

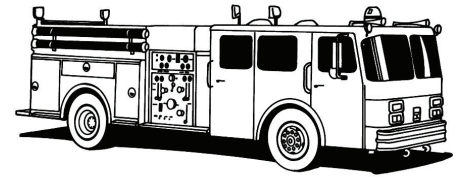
The Western Klamath Restoration Partnership (WGRP) seeks to build trust and a shared vision for restoring fire resilience at the landscape scale. The past century of fire exclusion has severely impacted water supplies, forest health, communities, cultural resources, and threatened species throughout the Klamath Mountains and beyond.

This partnership has allowed diverse stakeholders to come together to accomplish work by identifying zones of agreement where all parties agree upslope restoration needs to occur. Together, a plan was created for restoring fire resilience at the landscape scale, founded upon Traditional Ecological Knowledge and practices and concepts outlined in the National Cohesive Wildland Fire Management Strategy.

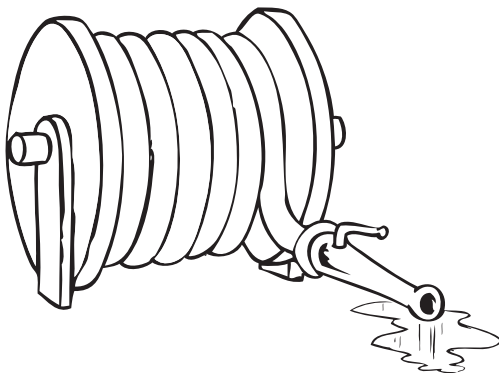
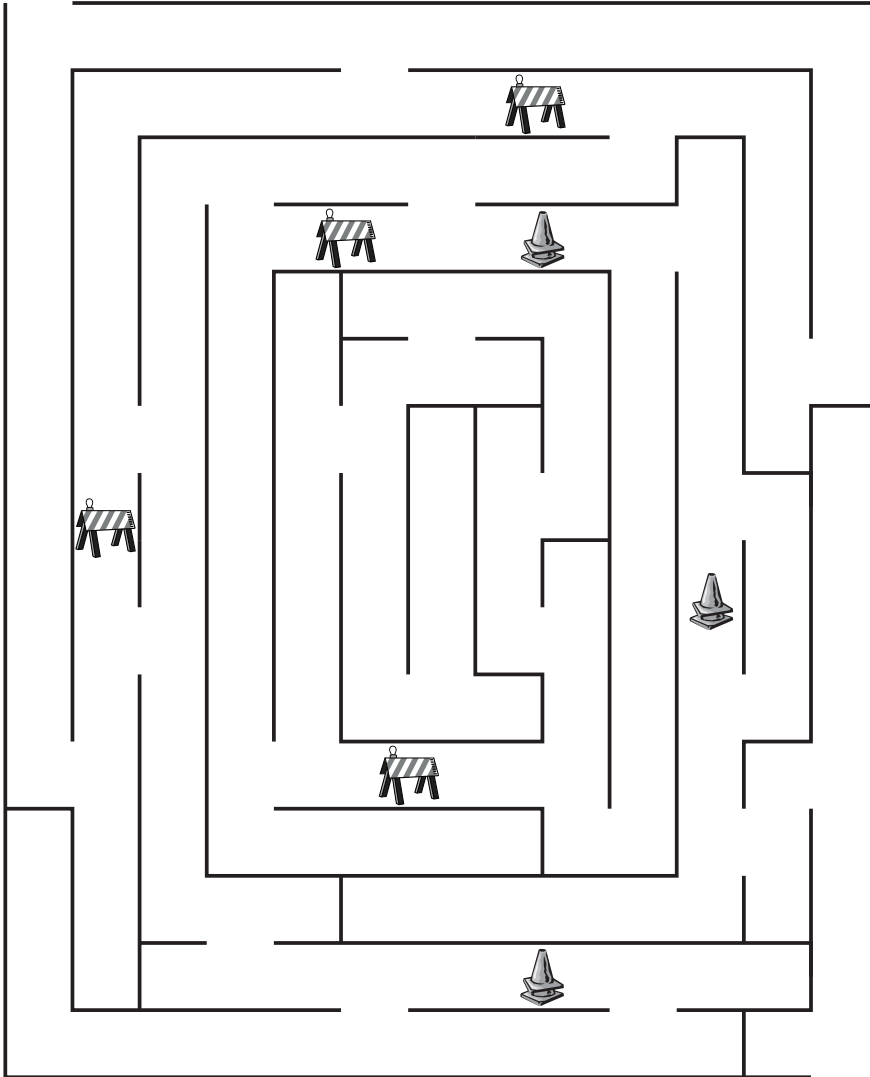
This plan incorporates ecological, economic, social and cultural values spatially across a 1.2-million-acre landscape to determine where restoration treatments would yield the most beneficial results with the least impact. The WGRP is a collaborative land and fire management effort between tribal, federal, and non-governmental stakeholders in the Western Klamath Mountains of Northern California. It is based on 20 years of collaborative work between diverse partners, ultimately forming the WGRP in 2013.

Help Firefighter Kim!

Help Firefighter Kim by giving her directions to the burning house.
Beware, there is a lot of construction going on!



START



Fire Safety Word Search

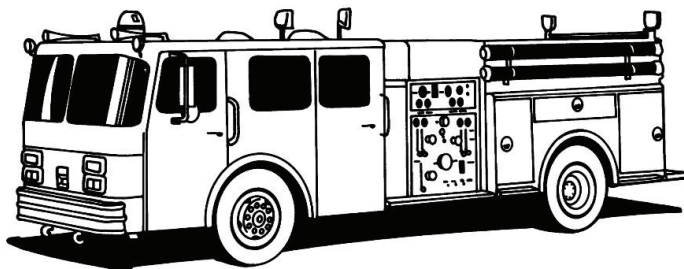
Find all of the words and circle them



Smokey's Fire Safety Tips

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

- | | | | |
|-------------|-------------|--------------|----------------|
| Boots | Fire Safety | Mask | Stop Drop Roll |
| CAL FIRE | Heat | Nine One One | Water |
| California | Helmet | Practice | |
| Escape Plan | Help | Smoke Alarm | |
| Fire Engine | Hose | Smokey | |
| Firefighter | Ladder | Sparky | |



For more fun stuff for kids, see: <https://smokeybear.com/en/smokey-for-kids>

Smokey's Secret Message

Use the letter key to uncode Smokey's Message.

A	B	C	D	E	F	G	H	I	J	K	L	M
2	4	6	8	10	12	14	16	18	20	22	24	26


N	O	P	Q	R	S	T	U	V	W	X	Y	Z
25	23	21	19	17	15	13	11	9	7	5	3	1

 23 25 24 3 3 23 11 6 2 25

 21 17 10 9 10 25 13 12 23 17 10 15 13

 _____ !
 12 18 17 10 15

Find the Fire Helmets

How many  can you find in the picture below?



Contributors & Collaborators



CAL FIRE, Humboldt-Del Norte Unit: www.fire.ca.gov/HUU/

County of Humboldt, Public Works Department:
www.humboldt.gov/494/Natural-Resources-Planning

Humboldt County Fire Safe Council:
www.humboldt.gov/FireSafeCouncil

Mid Klamath Watershed Council: www.mkwc.org/programs/fire-fuels

NFPA Firewise Communities Program: www.Firewise.org

North Coast Unified Air Quality Management District: www.ncuaqmd.org

Southern Humboldt Fire Safe Council: <http://newforestry.org/shfsc/>

University of California Cooperative Extension, Humboldt-Del Norte: <http://cehumboldt.ucanr.edu>

US Forest Service, Six Rivers National Forest: www.fs.usda.gov/srnf/

Willow Creek Fire Safe Council: www.willowcreekfsc.org



This publication was collaboratively produced and funded by the County of Humboldt, Six Rivers National Forest, and CAL FIRE Humboldt–Del Norte Unit, under the guidance of the Humboldt County Fire Safe Council, www.humboldt.gov/Fire-SafeCouncil. It was edited and designed by ForEverGreen Forestry, www.forevergreenforestry.com.

Additional Fire Safety Resources

To learn more about wildfire and how you can enhance your personal fire safety, see the following resources.

Builders Wildfire Mitigation Guide: firecenter.berkeley.edu/bwmg

California Fire Safe Council: www.cafiresafecouncil.org

California Fire Science Consortium: www.cafiresci.org

California Native Plant Society – Native Plants and Fire Safety: www.cnps.org/cnps/conservation/fire_fuels.php

Center for Fire Research and Outreach: ucanr.edu/sites/cfro/

Extension Wildfire Information Network: extension.org/surviving_wildfire

Homeland Security – Ready for Wildfires: ready.gov/wildfires

Fire Adapted Communities: fireadapted.org

Fire Adapted Communities Learning Network: <https://fireadaptednetwork.org/>

Fire and Aviation Management – Prevention & Education: fs.fed.us/fire/prev_ed

Fire, Fuel, and Smoke Science Program: firelab.org

Home Landscaping for Fire: firecenter.berkeley.edu/docs/CE_homelandscaping.pdf

Homeowner's Wildfire Mitigation Guide: ucanr.edu/sites/Wildfire

Home Survival in Wildfire-Prone Areas: Building Materials and Design Considerations:
anrcatalog.ucdavis.edu/pdf/8393.pdf

Incident Information System – InciWeb: inciweb.nwcg.gov

Insurance Institute for Business & Home Safety – Wildfire: disastersafety.org/wildfire

Joint Fire Science Program: www.firescience.gov

National Fire Protection Association – Safety Information: nfpa.org/safety-information

Northern California Prescribed Fire Council: norcalrxfirecouncil.org

Only YOU Can Prevent Wildfires: smokeybear.com/wildfires.asp

Prevent Wildfire California: preventwildfireca.org

Ready for Wildfire (Ready, Set, Go! Evacuation Guide): readyforwildfire.org

Red Cross – Home Fire Safety: redcross.org/prepare/disaster/home-fire

Safe Kids Worldwide – Fire Safety: safekids.org/fire

University of California Cooperative Extension Wildfire Resources: <http://cehumboldt.ucanr.edu/Fire>

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

My Personal Wildfire Action Plan

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

Important Phone Numbers

Out-of-State Contact: _____ Phone: _____

Work: _____

School: _____

Other: _____

Evacuation Routes: _____

Where to go: _____

Location of Emergency Supply Kit: _____

Notes: _____



California Department of Forestry and Fire Protection

If you have an emergency, call 911

CAL FIRE: 916-653-5123

www.fire.ca.gov

Other Important Phone Numbers & Information:

 **Family Communications Plan**

Contact Name: _____
Telephone: _____

Out-of-Town Contact Name: _____
Telephone: _____

Neighborhood Meeting Place: _____
Meeting Place Telephone: _____

Dial 9-1-1 for Emergencies!

< FOLD HERE >

Other Important Phone Numbers & Information:

 **Family Communications Plan**

Contact Name: _____
Telephone: _____

Out-of-Town Contact Name: _____
Telephone: _____

Neighborhood Meeting Place: _____
Meeting Place Telephone: _____

Dial 9-1-1 for Emergencies!

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

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APPENDIX I — REGULATIONS AND COMPLIANCE¹

I.1 FIRE-SAFETY REGULATIONS

State and local policies and regulations require landowners to carry out activities such as maintaining defensible space and reducing vulnerability to damage or loss from wildfire. This section outlines the most important policies and regulations related to residential wildfire safety in Humboldt County.

I.1.1 HUMBOLDT COUNTY FIRE-SAFE REGULATIONS AND ORDINANCES

SRA Fire Safe Regulations: Humboldt County Code Title III, Div. 11²

These standards apply to proposed development within the State Responsibility Area (SRA) to reduce the risk of fire. These regulations are a locally adopted equivalent to the state’s SRA Fire Safe Regulations and have been approved by the Board of Forestry and Fire Protection (BOF) as meeting or exceeding state regulation (*see Public Resources Code 4290 below*). The Humboldt County Planning and Building Department, with CAL FIRE, oversees the development permitting process to ensure that these standards are met. County Building Division staff inspect vegetation clearance and other improvements at the time of construction.

Requests for exemption from these regulations may be submitted to the County Planning Director. Detailed reasoning and information about the area are required. Any person in violation of these regulations shall be guilty of a misdemeanor and subject to penalties provided for in 112-5 of Title I, Division 1, Chapter 2 in the Humboldt County Code.³

The County’s SRA Fire Safe Regulations address the following four categories:

FIGURE I.1 HUMBOLDT COUNTY SRA FIRE SAFE REGULATION CATEGORIES	
ROAD AND DRIVEWAY ACCESS	Regulations for road width, roadway surfaces, grades, radius, and turnarounds and turnouts ensure safe access for fire equipment and civilian evacuation. Regulations also apply to clearance and weight-bearing capacity of roadway structures and to driveways and gate entrances.
STREET AND ADDRESS SIGNS	Clear visibility and legibility of signs assists emergency responders.
EMERGENCY WATER	1) Water sources must be clearly marked. 2) Water hydrant valves must meet regulations. 3) At least 2,500 gallons of water must be immediately available to ensure rapid and effective firefighting response.
SETBACKS AND GREENBELTS	Having defensible space for properties adjacent to green belts is critical for firefighter and civilian safety. Greenbelts must be strategically placed to act as a buffer between wildland fuels and structures. Buildings must be set back a specific distance from property lines and roadways. Flammable vegetation or fuel resulting from development and construction must be removed safely. <i>See information on Landscape Debris Burning below.</i>

*For the full text of the Humboldt County SRA Fire Safe Regulations, see **Appendix J**.*

¹ This appendix was researched and written by Humboldt State University students Christopher Alberts, Michael Erickson, Jessica Lammers, and Cameron Spencer, with assistance from Humboldt County staff.

² Full text for the Humboldt County SRA Fire Safe Regulations available at: <https://humboldt.gov.org/1812/Fire-Safe>

³ Full text for the penalties available at: <https://humboldt.county.codes/Code/112-5>

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I.1.2 STATE OF CALIFORNIA REGULATIONS

Fire Safety Standards: California Public Resources Code 4290 and 14 CCR 1270⁴

Public Resources Code (PRC) 4290 and regulations in 14 CCR 1270 outline regulations governing roads, driveway width, clearance, turnarounds, signing, and water related to fire safety throughout California. PRC 4290 is typically enacted through regulation at the county level, as described above.

CAL FIRE HUU (HUMBOLDT-DEL NORTE UNIT)	Fortuna Office 118 S. Fortuna Blvd., Fortuna, CA 95540 Telephone: (707)-726-1270 Website: http://www.fire.ca.gov/HUU
CAL FIRE (HEADQUARTERS)	Sacramento Headquarters 1416 9th Street, Sacramento, CA 94244 Telephone: (916) 653-5123 Website: http://www.fire.ca.gov

Wildland-Urban Interface Building Standards: California Government Code 51189

This code directs the Office of the State Fire Marshal to create building standards for wildfire resistance. The code guides construction of buildings in the wildland-urban interface to utilize fire-resistant materials to save life and property.⁵

As of 2011, the WUI standards relevant to fire-safe construction for all new structures in the SRA are the California Building Code, Chapter 7A (applied to commercial construction) and the California Residential Code, Chapter 3, Section R327 (applied to residential construction).⁶ The County of Humboldt has adopted these codes.

State Responsibility Area (SRA): Public Resources Code 4102, 4125-4229 and 14 CCR 1220

These statutes and regulations establish the locations where CAL FIRE has the financial responsibility for preventing and suppressing fires. Not only are these designations important to local communities for defining the financial arrangements for fire protection services, they establish the locations where fire safe and defensible space laws or regulations apply.

Hazardous Fire Areas: Public Resources Code 4251-4255 and 14 CCR 1200

These laws and regulations allow petitioners to the Board Forestry and Fire Protection (BOF) or CAL FIRE to establish hazardous fire areas (HFA). The designation provides for area closures and other restrictions for fire prevention within the HFA.

Defensible Vegetation Clearing Around Structures: Public Resources Code 4291/14 CCR 1299

PRC 4291, or “4291”, regulates fuel management around a property. Section 4291 states that a person who owns or controls a building or structure in or adjoining to forest, brush, or grass covered lands shall follow certain guidelines as outlined in the Public Resources Code §4291: Structures in Mountainous Areas; Flammable Materials.⁷

⁴ Full text available at: http://calfire.ca.gov/fire_prevention/fire_prevention_wildland_codes.php

⁵ California Government Code 51189, Section A. (2009). Retrieved from https://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=51189

⁶ California Building Standards Commission. (2016, effective Jan. 1, 2017). California Building Standards Code. Retrieved from <http://www.bsc.ca.gov/Codes.aspx>

⁷ Public Resources Code §4291. Mountainous, Forest-, Brush- and Grass-Covered Lands. Retrieved from http://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

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Under PRC 4291, at least 100 feet of defensible space is required. The owner of the property is liable for making these changes to protect habitable structures⁸. The 100 feet is separated into two zones with the closer zone, 30 feet out from the structure, being managed more intensively.

*For the full text of PRC 4291, see **Appendix K**.*

CAL FIRE is the statewide agency that enforces PRC 4290 and PRC 4291. For many reasons, it is to the homeowner’s advantage to meet these minimum standards. As discussed throughout this CWPP, the condition of this 100-foot area can make the difference between losing a home and saving it.

CAL FIRE Fuel-Hazard Exemptions

There are various exemptions related to vegetation management associated with wildfire hazard reduction. A consultation with CAL FIRE, (*see contact information in **section I.1.2 above***), and/or a Registered Professional Forester is recommended to fully understand the application of the following exemptions.

FIGURE I.2 CAL FIRE FUEL HAZARD EXEMPTIONS – 14 CCR § 1038	
○	150’ Structure Protection Exemption (14 CCR § 1038 (c))
○	150’-300’ Structure Protection Exemption (14 CCR § 1038(c)(6))
○	Harvesting Dead, Dying, Diseased Trees (14 CCR § 1038 (b))
○	Drought Mortality Exemption (14 CCR § 1038 (k))
○	Substantially Damaged Timberland (14 CCR § 1038 (d))
○	Woody Debris & Slash for Energy Production Exemption (14 CCR § 1038 (g))
○	Forest Fire Prevention Exemption (14 CCR § 1038 (i))
○	Forest Fire Prevention Pilot Project (14 CCR § 1038 (j))

General Plan Fire Safety Element Review: Government Code 65302.5

Government Code 65302.5 requires the Board of Forestry (BOF) to provide recommendations to a local jurisdiction’s General Plan Safety Element at the time that the General Plan⁹ is being amended. This is not a direct and binding fire-prevention requirement for individuals. BOF recommendations include goals and policies that provide for contemporary fire-prevention standards for the jurisdiction. The programs and standards typically recommended by the BOF are related to:

FIGURE I.3 GENERAL PLAN SAFETY ELEMENT	
<i>Recommended Programs and Standards</i>	
Local agency development of fire plans	Adoption of Fire Hazard Severity Zone maps
Adoption of ignition-resistant building codes	Reduction of hazards to structures and neighborhoods
Planning for emergency access in open-space areas associated with the jurisdiction	Providing adequate levels of emergency services
Addressing post-wildfire safety and recovery programs	Adding fire safe standards to neighborhoods

⁸ Senate Bill 1595, Chapter 366. (2008). Retrieved from http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=200720080SB1595

⁹ The Humboldt County General Plan (2017) is available online: <https://humboldtqov.org/205/General-Plan>. A chapter of interest for fire safety is the Safety Element, Chapter 14.

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Sprinkler Systems: California Residential Code, Chapter 3, Section R313

California code requires all new dwellings, dwelling units, and one- and two-family townhomes to be equipped with an automatic fire-sprinkler system.¹⁰ The sprinklers must be able to protect the entirety of the dwelling. Dwellings and homes constructed prior to January 1, 2011, that do not have a sprinkler system, may be retrofitted, but it is not required. This code is locally enforced by the Humboldt County Planning and Building Department.

Sprinkler Exemptions: Exemptions to California Residential Code, Chapter 3, Section R313 include additions or alterations made to existing townhouses and dwellings that do not already have automatic sprinkler systems. Spaces within dwellings that are exempt include attics, crawl spaces, clothes and linen closets, bathrooms less than 55 square feet in size, and detached garages or carports without habitable spaces.

Very High Fire Hazard Severity Zones: Government Code 51175

CAL FIRE is required by California code to identify lands with a Very High Fire Hazard so that public officials may develop measures to reduce the rate of spread and the potential intensity of fires in those areas.¹¹ CAL FIRE's Fire and Resource Assessment Program (FRAP)¹² provides updated maps of fire hazard severity zones so that defensible space and building standards may be required as needed.

The hazard designation for a property influences which precautionary actions are required. Different standards, such as roofing material, also apply to differently designated areas. Much of northeastern and southwestern Humboldt County are classified as Very High Fire Hazard Severity Zone. *For more information on Fire Hazard Severity Zones, see Chapter 5.2, **Wildfire Environment**, and the **Planning Unit Action Plans**, in Part 4 of this CWPP.*

¹⁰ More information on sprinkler systems in Humboldt County can be found at:
<https://humboldtqov.org/185/Sprinkler-Systems>

¹¹ California Government Code 51176. Chapter 6.8 Very High Fire Hazard Severity Zones. Retrieved from
http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=51176

¹² CAL FIRE. (2007). FRAP Projects [Webpage]. Fire Hazard Severity Zone Re-Mapping Project. Retrieved from
<http://frap.fire.ca.gov/projects/hazard/fhz.html>

I.2 ENVIRONMENTAL COMPLIANCE

Performing fuel-reduction projects or other wildfire-protection activities, although advisable and sometimes required, can have an adverse impact on the environment. Before engaging in wildfire hazard-reduction activities such as clearing vegetation, it is important to be aware of federal, state, and local laws to safeguard the environment. The most important relevant policies and regulations are described in this section.

I.2.1 HUMBOLDT COUNTY ENVIRONMENTAL COMPLIANCE LAWS

Humboldt County Zoning Ordinance, Section 314-61.1: Streamside Management Area Ordinance¹³

Humboldt County applies standards to the use of and proposed development within or affecting *Streamside Management Areas* (SMAs) and other wet areas such as natural ponds, springs, vernal pools, marshes, and wet meadows (exhibiting standing water year-long or riparian vegetation). The provisions of this ordinance pertain to all Land Use and Development permits issued by the County related to Planning, Subdivision Regulations, Building Regulations, and Protection and Control of County Roads and Permits. A site evaluation shall be made where necessary to determine, if a project/activity (such as hazardous-fuel reduction) meets the exemption standards of these regulations or if the proposed development requires a special permit.

Proposed activities within an SMA may be exempt from these requirements (sometimes including hazardous-fuel reduction), require a special permit, or may not be permitted at all. Development and activities in SMAs require specific mitigation measures such as retention of trees used by wildlife for nesting and erosion control. Certain activities are also prohibited such as discharge of organic or inorganic materials at levels that would be harmful to fish, wildlife, or other beneficial uses

A landowner who is unsure of the law, or unclear about whether a proposed development or activity applies to an SMA, may contact the County Planning and Building Department for guidance prior to moving forward. Landowners interested in determining where SMAs may be located on their property, can visit the Humboldt County Web GIS Portal (http://webgis.co.humboldt.ca.us/HCEGIS2.6_cwpp). A menu on the right-hand side of the web page allows one to select “SMAs,” then zoom in to the desired location. Alternatively, use a parcel number to locate a property and identifying relevant SMAs.

Encroachment Permit Regulations for the Protection of County Highways¹⁴

Projects that take place within the county right-of-way are required to obtain an encroachment permit from the Department of Planning & Building.¹⁵ This would include shaded fuelbreaks along county roads, for example. For projects that are intended to improve public safety, the permit fee may be waived by the Department if the nature of the project is noted on the application. A special permit can be obtained for tree trimming for overhead utilities that eliminates the necessity of obtaining an encroachment permit for each such encroachment activity.

¹³ The full text of the Streamside Management Area ordinance is available at: Humboldt County Code. Title III Land Use and Development, Division 1 Planning, Chapter 6 Regulations. Section 314-61.1: Streamside Management Area Ordinance. Retrieved from <https://humboldtqov.org/1680/Development-Regulations>

¹⁴ The full text of the Encroachment Permit Regulations is available at: Humboldt County Code. Title IV, Streets and Highways, Division 1 Protection and Control of County Roads, Chapter 1 Encroachment Permit Regulations for the Protection of County Highways. Retrieved from <https://humboldt.county.codes/Code/411>

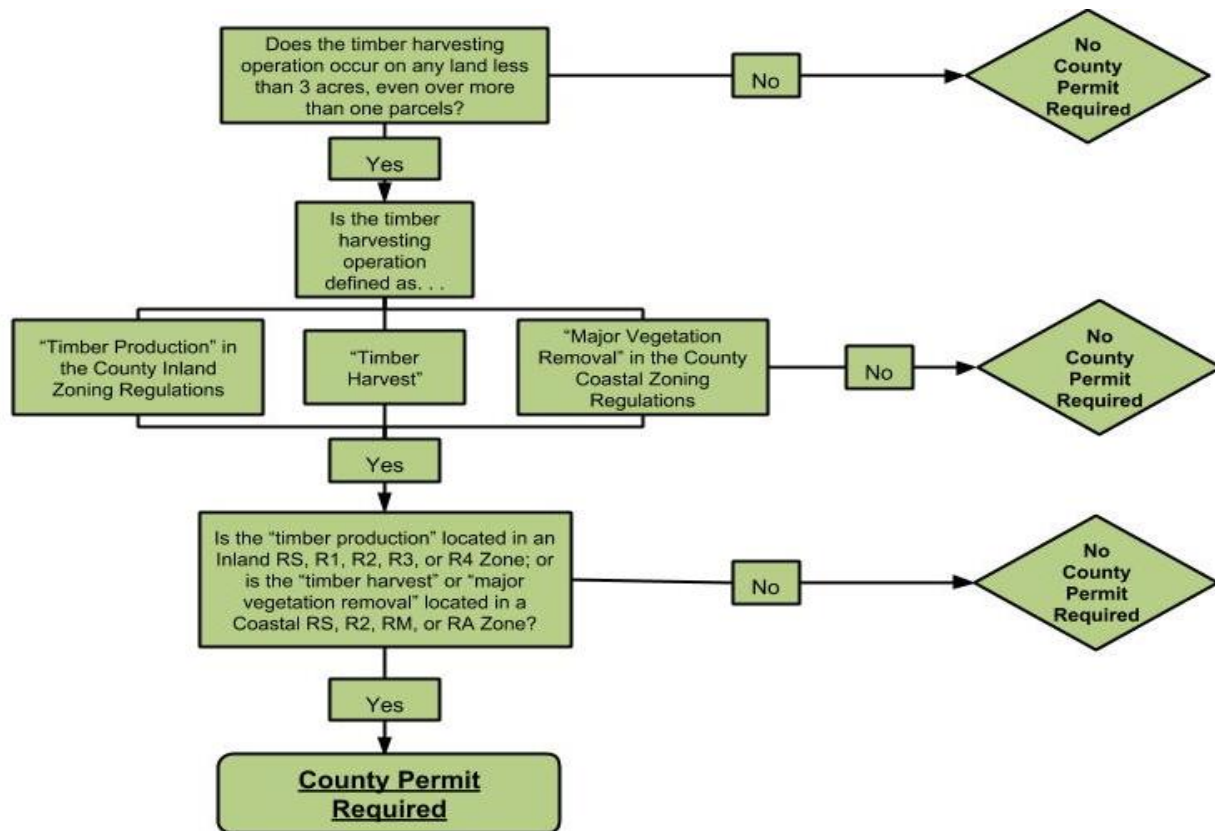
¹⁵ The Encroachment Permit Application is available on the Humboldt County website:

<https://humboldtqov.org/2291/Encroachment-and-Transportation-Permits>

County Regulation of Timber Harvesting Operations Located in Residential Zones and Outside of Sensitive Habitats

Projects involving vegetation removal are subject to the requirements in this regulation. While not primarily focused on timber-harvesting operations, vegetation management associated with creating defensible space may trigger requirements under this regulation. Whether or not a permit is required for vegetation removal depends on the purpose of the removal, where the project occurs, and the size of the parcel. Further details on compliance with this regulation are expanded on below.

Figure I.1 County Regulation Timber Harvesting Operations in Residential Zones



Further Description of Process Boxes from Flow Chart Above

Section 4516.5d of the Public Resources Code (PRC) states “individual counties shall not, otherwise regulate the conduct of timber operations as defined by this chapter, or require the issuance of any permit or license for those operations.” However, Section 4516.5f states that Section 4516.5d “does not apply to timber operations on any land area of less than three acres and which is not zoned timberland production.” County Counsel has confirmed that Section 4516.5f continues to permit local regulation of timber operations.

1. Section 4527 of the PRC defines timber operations regulated by the State Forest Practices Act. Section 314-155 of the County Inland Zoning Regulations and 313-155 of the County Coastal Zoning Regulations include identical definitions of “timber production” inland and “timber harvest” coastal zone. **The County Inland and Coastal Zoning Regulations exclude all of the following from the definition of timber production or timber harvesting which are not located in environmentally sensitive habitats (as identified in the Framework Plan, Community Plans, Local Coastal Plans, Redway Q Zone, or Open Space Agreement):**

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

- A. Cutting or removal of timber and solid wood forest products to protect existing dwellings, or as part of a building and/or encroachment permit (implemented as including the access driveway, building footprint and fire safe setbacks of 30 feet from the footprint of the existing dwelling or proposed building pad).
- B. Removal of diseased and/or dangerous trees which have no commercial value (implemented as including “diseased or dying trees” as defined by the Forest Practice Act Rules, and identified by a registered professional forester, or certified arborist, where the cost of tree removal exceeds the value of the trees removed, and the trees are a danger to an existing structure).
- C. Removal or harvest of identical vegetation which cannot normally be expected to result in a threat to forest, air, water or soil resources (Implemented as including the removal of incidental vegetation such as berries, ferns greenery, mistletoe, herbs, etc.).

Tree removal involves numerous considerations including fire safety, neighborhood character, and protection of sensitive resources such as habitat. In general, it is easier to remove trees from a property in the inland areas than in the coastal zone. If the area of major vegetation to be removed is under three acres, no permit is required in inland areas. However, a Coastal Development Permit is required for any major vegetation removal in the coastal zone, as indicated in Figure I.1 above. Clear cuts are not permitted in the coastal zone and at least 50% of major vegetation must be left standing.

Refer to Humboldt County Code Section 313-64.1.4¹⁶ for a detailed definition of major vegetation removal.

- 2. A county permit is required if the “timber production”, “timber harvest”, or “major vegetation removal” is located in the listed residential zones.

A landowner, who is unsure of the law, or unclear about whether a proposed activity applies, may contact the County Planning and Building Department for guidance prior to moving forward.

**HUMBOLDT COUNTY PLANNING AND
BUILDING DEPARTMENT**

John H. Ford, Director
3015 H St. Eureka, CA 95521
Telephone: (707) 445-7541
Website: www.co.humboldt.ca.us/planning

I.2.2 STATE OF CALIFORNIA LAWS

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA)¹⁷ requires state and local agencies to take certain environmental considerations into account prior to the implementation of projects, or “undertakings,” that may adversely affect the environment, whether directly or indirectly. CEQA requires an Initial Study (IS) to determine the potential environmental effects a project may have. If there is potential for significant impacts to the environment, more substantive review through an Environmental Impact Report (EIR) is necessary to evaluate alternative options and ways of mitigating the potential impacts.

Projects on state or local public lands in California are subject to CEQA. **Although Fire Safe Councils are not considered public agencies, they may be responsible for compliance with these regulations when implementing community projects supported by state funding.**

¹⁶ Humboldt County Code. Title III Land Use and Development, Division 1 Planning, Chapter 3 Regulations Inside the Coastal Zone. Retrieved from <https://humboldt.county.codes/Code/313-64>

¹⁷ California Natural Resources Agency. (2007). Frequently Asked Questions about CEQA. Retrieved from <http://resources.ca.gov/ceqa/more/faq.html>

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CEQA and Tribal Cultural Resources

CEQA now specifies that a project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. The general procedure is that the CEQA lead agency must begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation. These changes to CEQA are applicable to projects that will file a Notice of Preparation for an Environmental Impact Report or Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration on or after July 1, 2015. ¹⁸ See *National Historic Preservation Act* below for local tribal contact information.

The agency responsible for administering CEQA is the California Department of Fish and Wildlife (CDFW). A timber harvest plan (THP) is the forestry and tree removal equivalent to CEQA and is handled by CAL FIRE and the BOF. CAL FIRE may also be a valuable resource in assessing the necessary environmental compliance requirements for wildfire mitigation activities. Regional contact information for these agencies is listed below:

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE, NORTHERN REGION	<p style="text-align: center;">Main Office: 601 Locust Street Redding, CA 96001 Telephone: (530) 225-2300 Fax: (530) 225-2055</p> <p style="text-align: center;">Field Office: 619 Second Street Eureka, CA 95501 Telephone: (707) 445-6493 Fax: (707) 445-6664 Website: https://r1/dfq.ca.gov/portal</p>
ARCATA FISH AND WILDLIFE OFFICE (U.S. FISH & WILDLIFE SERVICE)	<p style="text-align: center;">1655 Heindon Road, Arcata, CA 95521 Telephone: (707) 822-7201 Fax: (707) 822-8411 Website: http://www.fws.gov/arcata</p>
CAL FIRE HUU (HUMBOLDT-DEL NORTE UNIT)	<p style="text-align: center;">Fortuna Office: 118 S. Fortuna Blvd, Fortuna, CA 95540 Telephone: (707) 726-1270 Website: http://www.fire.ca.gov/HUU</p>
CAL FIRE (HEADQUARTERS)	<p style="text-align: center;">Sacramento Headquarters: 1416 9th Street, Sacramento, CA 94244 Telephone: (916) 653-5123</p>

California Endangered Species Act (ESA)

The California Endangered Species Act (CESA) serves to protect all species of fish, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction. The Act further seeks to prevent those species experiencing significant population declines, from becoming

¹⁸ California Department of Transportation. (2014). California Public Resources Code (Native Americans: CA Environmental Quality Act). Assembly Bill 52. Retrieved from <http://www.dot.ca.gov/ser/vol1/sec1/ch2statelaw/chap2.htm#lawPRC509794>

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threatened or endangered. The California Department of Fish & Wildlife (CDFW) oversees the protection and preservation of these sensitive species and their habitats through the enforcement of CESA.¹⁹

Endangered species found locally in Humboldt County include five bird species: marbled murrelet, western yellow-billed cuckoo, bald eagle, little willow flycatcher, California Ridgway's rail; and four plant species: Humboldt County milk-vetch, Menzies' wallflower, beach layia, and western lily.

For more information on local threatened and endangered species, see Appendix D.

Questions about how to identify threatened or endangered species should be directed to the California Department of Fish & Wildlife, Northern Region or the US Fish and Wildlife Service (USFWS), Arcata office. Online resources such as NatureServe Explorer (<http://explorer.natureserve.org/servlet/NatureServe>) can help identify plant and animal species.

To determine whether a project has the potential to adversely affect a listed species, the CDFW or the nearest USFWS office may be consulted. A biologist from one of these agencies will visit a landowner's property to help determine whether federally listed species may be present or not. *For regional contact information for these agencies, see the tables above.*

Air Quality Regulations

The North Coast Unified Air Quality Management District (NCUAQMD) is the regional environmental regulatory agency with jurisdiction over air quality in Humboldt, Del Norte, and Trinity Counties. The NCUAQMD applies rules and regulations that maintain and protect health-based state and federal Ambient Air Quality Standards to prevent the deterioration of air quality levels that may jeopardize human health and safety.

Air quality management enforces regulations related to *open burning*—the use of outdoor fires for vegetation disposal. Vegetation may only be burned on the property from which it originates.²⁰ Before burning, the vegetation must be properly dried and be free from waste such as garbage, plastic, treated or painted wood, tires, tar paper, demolition debris, etc.; burning of poison oak should be avoided.

In February 2002, the California Air Resource Board (CARB) adopted an Airborne Toxic Control Measure (ATCM) to regulate emissions of air contaminants from residential open burning. District Staff worked with fire protection agency representatives, to develop the current NCUAQMD burn program—an agreement that the District would be the primary entity responsible for issuing permits and determining compliance.

The open burning of vegetation can result in significant quantities of particulate matter emissions (smoke) along with emissions of Toxic Air Contaminants (TACs). As such, the regulation of open burning plays a key role in the District's Plan to achieve compliance with the National Ambient Air Quality Standards (NAAQS) for particulate matter as well as its strategy to minimize exposure to carcinogens.

The NCUAQMD works in collaboration with CARB to balance the fuel reduction needs of land managers, agriculture, and property owners, while protecting public health. These permitted activities allow emissions into air basins that may already be burdened with other air pollution impacts, however, these emissions pale in comparison to emissions from catastrophic wildfires that have immediate and long-lasting health and economic impacts. While it is understood that prescribed burns have less impact on air quality than catastrophic wildfires, current federal policy does not allow for exceedances of air quality standards that may occur with a prescribed burn. By exceeding these standards, communities risk losing attainment status of NAAQS. Non-attainment areas are required to develop a plan to meet the standards or else risk losing some form of federal financial assistance.

¹⁹ California Department of Fish & Wildlife. California Endangered Species Act (CESA) Permits. [Webpage]. Retrieved from <https://www.wildlife.ca.gov/Conservation/CESA>

²⁰ North Coast Unified Air Quality Management District. Regulation II, Open Burning Rule: 200-208. Retrieved from <http://www.ncuaqmd.org/index.php?page=rules.regulations>

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The two most common types of burn permits available are a “Standard Burn Permit” and a “Non-Standard Burn Permit”. A Standard Burn Permit allows residential open burning in piles no larger than four feet in diameter. Non-Standard Burn Permits are issued for larger burns (single, 10 ft. in diameter pile, up to a thousand or more acres of material). To ensure public health and safety, a Smoke Management Plan (SMP) may be required for large debris burns that meet the requirements of Regulation II, Rule 206.

A Standard Burn Permit can be purchased for \$20 (as of July 2018) and authorizes an individual to burn a maximum of one pile (4’ in diameter) of approved materials on the ground at a time. The burn hours are from 6:00 AM – 12:00 PM on permissive burn days only.

Non-Standard Permits are tiered based on the amount of material to be burned and vary in cost. A Non-Standard Burn Permit allows individuals, businesses, or government agencies to dispose of approved materials in a burn pile no larger than 10’ in diameter, unless the permit-holder has an approved Smoke Management Plan. Burn hours for this permit are from 6:00 AM until one hour before dusk on permissive burn days.²¹

Under special circumstances, a No Burn Day Permit may be issued authorizing open burning on a No Burn Day. Fire Training Permits are issued at no charge to fire protection agencies conducting training exercises involving the open burning of vegetation, structures, or other materials.

During declared fire season, additional permits are required by CAL FIRE. Three dollars of every Standard Burn Permit fee collected goes to local and volunteer fire districts.

Smoldering is a slow burn with smoke but no flame. Smoke released at ground level can negatively affect the health of people in close proximity to the burn. Smoke travels easily through neighborhoods and may become a public nuisance. Smoldering fires can be avoided by:

1. Only burning vegetation free of soil and moisture
2. Covering vegetation piles to prevent rain exposure
3. Stacking burn material loosely to allow air circulation

Biomass energy utilization and recycling are effective alternatives to open burning.²²

**NORTH COAST UNIFIED AIR QUALITY
MANAGEMENT DISTRICT**

Eureka Office:

707 L Street

Eureka, CA 95501

Telephone: (707) 443-3093

Website: <http://www.ncuaqmd.org>

To find out burn day status call **(707) 443-7665** or
(866) 287-6329 (866-BURNDAY).

Encroachment Permits for Projects along State Highways

The California Department of Transportation, better known as Caltrans, requires encroachment permits for all proposed activities that take place within, under, or over State highway rights of way. This includes vegetation trimming that might be included as part of a fuels reduction project. Applicants must submit a completed Standard Encroachment Permit Application to the District 1²³ Encroachment

²¹ North Coast Unified Air Quality Management District. (n.d.) District Burn Permits [Webpage]. Retrieved from <http://www.ncuaqmd.org/index.php?page=burn.permits>

²² For more information about alternatives to burning vegetation, including biomass conversion to energy, visit: California Environmental Protection Agency (CEPA), Air Resources Board. (2011). Biomass Burning Alternatives. Retrieved from http://www.arb.ca.gov/smp/biomass/bio_map/altern_treat.htm

²³ Caltrans District 1 homepage: <http://www.dot.ca.gov/d1>

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Permits Office.²⁴ To streamline the permit application and review process, Caltrans encourages the applicant to consult with Permit staff prior to submitting an application.

CALTRANS DISTRICT 1	Eureka Office Physical Address: California Department of Transportation District 1 1656 Union Street Eureka, CA 95501 Phone (707) 445-6600	Eureka Office Mailing Address: California Department of Transportation District 1 P. O. Box 3700 Eureka, CA 95502-3700
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I.2.3 FEDERAL LAWS

National Environmental Protection Act (NEPA)

The National Environmental Protection Act (NEPA) is the federal equivalent of CEQA. It exists to help preserve the health of the environment and the ecological integrity of federal landscapes.

NEPA requires an Environmental Assessment (EA) for any federal action that cannot be “categorically excluded” from a detailed environmental analysis. Categorically excluded projects are those that—as determined by a federal agency—do not “individually or cumulatively have a significant effect on the human environment”. If there is potential for significant impacts to the environment, more substantive review is required through an Environmental Impact Statement (EIS), to evaluate alternatives and mitigation options.²⁵

Any project on Federal land or funded with federal dollars is subject to NEPA. **Although Fire Safe Councils and other community organizations are not considered public agencies, they may be responsible for compliance with these regulations when implementing community projects with federal funding.**

ARCATA FISH AND WILDLIFE OFFICE (U.S. FISH & WILDLIFE SERVICE)	1655 Heindon Road, Arcata, CA 95521 Telephone: (707) 822-7201 Fax: (707) 822-8411 Website: http://www.fws.gov/arcata
BUREAU OF LAND MANAGEMENT (BLM) ARCATA FIELD OFFICE	1695 Heindon Road, Arcata, CA 95521 Telephone: (707) 825-2300 Fax: (707) 825-2301 Website: http://www.blm.gov/ca/st/en/fo/arcata.html
NATIONAL MARINE FISHERIES SERVICE SOUTHWEST SECTION	Southwest Regional Office 501 West Ocean Boulevard Long Beach, CA 90802 Telephone: (562) 980-4000 Website: http://swr.nmfs.noaa.gov

²⁴ To access the application and other relevant information see: <http://www.dot.ca.gov/trafficops/ep>

²⁵ U.S. Environmental Protection Agency. (n.d.) National Environmental Policy Act Review Process [Webpage]. Retrieved from <https://www.epa.gov/nepa/national-environmental-policy-act-review-process>

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Federal Endangered Species Act (ESA)

The Federal Endangered Species Act (ESA) requires the USFWS and National Marine Fisheries Service (NMFS) to list imperiled species as either threatened or endangered and to designate “critical habitat” for these species.²⁶ This law makes it illegal for any person to “take” a federally listed plant or animal without a permit. “Take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct”.

It is important for landowners to be aware of any listed species that may be present on or near their property prior to conducting wildfire mitigation projects to avoid any accidental takings. If a listed species may be affected by a project on private land, Section 10 of the ESA outlines guidelines to follow. Section 7 of the ESA governs actions by federal agencies.

Section 7 of the ESA, called “Interagency Cooperation,” applies to federal agencies, which “must consult with the USFWS when any action the agency carries out, funds, or authorizes (such as through a permit or grant) may affect a listed endangered or threatened species.”²⁷ The details and procedures pertaining to Section 7 of the ESA are accessible through this link: http://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf.

Section 10 of the ESA stipulates that private activities occurring on private land that are likely to result in an “incidental take” of a federally listed species must be permitted in advance. If it is possible to avoid impacting listed species, it is advisable to do so. The details and procedures pertaining to Section 10 are accessible here: http://www.fws.gov/endangered/esa-library/pdf/HCP_Incidental_Take.pdf.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) provides for the protection of migratory birds within the United States. The Act makes it illegal “to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations”.²⁸ California State Code 3503 echoes this same policy. Despite the name, all migratory and non-migratory birds are protected under the MBTA. This law does not protect the habitat of migratory birds, only their nests and eggs.

Examples of activities related to fire management which are likely to result in a “take” of migratory birds include: tree pruning or limbing, prescribed burning, or vegetation removal in nesting habitat during nesting season when migratory bird eggs or young are likely to be present. Nest destruction and accidental taking of migratory birds can be avoided by refraining from vegetation removal during the breeding/nesting season. The breeding/nesting season for birds varies by species and location, but most species found in Humboldt County nest between March and August.

Why it is important to protect bird nests during nesting season: A bird’s nest is where a bird lays and incubates its eggs and raises its young. Nests provide a safe place for eggs and young birds to develop. It is illegal to destroy a nest that has eggs or chicks in it or if there are young birds that are still dependent on the nest for survival. It is also illegal to keep a nest taken out of a tree or found on the ground unless you have a permit issued by the USFWS.²⁹

Identifying Backyard Nests: Bird nests are often camouflaged and hard to spot. They are extremely diverse, although each species typically has a characteristic nest style. Some birds do not make nests at all

²⁶ U.S. Fish and Wildlife Service. (2017). Endangered Species Act: Overview. Retrieved from <http://www.fws.gov/endangered/laws-policies/index.html>

²⁷ U.S. Fish and Wildlife Service. (2017). Section 7 Consultation: A Brief Explanation. Retrieved from <http://www.fws.gov/midwest/endangered/section7/section7.html>

²⁸ Full text of the Migratory Bird Treaty Act can be found here: <https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>

²⁹ U.S. Fish and Wildlife Service. (n.d.). Permits [Webpage]. Retrieved from <https://www.fws.gov/birds/policies-and-regulations/permits.php>

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and instead lay their eggs in a simple depression in the ground or on a branch. Other birds construct nests from natural materials, such as grass, leaves, mud, lichen, and fur, or from man-made materials like paper, plastic, and yarn. Nests can be found almost anywhere – on the ground, in trees, in burrows, on the sides of cliffs, in and on man-made structures, etc.³⁰ Signs to look for when birds are nesting include: collecting non-food materials, fixation on a spot with no food, and unusual levels of bird activity and calling.

Avoiding nesting birds during construction and tree trimming: Brush removal, tree trimming, building demolition, or grading activities should be conducted outside of the nesting season. If other timing restrictions make it impossible to avoid the nesting season, construction areas should be surveyed for nesting birds and active nests should be avoided. If adult birds are observed flying to and from a nest, or sitting on a nest, it can be assumed that the nest is active. Construction activity within 300 feet of an active nest should be delayed until the nest is no longer active. When the chicks have left the nest and activity is no longer observed around the nest, it is safe to continue construction activity in the nest area, including removal of the nest.

It is a good idea to consult with a biologist to assist with the survey for nesting birds and to determine when it is safe to commence activities. Depending on the size of the area, a professional survey may only take an hour or two. If an active nest is found, one or two short follow-up surveys would be needed to check on the nest and determine when the nest is no longer active.



Green heron nest. Photo: M. Wills, *Backyard and Beyond*.

National Historic Preservation Act (NHPA)

The National Historic Preservation Act (NHPA) requires federally funded, permitted, or implemented projects to undergo a review process that aims to preserve historic, archaeological, and cultural sites listed in the National Register of Historic Places.³¹

Projects which utilize funds from a federal, state, or local agency are usually subject to Section 106 of the NHPA. Section 106 requires the federal agency involved to consult with the Advisory Council on



Pair of American Robins preparing a nest. Photo: National Audubon.

Historic Preservation (ACHP) and the State Office of Historic Preservation to resolve or mitigate any potentially adverse effects. In addition, the federal agency must consult with the Tribal Historic Preservation Offices (THPO) of those Tribes potentially affected by the proposed project.³²

Tribes that are on the National Park Service's list of participants in the National Historic Preservation Program have assumed the staffing responsibilities of the State Historic Preservation Officer with respect to tribal land. A THPO's responsibilities include identifying and maintaining inventories of

³⁰ City of Newport Beach. (2018). "Protection of Nesting Birds During Construction & Tree Trimming". Retrieved from <https://www.newportbeachca.gov/home/showdocument?id=20658>

³¹ The National Register may be accessed here: <http://www.nps.gov/nr/research>

³² National Park Service. (2012). Quick guide: National Historic Preservation Act, Section 106. [PDF]. Retrieved from <https://www.nps.gov/history/tribes/Documents/106.pdf>

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culturally significant properties, nominating properties to national and tribal Registers of Historic Places, conducting Section 106 reviews of federal agency projects on tribal lands, and conducting educational programs on the importance of preserving historic properties.³³

Private landowners conducting fuel treatments should be mindful of the possibility that cultural resources exist on their property, regardless of whether or not they are receiving public funds. This is particularly true in Humboldt County, which has a rich and diverse local Native American history. Often, these sites exist without landowner knowledge, and may only be identifiable by those trained to recognize them. Several archaeological firms in Humboldt County are able to perform cultural resource surveys.

If a possible archaeological or cultural site or artifact is found, the California State Historic Preservation Office or one of the local THPOs listed below should be contacted to report the findings. If one encounters any human remains on one's property, they should not be disturbed. State Health and Safety Code Section 7050.5 prohibits any person from wantonly disturbing or willingly removing such remains without authority of law. If human remains are found, the Humboldt County coroner should be contacted by calling **(707) 445-7242**.

Tribal Heritage Preservation Officers (THPOs) for Tribes Located Within Humboldt County

BEAR RIVER BAND OF ROHNERVILLE RANCHERIA	Erika Cooper, M.A. Tribal Heritage Preservation Officer (THPO) 266 Keisner Road Loleta, CA 95551 Telephone: (707) 733-1900 ext. 233 Fax: (707) 733-1727 Email: erikacooper@brb-nsn.gov
BLUE LAKE RANCHERIA	Janet P. Eidsness, M.A. Tribal Heritage Preservation Officer (THPO) P.O. Box 428 (428 Chartin Road) Blue Lake, CA 95525 Telephone: (707) 668-5101 ext. 1037 Fax: (707) 668-4272 Email: hjeidsness@bluelakerancheria-nsn.gov
HOOPA VALLEY TRIBE	Keduescha Colegrove Tribal Heritage Preservation Officer (THPO) Department of Historic Preservation PO Box 1348 Hoopa, CA 95546 Telephone: (530) 625-4284 ext. 112 Email: hvt.thpo@gmail.com

³³ National Park Service. (2012). Quick guide: Tribal Historic Preservation Officer (THPO). [PDF]. Retrieved from <https://www.nps.gov/history/tribes/Documents/THPO.pdf>

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KARUK TRIBE	Dr. Alex Watts-Tobin Tribal Heritage Presentation Officer (THPO) Department of Natural Resources 39051 HWY 96, P.O. Box 282 Orleans, CA 95556 Telephone: (530) 627-3446 ext. 3015 Fax: (530) 627-3448 Email: atobin@karuk.us
TRINIDAD RANCHERIA	Rachel Sundberg Tribal Heritage Preservation Officer (THPO) PO Box 630 Trinidad, CA 95570 Telephone: (707) 677-0211 Fax: (707) 677-3921 Email: rsundberg@trinidadrancheria.com
WIYOT TRIBE – TABLE BLUFF RESERVATION	Theodore Hernandez Cultural Director/THPO 1000 Wiyot Drive Loleta, CA 95551 Telephone: (707) 733-5055 Fax: (707) 733-5601 Email: ted@wiyot.us
YUOK TRIBE	Frankie Myers Tribal Heritage Preservation Officer (THPO) HC Box 196, HWY 96 Hoopa, CA 95546 Telephone: (530) 625-4130 ext. 1629 Fax: (530) 625-4148 Email: fmyers@yuroktribe.nsn.us

Cultural and Historical Preservation Contacts

CALIFORNIA OFFICE OF HISTORIC PRESERVATION	1725 23rd Street, Suite 100 Sacramento, CA 95816 Telephone: (916) 445-7000 Fax: (916) 445-7053 Email: calshpo@parks.ca.gov
CALIFORNIA STATE HISTORIC PRESERVATION OFFICER	Carol Roldan-Nawi, PhD Telephone: (916) 445-7050

Further information about the NHPA and the ACHP's efforts to protect historical and cultural resources, is available on the ACHP's National Historic Preservation Program website, accessible here: <http://www.achp.gov>.³⁴

³⁴ Also see: National Conference of State Historic Preservation Offices website: <http://ncshpo.org/resources/federal-historic-preservation-program>

APPENDIX J: HUMBOLDT COUNTY SRA FIRE SAFE REGULATIONS

To view the Humboldt County Building Inspection Division's Checklist of SRA Fire Safe Regulations, visit: <https://humboldt.gov/1812/Fire-Safe>

TITLE III - LAND USE AND DEVELOPMENT DIVISION 11

FIRE SAFE REGULATIONS

Chapter 1 – Administration

- § 3111-1. Title.
- § 3111-2. Purpose.
- § 3111-3. Scope.
- § 3111-4. Provisions for Application of These Regulations.
- § 3111-5. Inspection Authority.
- § 3111-6. Inspections.
- § 3111-7. Exceptions - Intent.
- § 3111-8. Exceptions to Standards.
- § 3111-9. Requests for Exceptions.
- § 3111-10. Appeals.
- § 3111-11. Definitions.
- § 3111-12. Distance Measurements.
- § 3111-13. Maintenance of Defensible Space Measures.

Chapter 2 – Emergency Access

- § 3112-1. Road and Driveway Access - Intent.
- § 3112-2. Application of Design Standards.
- § 3112-3. Road Width.
- § 3112-4. Roadway Surface.
- § 3112-5. Roadway Grades.
- § 3112-6. Roadway Radius.
- § 3112-7. Roadway Turnarounds.
- § 3112-8. Roadway Turnouts.
- § 3112-9. Roadway Structures.
- § 3112-10. One-Way Roads.
- § 3112-11. Dead-End Roads.
- § 3112-12. Driveways.
- § 3112-13. Gate Entrances.

Chapter 3 – Signing and Building Numbers

- § 3113-1. Signing and Building Numbering - Intent.
- § 3113-2. Size of Letters, Numbers and Symbols for Street and Road Signs.
- § 3113-3. Visibility and Legibility of Street and Road Signs.
- § 3113-4. Height of Street and Road Signs.
- § 3113-5. Names and Numbers on Street and Road Signs.
- § 3113-6. Intersecting Roads, Streets and Private Lanes.
- § 3113-7. Signs Identifying Traffic Access Limitation.
- § 3113-8. Installation of Road, Street and Private Lane Signs.
- § 3113-9. Addresses for Buildings.
- § 3113-10. Size of Letters, Numbers and Symbols.
- § 3113-11. Installation, Location and Visibility of Addresses.

Chapter 4 – Emergency Water Standards

- § 3114-1. Water Standards - Intent.
- § 3114-2. Application.
- § 3114-3. General Standards.
- § 3114-4. Hydrant/Fire Valve.
- § 3114-5. Signing of Water Sources

Chapter 5 – Fuel Modification Standards

- § 3115-1. Fuel Modification - Intent.
- § 3115-2. Setback for Structure Defensible Space.
- § 3115-3. Disposal of Flammable Vegetation and Fuels.
- § 3115-4. Greenbelts.

Chapter 6 – Enforcement

- § 3116-1. Violation.

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

TITLE III - LAND USE AND DEVELOPMENT

DIVISION 11

FIRE SAFE REGULATIONS

CHAPTER 1

ADMINISTRATION

3111-1. TITLE

These regulations shall be known as the "SRA Fire Safe Regulations" and shall constitute the basic wildland fire protection standards of the County for lands within State Responsibility Areas (SRA). (Ord. 1952, § 1, 12/17/1991)

3111-2. PURPOSE

These regulations have been prepared and adopted for the purpose of establishing minimum wildlife protection standards in conjunction with building, construction and development in SRA. These regulations constitute local alternative standards as authorized by Section 4290 of the Public Resources Code. The future design and construction of structures, subdivisions and developments in SRA shall provide for basic emergency access and perimeter wildlife protection measures as specified in the following sections. These measures shall provide for emergency access; signing and building numbering; private water supply reserves for emergency fire use; and vegetation modification. The fire protection standards which follow shall specify the minimums for such measures. (Ord. 1952, § 1, 12/17/1991)

3111-3. SCOPE

(a) These regulations shall apply as appropriate to all of the following activities which are approved in the SRA after January 1, 1992: (Ord. 1952, § 1, 12/17/1991)

- (1) the creation of new parcels, excluding lot line adjustments as specified in Government Code (GC) Section 66412(d); (Ord. 1952, § 1, 12/17/1991)
- (2) new construction, not relating to an existing structure, which requires a building permit; (Ord. 1952, § 1, 12/17/1991)
- (3) land use or development which requires a use permit; (Ord. 1952, § 1, 12/17/1991)
- (4) the siting of manufactured homes; and (Ord. 1952, § 1, 12/17/1991)
- (5) new road construction, including construction of a road that does not currently exist, or an extension of an existing road. (Ord. 1952, § 1, 12/17/1991)

(b) Notwithstanding paragraph (a) of this section, these regulations shall not apply to:
(Ord. 1952, § 1, 12/17/1991)

- (1) enlargement, alteration, repair or improvement of any building or structure existing on the effective date of these regulations; (Ord. 1952, § 1, 12/17/1991)
- (2) new construction of accessory structures where the main building exists on the effective date of these regulations; (Ord. 1952, § 1, 12/17/1991)

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- (3) land use or development which requires a use permit where the Planning Director and CAL FIRE determines that no increase in fire risk would result from the use or activity (e.g., wetland restoration or fish and wildlife habitat management); (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (4) roads required as a condition of tentative parcel or final maps prior to the effective date of these regulations; roads for agricultural or mining use solely on one ownership; and roads use solely for the management and harvesting of wood products; and (Ord. 1952, § 1, 12/17/1991)
- (5) repair or maintenance of any road, street or private lane existing on the effective date of these regulations. (Ord. 1952, § 1, 12/17/1991)

3111-4. PROVISIONS FOR APPLICATION OF THESE REGULATIONS

These regulations shall be applied as follows:

- (a) The County shall provide the local CAL FIRE Unit with notice of applications for building permits, tentative parcel maps, tentative maps, and use permits for construction or development within SRA. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (b) The County shall request CAL FIRE to review and make fire protection recommendations on applicable construction or development permits or maps provided by the County. CAL FIRE shall respond within thirty (30) days of the referral. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (c) The County shall ensure that the applicable sections of this ordinance become a condition of approval of any applicable construction or development permit or map. (Ord. 1952, § 1, 12/17/1991)
- (d) The application of these regulations shall be confined to the real property that is the subject of the building permit or other grant of land use or development approval by the County, unless otherwise stated. (Ord. 1952, § 1, 12/17/1991)

Nothing contained in these regulations shall be considered as abrogating the provisions of any ordinance, rule or regulation of the state or county, including the provisions of the California Environmental Quality Act (CEQA), which may require the evaluation and mitigation of potential impacts of the project beyond the limits of the real property that is the subject of the building permit or other grant of land use or development approval before the County. (Ord. 1952, § 1, 12/17/1991)

3111-5. INSPECTION AUTHORITY

- (a) Inspection shall be made pursuant to Section 6 by:
 - (1) the Planning Director or his/her designee, or (Ord. 1952, § 12/17/1991)
 - (2) the Director of the California Department of Forestry and Fire Protection (CAL FIRE) or his/her designee. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (b) The County shall report violations of these regulations to the CAL FIRE Unit headquarters with responsibility for SRA fire protection for the County. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3111-6. INSPECTIONS

- (a) The inspection authority may inspect for compliance with these regulations. When conducted, inspections should occur prior to the following events: (Ord. 1952, § 1, 12/17/1991)
 - (1) issuance of a use permit; (Ord. 1952, § 1, 12/17/1991)
 - (2) issuance of a Certificate of Occupancy under a building permit; (Ord. 1952, § 1, 12/17/1991)

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- (3) recordation of a parcel or final map for a subdivision; (Ord. 1952, § 1, 12/17/1991)
 - (4) filing of a notice of completion (other than for a building permit); (Ord. 1952, § 1, 12/17/1991) or
 - (5) final inspection of any project or building permit. (Ord. 1952, § 1, 12/17/1991)
- (b) It shall be the duty of the holder of the building permit or other permit or map approval issued by the County to notify the County, or CAL FIRE, as appropriate, that the construction and/or improvement required under these regulations is ready for inspection and to assure that the premises will be accessible at the time scheduled for inspection. Inspections shall be requested by the applicant at least forty-eight (48) hours in advance of the intended inspection. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (c) The inspection authority shall notify or inform the permit holder of the day during which the inspection is to be conducted and shall attempt to notify the permit holder if the inspection cannot be made as scheduled. (Ord. 1952, § 1, 12/17/1991)
- (d) Annual inspection conducted by CAL FIRE pursuant to Public Resources Code Section 4290 shall to the extent practical include notification as provided in paragraph (c) of this section for inspections which focus on individual parcels and by public notice for area-wide inspections. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3111-7 EXCEPTIONS – INTENT

The County seeks to protect the intent of the State Fire Safe Regulations while ensuring that no undue hardship occurs at the county level due to conditions peculiar to the County. The exceptions procedure is provided with the intent of ensuring that every individual who is negatively impacted will get a fair hearing before local authorities who are competent to judge the legitimacy of that individual's concerns. The local inspection authority together with the local representative of CAL FIRE is therefore directed to deal with requests for exceptions to the provisions of these regulations on a case by case basis, making a comprehensive review of the circumstances in each case, taking special note of such factors as: (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

- (a) community standards as expressed in the County' Alternative Owner Building Ordinance; and (Ord. 1952, § 1, 12/17/1991)
- (b) economic factors which may affect the affordability of housing as described in the Housing Element of the County's General Plan. (Ord. 1952, § 1, 12/17/1991)

3111-8. EXCEPTIONS TO STANDARDS

Upon request by the applicant, exceptions to standards within this ordinance and mitigated practices shall be allowed by the inspection authority, where the exception provides the same overall practical effect as these regulations towards providing defensible space. In evaluating requests for exceptions to standards, the inspection authority shall be guided by Section 3111-7 of these regulations (Intent). (Ord. 1952, § 1, 12/17/1991)

3111-9. REQUESTS FOR EXCEPTIONS

- (a) An applicant may apply to the Planning Director for an exception to the standards within this ordinance. The application for an exception shall be accompanied by such information as the Planning Department requires and by a fee established by the Board of Supervisors. At minimum, the application shall contain the following information: (Ord. 1952, § 1, 12/17/1991)
- (1) a description of the specific section(s) for which an exception is requested, (Ord. 1952, § 1, 12/17/1991)
 - (2) material facts supporting the contention of the applicant, (Ord. 1952, § 1, 12/17/1991)
 - (3) details of the exception or mitigation measures proposed, and (Ord. 1952, § 1, 12/17/1991)

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- (4) a map showing the proposed location and siting of the exception or mitigation measure(s). (Ord. 1952, § 1, 12/17/1991)
- (b) The Planning Director shall request the California Department of Forestry and Fire Protection (CAL FIRE) to review the exception request. CAL FIRE shall respond within thirty (30) days of the referral with documentation outlining the effects of the requested exception on wildland fire protection. If CAL FIRE does not respond within the time provided, the Planning Director shall assume that CAL FIRE supports the exception. The Planning Director shall not approve an exception request if the recommendation from CDF is for denial. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (c) The Planning Director shall give written notice of his/her decision to the applicant. Notice shall also be given to any parties requesting such notice and to CAL FIRE. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3111-10. APPEALS

- (a) Any person aggrieved by the decision of the Planning Director may appeal to the Board of Supervisors. The appeal shall be filed with the Planning Department within ten (10) days of the date of the notice and shall be accompanied by a written statement of the reasons why the decision was in error and by a fee established by the Board of Supervisors. (Ord. 1952, § 1, 12/17/1991)
- (b) The Board of Supervisors shall consider the appeal at the earliest possible date. The decision of the Board of Supervisors is final and binding. (Ord. 1952, § 1, 12/17/1991)
- (c) If an appeal is granted, the Board of Supervisors shall make findings that the decision meets the intent of providing defensible space consistent with these regulations. Such findings shall include reasons for the decision. (Ord. 1952, § 1, 12/17/1991)
- (d) A written copy of the findings adopted under paragraph (c) above shall be provided to the CAL FIRE Unit headquarters that administers SRA fire protection in the County. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3111-11. DEFINITIONS

Unless the context otherwise requires, the definitions set out in this ordinance shall be used in the interpretation and construction of these regulations. Words used in the present tense shall include the future tense, and in the future tense shall include the present tense; the singular number shall include the plural number, and the plural shall include the singular. (Ord. 1952, § 1, 12/17/1991)

Abatement: For the purpose of this ordinance means the restoration of the specific measure(s) or mitigation required as a condition of the permit, parcel or map approval pursuant to these regulations. (Ord. 1952, § 1, 12/17/1991)

Accessory building: Any building used as an accessory to residential, Commercial, recreational, industrial, or educational purposes as defined in the California Building Code, 2013 Edition, Chapter 3, Group U Occupancy, as amended from time to time by the State, that requires a building permit. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

Agriculture: Land used for agricultural uses as defined in Humboldt County Code Section 312-6. (Ord. 1952, § 1, 12/17/1991)

Board: The Humboldt County Board of Supervisors. (Ord. 1952, § 1, 12/17/1991)

Building: Any structure used or intended for supporting or sheltering any use or occupancy that is defined in the California Building Code, 1989 Amendments, Chapter 11, except Group M, Division 1, Occupancy. For the

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purpose of the ordinance, building includes mobile homes and manufactured homes, churches, and day care facilities. (Ord. 1952, § 1, 12/17/1991)

California Environmental Quality Act (CEQA): Means the California Environmental Quality Act, California Public Resources Code Section 21000 et seq. (Ord. 1952, § 1, 12/17/1991)

CAL FIRE: California Department of Forestry and Fire Protection. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

County: The County of Humboldt. (Ord. 1952, § 1, 12/17/1991)

Dead-end road: A road that has only one point of vehicular ingress/egress, including cul-de-sacs and looped roads. (Ord. 1952, § 1, 12/17/1991)

Defensible space: The area within the perimeter of a parcel, development, neighborhood or community where basic wildland fire protection practices and measures are implemented, providing the key point of defense from an approaching wildfire or defense against encroaching wildfires or escaping structure fires. The perimeter used in this regulation is the area encompassing the parcel or parcels proposed for construction and/or development, excluding the physical structure itself. The area is characterized by the establishment and maintenance of emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures. (Ord. 1952, § 1, 12/17/1991)

Development: As defined in Section 66418.1 of the California Government Code. (Ord. 1952, § 1, 12/17/1991)

Director of Public Works: The Director of the Department of Public Works or his/her designee. (Ord. 1952, § 1, 12/17/1991)

Drafting: The transfer of water from the source, usually a tank or pond, to the fire engine or water tender where the head pressure of the water source on the hydrant is insufficient to perform the operation without suction provided by a pump on the fire apparatus. (Added by Ord. 2540, Section 1, 11/17/2015)

Driveway: A vehicular access that serves no more than two buildings, with no more than three dwelling units on a single parcel, and any number of accessory buildings. (Ord. 1952, § 1, 12/17/1991)

Dwelling unit: Any building or portion thereof which contains living facilities, including provisions for sleeping, eating, cooking and/or sanitation for not more than one family. (Ord. 1952, § 1, 12/17/1991)

Exception: An alternative to the specified standard requested by the applicant that may be necessary due to health, safety, environmental conditions, physical site limitations or other limiting conditions such as recorded historical sites, that provides mitigation of the problem. (Ord. 1952, § 1, 12/17/1991)

Feasible: Means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. (Added by Ord. 2540, Section 1, 11/17/2015)

Fire valve: See hydrant. (Ord. 1952, § 1, 12/17/1991)

Fuel modification area: An area where the volume of flammable vegetation has been reduced, providing reduced fire intensity and duration. (Ord. 1952, § 1, 12/17/1991)

Greenbelts: A facility or land-use, designed for a use other than fire protection, which will slow or resist the spread of a wildfire. Includes parking lots, irrigated or landscaped areas, golf courses, parks, playgrounds, maintained vineyards, orchards or annual crops that do not cure in the field. (Ord. 1952, § 1, 12/17/1991)

Hammerhead "T": A roadway that provides a "T" shaped, three-point turnaround space for emergency equipment, being no narrower than the road that serves it. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

Hydrant: A valved connection on a water supply/storage system, having at least one 2-1/2 inch outlet, with male American National Fire Hose Screw Threads (NH) used to supply fire apparatus and hose with water. (Ord. 1952, § 1, 12/17/1991)

Local Authority having jurisdiction: This term shall have the following meaning with regard to administration of the following codes and regulations: County Road Manual, the Director of the Department of Public Works;

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California Building Code, the Chief Building Official; and Uniform Fire Code, the State Fire Marshal or the local fire agency. (Added by Ord. 2540, Section 1, 11/17/2015)

Local fire agency: A local fire organization recognized by the County Local Agency Formation Commission (LAFCO) which has shared responsibility on SRA lands. (Ord. 1952, § 1, 12/17/1991)

Manufactured home: As defined in California Health and Safety Code Sections 18007, 18008, and 199791. (Ord. 1952, § 1, 12/17/1991)

Mountainous Terrain: Any combination of gradients, length of grade, or horizontal or vertical alignment that will cause trucks to operate at very slow speeds for considerable distances or at frequent intervals; generally associated with steep terrain with cross slopes of 30% or greater. (Added by Ord. 2540, Section 1, 11/17/2015)

Occupancy: The purpose for which a building, or part thereof, is used or intended to be used. (Ord. 1952, § 1, 12/17/1991)

One-way road: A minimum of one traffic lane width designed for traffic flow in one direction only. (Ord. 1952, § 1, 12/17/1991)

Planning Director: Director of the Planning and Building Department or his/her designee. (Ord. 1952, § 1, 12/17/1991)

Roads, streets, private lanes: Vehicular access to more than one parcel; access to any industrial or commercial occupancy; or vehicular access to a single parcel with more than two buildings or four or more dwellings units. (Ord. 1952, § 1, 12/17/1991)

Roadway: Any surface designed, improved, or ordinarily used for vehicle travel. (Ord. 1952, § 1, 12/17/1991)

Roadway structures: Bridges, culverts, and other appurtenant structures which supplement the roadway bed or shoulders. (Ord. 1952, § 1, 12/17/1991)

Same practical effect: As used in this ordinance, means an exception or alternative with the capability of applying accepted wildland fire suppression strategies and tactics, and provisions for firefighter safety, including: (Ord. 1952, § 1, 12/17/1991)

- (a) access for emergency wildland fire equipment, (Ord. 1952, § 1, 12/17/1991)
- (b) safe civilian evacuation, (Ord. 1952, § 1, 12/17/1991)
- (c) signing that avoids delays in emergency equipment response, (Ord. 1952, § 1, 12/17/1991)
- (d) available and accessible water to effectively attack wildfire or defend a structure from wildfire, and (Ord. 1952, § 1, 12/17/1991)
- (e) fuel modification sufficient for civilian and firefighter safety. (Ord. 1952, § 1, 12/17/1991)

Shoulder: Roadbed or surface adjacent to the traffic lane. (Ord. 1952, § 1, 12/17/1991)

State Board of Forestry (SBOF): A nine member board, appointed by the Governor, which is responsible for developing the general forest policy of the state, for determining the guidance policies of the Department of Forestry and Fire Protection, and for representing the state's interest in federal land in California. (Ord. 1952, § 1, 12/17/1991)

State Responsibility Area (SRA): As defined in Public Resources Code Sections 4126-4127; and the California Code of Regulations, Title 14, Division 1.5, Chapter 7, Article 1, Sections 1220-1220.5. (Ord. 1952, § 1, 12/17/1991)

Structure: That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed or parts joined together in some definite manner. (Ord. 1952, § 1, 12/17/1991)

Subdivision: As defined in Section 66424 of the California Government Code. (Ord. 1952, § 1, 12/17/1991)

Traffic lane: The portion of the roadway that provides a single line of vehicle travel, excluding striping, where present. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

Turnaround: A roadway, unobstructed by parking, which allows for a safe opposite change of direction for

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emergency equipment. Design of such area may be a hammerhead "T", Slip "T" or terminus bulb. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

Turnouts: A widening in a roadway to allow vehicles to pass. (Ord. 1952, § 1, 12/17/1991)

Vertical clearance: The minimum specified height of a bridge or overhead projection above the roadway. (Ord. 1952, § 1, 12/17/1991)

Wildfire: As defined in California Public Resources Code Sections 4103 and 4104. (Ord. 1952, § 1, 12/17/1991)

3111-12. DISTANCE MEASUREMENTS

All specified or referenced distances are measured along the ground surface, unless otherwise stated. (Ord. 1952, § 1, 12/17/1991)

3111-13. MAINTENANCE OF DEFENSIBLE SPACE MEASURES

- (a) To ensure continued maintenance of properties in conformance with these standards and measures and to assure continued availability, access, and utilization of the defensible space provided for in these standards during a wildfire, provisions for annual maintenance shall be included in the development plans and/or shall be provided as a condition of approving any activity subject to these regulations. Provisions deemed to satisfy this requirement include but are not limited to: (Ord. 1952, § 1, 12/17/1991)
- (1) establishment of a County Service Area (CSA) for the subdivision prior to map recordation; (Ord. 1952, § 1, 12/17/1991)
 - (2) development of a binding maintenance association or similar agreement between affected property owners formed for the subdivision prior to map recordation; (Ord. 1952, § 1, 12/17/1991)
 - (3) recordation of binding Covenants, Conditions, and Restrictions (CC&R) for maintenance of individual measures which are enforceable against the property; or (Ord. 1952, § 1, 12/17/1991)
 - (4) recordation of a Notice of Requirement for Maintenance against the real property by the County prior to issuance of a building permit or as a condition of a initiating a use authorized under a use permit. (Ord. 1952, § 1, 12/17/1991)
- (b) The inspection authority may conduct inspections to ensure compliance with the standards as set forth in the development plans and/or conditions of permit, parcel or map approval. Inspections should be conducted in accordance with Section 3111-6, paragraph (d) of these regulations. Violation of these regulations shall be subject to the penalties as set forth in Section 3116-1 of this ordinance. (Ord. 1952, § 1, 12/17/1991)

CHAPTER 2

EMERGENCY ACCESS

3112-1. ROAD AND DRIVEWAY ACCESS – INTENT

Road and street networks, whether public or private, unless exempted under Section 3111-3(b), shall provide for safe access for emergency wildland fire equipment and civilian evacuation concurrently, and shall provide unobstructed traffic circulation during a wildfire emergency consistent with Sections 3112-2 through 3112-13. (Ord. 1952, § 1, 12/17/1991)

3112-2. APPLICATION OF DESIGN STANDARDS

The design and improvement standards as referenced in these regulations shall be those as set forth in the Appendix to Title III, Division 2, of the Humboldt County Code, and in the County Roadway Design Manual. Application of these design and improvement standards shall be consistent with the intent as prescribed in Section 3112-1, and shall be based upon: (Ord. 1952, § 1, 12/17/1991)

- (a) legal requirements, (Ord. 1952, § 1, 12/17/1991)
- (b) sound engineering principles and practices and engineering geological evaluation of necessary, (Ord. 1952, § 1, 12/17/1991)
- (c) traffic safety considerations, (Ord. 1952, § 1, 12/17/1991)
- (d) economy of design and maintenance, and (Ord. 1952, § 1, 12/17/1991)
- (e) allowance for the special nature of Humboldt County roads and traffic problems. (Ord. 1952, § 1, 12/17/1991)

Interpretation of these standards shall be provided by the Director of Public Works. (Ord. 1952, § 1, 12/17/1991)

3112-3. ROAD WIDTH

All roads shall be constructed to a minimum Road Category 4 road standard of two ten (10) foot traffic lanes, not including shoulders, capable of providing for two-way traffic flow to support emergency vehicle and civilian egress. This standard may be modified where an exception has been granted pursuant to Sections 3111-7 through 3111-10 of this ordinance, and the development is made subject to the following provisions. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

- (a) A traffic lane meeting the standard for Road Category 2 (12 feet) shall be considered as meeting the requirements of this section for a single lot division into two (2) parcels, where all the following conditions are met: (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
 - (1) The subdivision is conditioned so as to limit site development as follows: (Ord. 1952, § 1, 12/17/1991)

For a parcel or parcels having a minimum parcel size of less than 20 acres, not more than one (1) dwelling unit shall be permitted for each parcel. (Ord. 1952, § 1, 12/17/1991)

For a parcel or parcels having a minimum parcel size of 20 acres or more, not more than two (2) dwelling units shall be permitted for each parcel. (Ord. 1952, § 1, 12/17/1991)

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- (2) Rights to further subdivide the parcels created by the land division would be conveyed to the county until such time as the full road segment was improved to a minimum of Road Category 3 or 4 for traffic lane, as appropriate. (Ord. 1952, § 1, 12/17/1991)
 - (3) Inter-visible turnouts are installed in conformance Section 3112-8 of these regulations. (Ord. 1952, § 1, 12/17/1991)
- (b) In mountainous terrain and/or where geologic or other natural features make infeasible full development of two ten (10) foot wide traffic lanes, a traffic lane meeting the standard for Road Category 3 (16 feet) shall be considered as meeting the requirements of this section for subdivisions of three (3) to eight (8) parcels, where all the following conditions are met: (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (1) The subdivision is conditioned so as to limit site development as follows: (Ord. 1952, § 1, 12/17/1991)

For a parcel or parcels having a minimum parcel size of less than 20 acres, not more than one (1) dwelling unit shall be permitted for each parcel. (Ord. 1952, § 1, 12/17/1991)

For a parcel or parcels having minimum parcel size of 20 acres, not more than two (2) dwelling units shall be permitted for each parcel. (Ord. 1952, § 1, 12/17/1991)
 - (2) Rights to further subdivide the parcels created by the subdivision would be conveyed to the County until such time as the full road segment was improved to a minimum of Road Category 4 for a traffic lane. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
 - (3) The roadbed width shall include a minimum of two-foot (2') wide bladed shoulders on each side of the traffic lane. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (c) In mountainous terrain and/or where geologic or other natural features make infeasible full development of two ten (10) foot wide traffic lanes, a traffic lane meeting the standard for Road Category 3 (16 feet) shall be considered as meeting the requirements of this section for subdivisions of not more than nineteen (19) parcels, where all the following conditions are met: (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (1) The requirements of Section 3112-3(b) are satisfied. (Ord. 1952, § 1, 12/17/1991)
 - (2) The minimum parcel size for the subdivision is forty (40) acres or larger. (Ord. 1952, § 1, 12/17/1991)

3112-4. ROADWAY SURFACE

The surface of all roadways shall provide unobstructed access to conventional drive vehicles, including sedans and fire engines. The surface shall conform to the standards of a Road Category 4 roadway. Where Road Category 2 or 3 has been approved pursuant to Section 3112-3, the surface shall conform to the standards for these categories, as appropriate. Roadways shall be designed and maintained to support the imposed load of fire apparatus weighing at least 75,000 pounds. Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3112-5. ROADWAY GRADES

The grade for all roads, streets, and private lanes shall conform to the standards for Road Category 4. The grade for driveways shall conform to the standards for Road Category 1. No roadway grade in excess of 16 percent shall be permitted unless it has been demonstrated to be in conformance with the County Roadway Design Manual. (Ord. 1952, § 1, 12/17/1991)

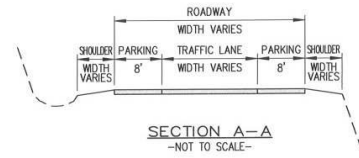
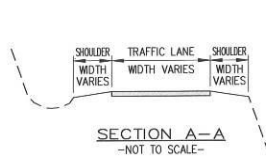
3112-6. ROADWAY RADIUS

- (a) The roadway radius for all roads, and private lanes shall conform to the standards for Road Category 4. The minimum roadway radius for driveways shall conform to the standards for Road Category 1. No roadway shall have a horizontal inside radius of curvature of less than 50 feet unless it has been demonstrated to be in conformance with the County Roadway Design Manual. (Ord. 1952, § 1, 12/17/1991)
- (b) Curve alignments shall provide for curve widening on low radius curves to compensate for off tracking characteristics of trucks and trailers. Additional surface width of four (4) feet shall be added to curves of 50-100 feet radius; two (2) feet to those from 100-200 feet. Design of curve alignments shall be in conformance with the County Design Manual. (Ord. 1952, § 1, 12/17/1991)
- (c) The length of vertical curves in roadways, exclusive of gutters, ditches, and drainage structures designed to hold or divert water, shall not be less than 100 feet. Design of vertical curves shall be in conformance with the County Roadway Design Manual. (Ord. 1952, § 1, 12/17/1991)

3112-7. ROADWAY TURNAROUNDS

Turnarounds are required on driveways and dead-end roads as specified in these regulations. The minimum turning radius for a turnaround shall be 40 feet from the center line of the road, not including the parking lane. If a hammerhead "T" is used, the top of the "T" shall be a minimum of 60 feet in length. If a slip "T" design is used, the projection shall have a minimum depth of forty (40) feet. Turnaround designs shall conform to the diagrams below in Figures 3112-7A, 3112-7B and 3112-7C, as applicable. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

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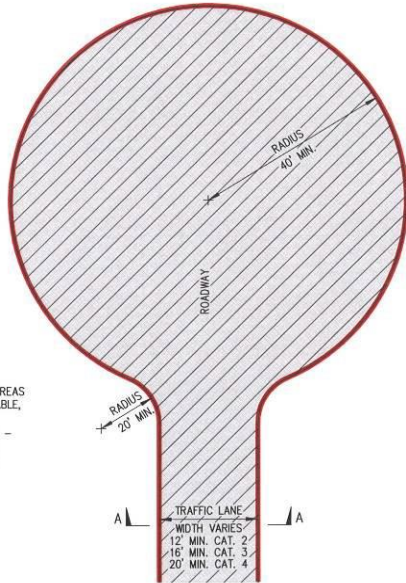


- REFERENCES**
 COUNTY CODE SECTIONS:
 3111-11 DEFINITIONS
 3112-3 ROADWAY WIDTHS
 3112-3 SHOULDER WIDTHS
 3112-4 ROADWAY SURFACE
 3112-5 ROADWAY GRADES
 3112-6 ROADWAY RADIUS
 3112-7 ROADWAY TURNAROUNDS
 3112-11 DEAD-END ROADS
 3112-12 DRIVEWAYS
 3112-13 GATES
 3113-7 SIGNS

NOTES
 NO PARKING IS ALLOWED ON ROADWAY. IN AREAS WHERE PARKING ON THE ROADWAY IS PROBABLE, PAINT CURB RED (WHEN PRESENT) AND/OR INSTALL CA-MUTCD R26F(CA) "NO STOPPING - FIRE LANE" SIGNS, AS DIRECTED BY COUNTY. REFERENCE: CA-MUTCD SECTION 2B.46 AND CALIFORNIA VEHICLE CODE SECTION 22500.1

LEGEND

- ROADWAY AREA
- PARKING RESTRICTION



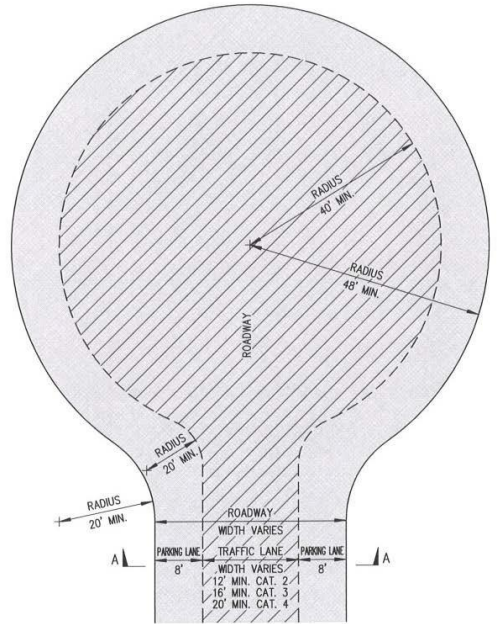
PLAN VIEW
 ON-STREET PARKING PROHIBITED
 -NOT TO SCALE-

Type 1
 On-Street Parking Prohibited

- REFERENCES**
 COUNTY CODE SECTIONS:
 3111-11 DEFINITIONS
 3112-3 ROADWAY WIDTHS
 3112-3 SHOULDER WIDTHS
 3112-4 ROADWAY SURFACE
 3112-5 ROADWAY GRADES
 3112-6 ROADWAY RADIUS
 3112-7 ROADWAY TURNAROUNDS
 3112-11 DEAD-END ROADS
 3112-12 DRIVEWAYS
 3112-13 GATES
 3113-7 SIGNS

LEGEND

- ROADWAY AREA
- PARKING RESTRICTION

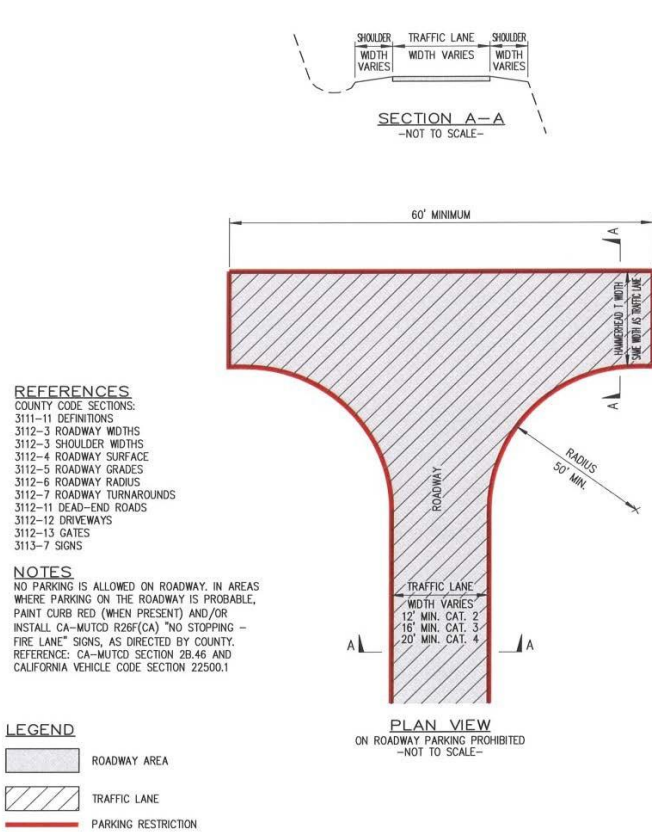


PLAN VIEW
 WITH ON-STREET PARKING
 -NOT TO SCALE-

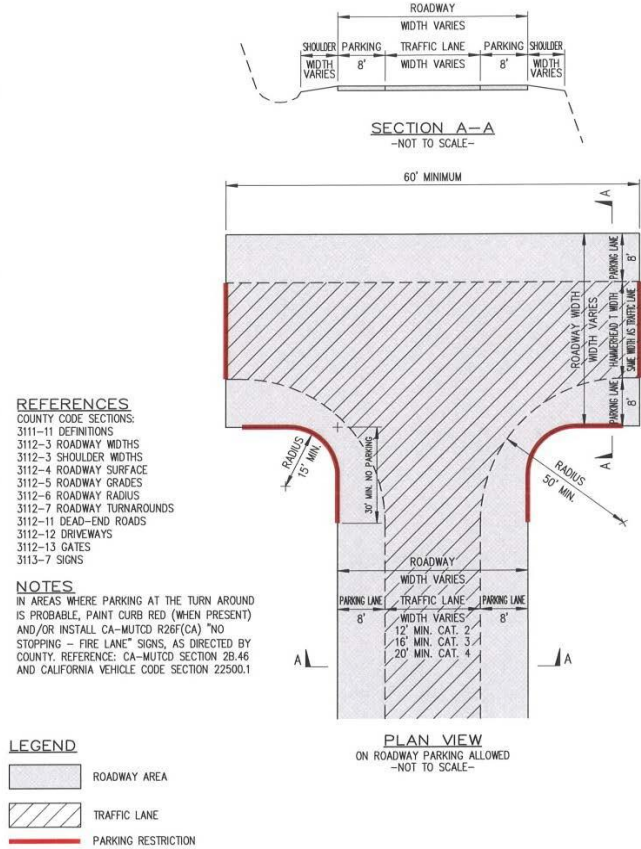
Type 2
 On-Street Parking Allowed

FIGURE 3112-7A
 Cul-de-Sac

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Type 1
On-Street Parking Prohibited



Type 2
On-Street Parking Allowed

FIGURE 3112-7B
Hammerhead "T"

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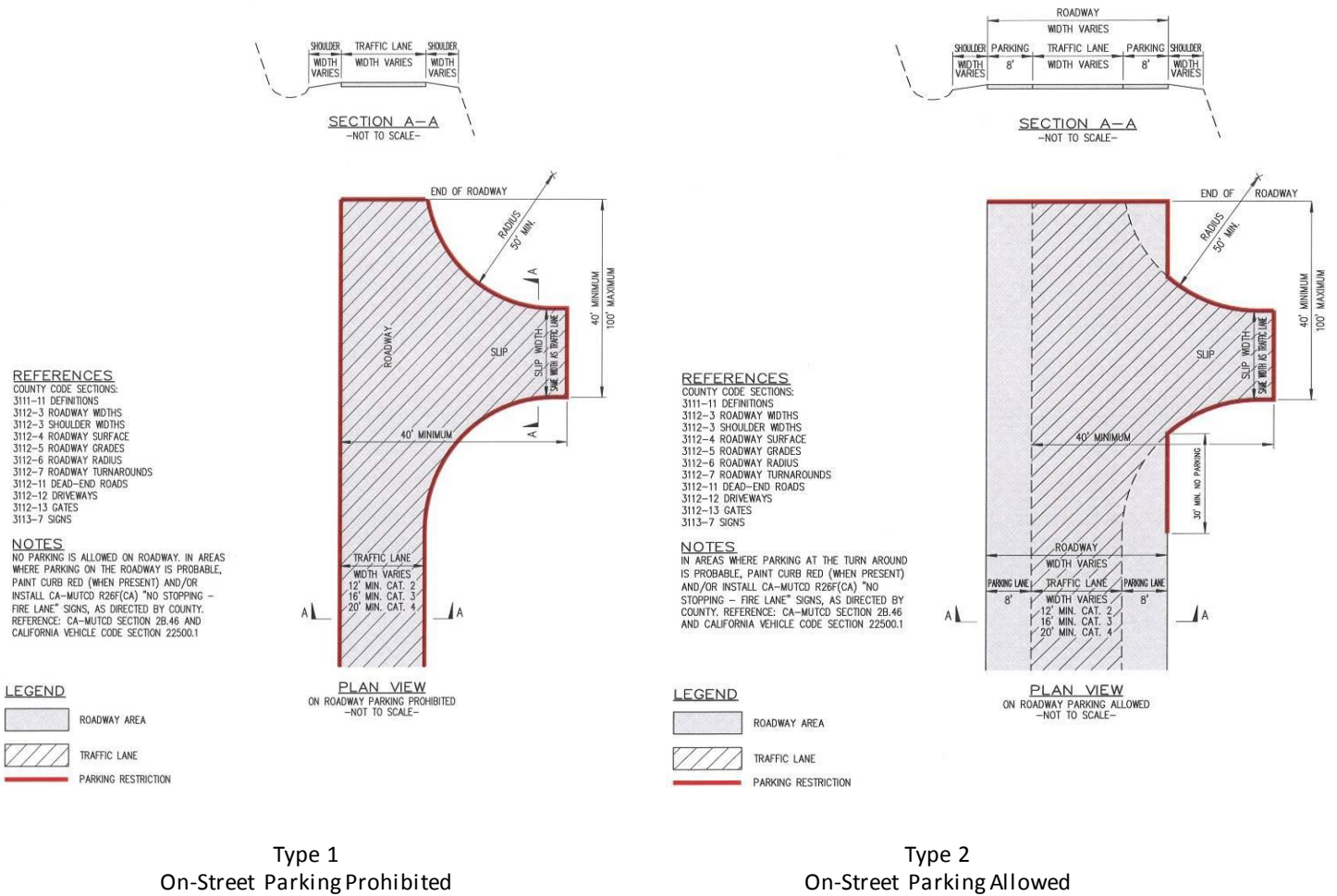


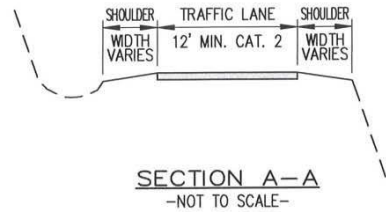
FIGURE 3112-7C
Slip "T"

3112-8. ROADWAY TURNOUTS

Turnouts shall be designed in conformance with the County Roadway Design Manual. Turnouts shall be required on roadways constructed to the standard of Road Category 2 and at locations as specified in these regulations. Turnouts shall be a minimum of twenty (20) feet wide, to include width of adjacent traffic lane, and thirty (30) feet long with a minimum of 25 foot taper on each end (eighty (80) feet total length). Turnout designs shall conform to the diagram below. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

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FIGURE 3112-8
Roadway Turnout



REFERENCES

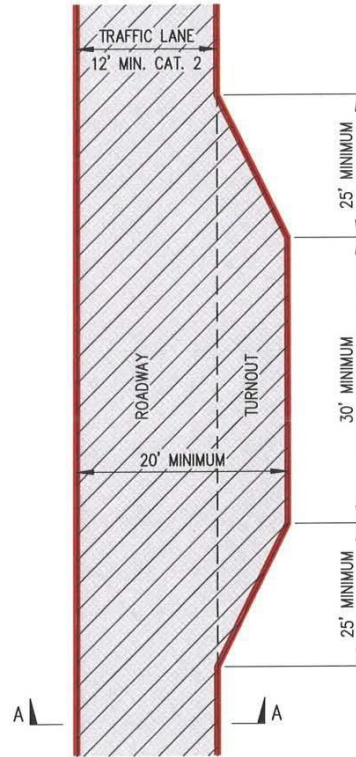
- COUNTY CODE SECTIONS:
 3111-11 DEFINITIONS
 3112-3 ROADWAY WIDTHS
 3112-3 SHOULDER WIDTHS
 3112-4 ROADWAY SURFACE
 3112-5 ROADWAY GRADES
 3112-6 ROADWAY RADIUS
 3112-8 TURNOUTS
 3112-12 DRIVEWAYS
 3113-7 SIGNS

NOTES

NO PARKING IS ALLOWED ON ROADWAY. IN AREAS WHERE PARKING ON THE ROADWAY IS PROBABLE, PAINT CURB RED (WHEN PRESENT) AND/OR INSTALL CA-MUTCD R26F(CA) "NO STOPPING - FIRE LANE" SIGNS, AS DIRECTED BY COUNTY. REFERENCE CA-MUTCD SECTION 2B.46 AND CALIFORNIA VEHICLE CODE SECTION 22500.1

LEGEND

-  ROADWAY AREA
-  TRAFFIC LANE
-  PARKING RESTRICTION



PLAN VIEW
ON ROADWAY PARKING PROHIBITED
-NOT TO SCALE-

3112-9. ROADWAY STRUCTURES

- (a) All driveway, road, street, and private lane roadway structures shall be constructed to carry at least the maximum load and provide the minimum vertical clearance as required in California Vehicle Code Sections 35250, 35550, and 35750. Where a bridge, culvert or an elevated surface is part of a fire apparatus access road, the roadway structure shall be constructed and maintained in accordance with the American Association of State and Highway Transportation Officials Standard Specifications for Highway Bridges, 17th Edition, published 202 (known as AASHTO HB-17), hereby incorporated by reference, or an equivalent or greater AASHTO standard as may be from time to time adopted. Roadway structures shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. The minimum vertical clearance shall be 15 feet at all points on the surface of the roadway. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

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- (b) Appropriate signing, including but not limited to vehicle load, vertical clearance, one-way road, or single lane conditions, shall be posted at both entrances to bridges. This requirement may be omitted for bridges on private roads and driveways where compliance with paragraph (a) of this section has been demonstrated to the satisfaction of the Director of Public Works. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, barriers or signs, or both, as approved by the Department of Public Works, shall be installed and maintained. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (c) A bridge with only one traffic lane may be authorized by the County; however, the bridge shall provide for unobstructed visibility from one end to the other and shall have intervisible turnouts at both ends. (Ord. 1952, § 1, 12/17/1991)
- (d) The County may allow a flatcar bridge having a width of not less than nine (9) feet to be used as a roadway structure on a private lane or driveway provided the requirements of Section 3112-9(c) are satisfied. No exception request shall be required for the reduced roadway width. (Ord. 1952, § 1, 12/17/1991)

3112-10. ONE-WAY ROADS

All one-way roads shall be constructed to provide a minimum, not including shoulders, of one ~~10~~ twelve (12) foot traffic lane. The County may approve one-way roads. All one-way roads shall connect to a two-lane roadway at both ends, and shall provide access to an area currently zoned for no more than ten (10) dwelling units. In no case shall it exceed 2,640 feet in length. A turnout shall be placed approximately at the midpoint of each one-way road. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3112-11. DEAD-END ROADS

- (a) The maximum length of a dead-end road, including all dead-end roads accessed from that dead-end road, shall not exceed the following cumulative lengths, regardless of the number of parcels served: (Ord. 1952, § 1, 12/17/1991)

parcels zoned for less than one acre 800 feet

parcels zoned for 1 acre to 4.99 acres 1350 feet

parcels zoned for 5 acres to 19.99 acres 2640 feet parcels zoned for 20 acres to 39.99 acres 5280 feet

parcels zoned for 40 acres to 159.99 acres 7500 feet parcels zoned for 160 acres or larger Unlimited

All lengths shall be measured from the edge of the roadway surface at the intersection that begins the road to the end of the road surface

at its farthest point. Where a dead-end road crosses areas of differing zoned parcel sizes, requiring different length limits, the shortest allowable length shall apply. (Ord. 1952, § 1, 12/17/1991)

- (b) Where parcels are zoned 5 acres or larger, turnarounds shall be provided at a maximum of 1320 foot intervals. (Ord. 1952, § 1, 12/17/1991)
- (c) Each dead-end road shall have a turnaround constructed at its terminus. (Ord. 1952, § 1, 12/17/1991)

3112-12. DRIVEWAYS

- (a) All driveways shall be constructed to provide a minimum Road Category 1 standard of one ten (10) foot traffic lane and fourteen (14) feet of unobstructed horizontal clearance (two (2) feet on each side of the traffic lane). The minimum vertical clearance shall be 15 feet along its entire length. Driveways in excess of 1320 feet in length shall be constructed to the standard for Road Category 2 of one twelve (12) foot traffic lane. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1,

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- (b) Driveways exceeding 150 feet in length, but less than 800 feet in length, shall provide a turnout near the midpoint of the driveway. Where a driveway exceeds 800 feet, turnouts shall be spaced at intervals of approximately 400 foot intervals. The location and spacing of turnouts shall be in conformance with the County Roadway Design Manual. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (c) A turnaround shall be provided at all building sites on driveways over 300 feet in length, or 200 feet if required by the local fire agency, and shall be within fifty (50) feet of the building. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3112-13. GATE ENTRANCES

- (a) Gate entrances shall be at least two (2) feet wider than the width of the traffic lane(s) serving the gate, and a minimum width of fourteen (14) feet of unobstructed horizontal clearance and unobstructed vertical clearance of fifteen (15) feet. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (b) All gates providing access from a road to a driveway shall either: (Ord. 1952, § 1, 12/17/1991)
 - (1) be located a minimum of thirty (30) feet from the roadway, or (Ord. 1952, § 1, 12/17/1991)
 - (2) if located closer than thirty (30) feet from the roadway, turnout(s) shall be constructed near the gate entrance to allow parking next to the traffic lane(s) for use from each direction of travel. The location of the turnouts shall permit safe turning movements and maintain adequate sight visibility. (Ord. 1952, § 1, 12/17/1991)
- (c) All gates providing access from a road to a driveway shall open to allow a vehicle to stop without obstructing traffic on that road. (Ord. 1952, § 1, 12/17/1991)
- (d) Where a one-way road with a single traffic lane provides access to a gated entrance, a forty (40) foot turning radius shall be used. (Ord. 1952, § 1, 12/17/1991 ; amended by Ord. 2540, Section 1, 11/17/2015)
- (e) Security gates shall not be installed without approval and where security gates are installed, they shall have an approved means of emergency operation acceptable to CAL FIRE and the local fire agency. The security gates and the emergency operation shall be maintained operational at all times. (Added by Ord. 2540, Section 1, 11/17/2015)

CHAPTER 3

SIGNING AND BUILDING NUMBERING

3113-1. SIGNING AND BUILDING NUMBERING – INTENT

To facilitate locating a fire and to avoid delays in response, all newly constructed or approved roads, streets, and building shall be designated by names or numbers, posted on signs clearly visible and legible from the roadway. This section shall not restrict the size of letters or numbers appearing on street signs for other purposes. (Ord. 1952, § 1, 12/17/1991)

3113-2. SIZE OF LETTERS, NUMBERS AND SYMBOLS FOR STREET AND ROAD SIGNS

Notwithstanding any other provisions of the Code, the size of letter, numbers, and symbols for street and road signs shall be a minimum 4 inch letter height, 1/2 inch stroke, reflectorized, and contrasting with the background color of the sign. Wooden street and road signs meeting the standards for letter height, stroke, and contrast shall be permitted in all locations with an exception issued pursuant to Sections 3111-7 through 3111-10 of this ordinance. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3113-3. VISIBILITY AND LEGIBILITY OF STREET AND ROAD SIGNS

Street and road signs shall be visible from both directions of vehicle travel for a distance of at least 100 feet. (Ord. 1952, § 1, 12/17/1991)

3113-4. HEIGHT OF STREET AND ROAD SIGNS

Height of street and road signs shall be uniform county wide, and meet the visibility and legibility standards of these regulations. (Ord. 1952, § 1, 12/17/1991)

3113-5. NAMES AND NUMBERS ON STREET AND ROAD SIGNS

Newly constructed or approved public and private roads and streets must be identified by a name or number consistent with the Uniform Numbering System as set forth in Humboldt County Code Sections 442-1 through 441-11. All signs shall be mounted and oriented in a uniform manner. (Ord. 1952, § 1, 12/17/1991)

3113-6. INTERSECTING ROADS, STREETS AND PRIVATE LANES

Signs required by these regulations identifying intersecting roads, streets and private lanes shall be placed at the intersection of those roads, streets, and/or private lanes. (Ord. 1952, § 1, 12/17/1991)

3113-7. SIGNS IDENTIFYING TRAFFIC ACCESS LIMITATIONS

A sign identifying access flow limitation, including but not limited to weight or vertical clearance limitations, dead-end road, one way road or single lane conditions, shall be placed: (Ord. 1952, § 1, 12/17/1991)

- (a) at the intersection preceding the traffic access limitation, and (Ord. 1952, § 1, 12/17/1991)
- (b) no more than 100 feet before such traffic access limitation. (Ord. 1952, § 1, 12/17/1991)

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3113-8. INSTALLATION OF ROAD, STREET AND PRIVATE LANE SIGNS

Road, street and private lanes signs required by these regulations shall be installed prior to final acceptance by the County of road improvements. (Ord. 1952, § 1, 12/17/1991)

3113-9. ADDRESSES FOR BUILDINGS

All buildings shall be issued an address in accordance with the County Uniform Numbering System, Humboldt County Code Section 442 et seq. Accessory buildings will not be required to have a separate address; however, each dwelling unit within a building shall be separately identified. (Ord. 1952, § 1, 12/17/1991)

3113-10. SIZE OF LETTERS, NUMBERS AND SYMBOLS

Notwithstanding Humboldt County Code Section 442-1, the size of letters numbers and symbols for addresses shall be a minimum 4 inch letter height, 1/2 inch stroke, reflectorized, and contrasting with the background color of the sign. Addresses shall use Arabic numbers and alphabetical letters. Wooden address signs meeting the standards for letter height, stroke, and contrast shall be permitted in all locations with an exception issued pursuant to Sections 3111-7 through 3111-10 of this ordinance. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3113-11. INSTALLATION, LOCATION AND VISIBILITY OF ADDRESSES

- (a) All buildings shall have a permanently posted address, which shall be placed at each driveway entrance and visible from both directions of travel along the road fronting the property. In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter, and the address shall be visible and legible from the road on which the address is located. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (b) Address signs along one-way roads shall be visible from both the intended direction of travel and the opposite direction. (Ord. 1952, § 1, 12/17/1991)
- (c) Where multiple addresses are required at a single driveway, they shall be mounted on a single post. (Ord. 1952, § 1, 12/17/1991)
- (d) Where a roadway provides access and to a single commercial or industrial business, the address sign shall be placed at the nearest road intersection providing access to that site. (Ord. 1952, § 1, 12/17/1991)

CHAPTER 4

EMERGENCY WATER STANDARDS

3114-1. WATER STANDARDS – INTENT

Emergency water for wildfire protection shall be available, accessible, and maintained in quantities and locations specified in statute and these regulations, in order to attack a wildfire and defend property from a wildfire. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3114-2. APPLICATION

The provisions of this chapter shall apply in the tentative and parcel map process when new parcels are approved by the County. When a water supply for structure defense is required to be installed, such protection shall be installed and made serviceable before and during the time of construction except when alternative methods of protection are provided and approved by the local authority having jurisdiction. A water source on an adjacent parcel for which the subject property has access by means of a recorded easement shall be accepted as meeting the intent of this section. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3114-3. GENERAL STANDARDS

- (a) Water systems that comply with the below standard or standards meets or exceed intent of these regulations:

Water systems equaling or exceeding the National Fire Protection Association (NFPA) Standard 1142, "Standard on Water Supplies for Suburban and Rural Fire Fighting," 2012 Edition, hereby incorporated by reference, or California Fire Code, California Code of Regulations, title 24, part 9, shall be accepted as meeting the requirements of this section. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (b) Notwithstanding the above water system standards, a water system serving an individual residential dwelling which meets the 2,500 gallon emergency water supply requirements of the County's Alternative Owner Builder Ordinance, Humboldt County Code Section 331.5-13(h), and which conforms to the minimum pipe size and valving requirements set forth in these regulations, shall be accepted as meeting the requirements of this section. (Ord. 1952, § 1, 12/17/1991)
- (c) Such emergency water may be provided in a fire agency mobile water tender, or naturally occurring or manmade containment structure, as long as the specified quantity is immediately available. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (d) Nothing in these regulations prohibits the combined storage of emergency wildfire and structural firefighting water supplies unless so prohibited by local ordinance or specified by the local fire agency. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (e) Where freeze protection is required by the County or local fire agency, such measures shall be provided. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3114-4. HYDRANT/FIRE VALVE

- (a) The hydrant or fire valve shall be eighteen (18) inches above grade, eight (8) feet from flammable vegetation, no closer than four (4) feet nor farther than twelve (12) feet from a roadway, and in a location where fire apparatus using it will not block the roadway. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

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The hydrant serving any building shall: (Ord. 1952, § 1, 12/17/1991)

- (1) be not less than fifty (50) feet nor more than 1/2 mile from the building it is to serve, except that a hydrant serving any building on a lot less than ten (10) acres in acre shall be located within 500 feet of the building; provided that the local fire agency may allow a hydrant to be located up to 1000 feet from the building when site conditions warrant. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
 - (2) be located at a turnout or turnaround, along the driveway to that building or along the road that intersects with that driveway. (Ord. 1952, § 1, 12/17/1991)
- (b) The hydrant head shall be brass or other corrosion resistant material with 2-1/2 inch National Hose male thread with a cap for pressure and gravity flow systems, and 4-1/2 inch National Hose male thread for draft systems. Such hydrants shall be wet or dry barrel as required by the delivery system. Crash protection meeting the requirements of the Uniform Mechanical Code shall be installed as required by the County. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (c) All pipes supplying water to hydrants must be at least 3 inches in diameter; however, a pipe having a diameter of less than 3 inches may be used provided it can demonstrate the capability of supplying a minimum 200 gallon per minute (gpm) flow from the hydrant connection. (Ord. 1952, § 1, 12/17/1991)

3114-5. SIGNING OF WATER SOURCES

Each hydrant/fire valve or access to water shall be identified as follows:

- (a) if located along a driveway, except where the residence is served with an individual water supply, a reflectorized blue marker with a minimum dimension of three (3) inches shall be located on the driveway address sign and mounted on a fire retardant post; or
- (b) if located along a driveway where a residence is served with an individual water supply, a wooden sign with a minimum three (3) inch letter height, 3/8 inch stroke, contrasting with the background color of the sign, with the wording "FIRE WATER" mounted on a wooden post or compliance with section (a) above shall be acceptable with an exception issued pursuant to Sections 3111-7 through 3111-10 of this ordinance, or (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)
- (c) if located along a street or road, (Ord. 1952, § 1, 12/17/1991)
 - (1) a reflectorized blue marker, with a minimum dimension of three (3) inches, shall be mounted on a fire retardant post. The sign post shall be within three (3) feet of said hydrant/fire valve, with the sign no less than three (3) feet nor greater than five (5) feet above the ground, in a horizontal position and visible from the roadway, or (Ord. 1952, § 1, 12/17/1991)
 - (2) as specified in the State Fire Marshal's Guidelines for Hydrant Markings Along State Highways and Freeways, May 1988. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

CHAPTER 5

FUEL MODIFICATION STANDARDS

3115-1. FUEL MODIFICATION – INTENT

To reduce the intensity of wildfire by reducing the volume and density of flammable vegetation, the strategic siting of fuel modification and greenbelts shall provide (1) increased safety for emergency fire equipment and evacuating civilians by its utilization around structures and roads, including driveways; and (2) a point of attack or defense from a wildfire. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

3115-2. SETBACK FOR STRUCTURE DEFENSIBLE SPACE

(a) Notwithstanding other provisions of this Code, all parcels one (1) acre and larger shall provide a minimum 30 foot setback for buildings and accessory buildings from all property lines and/or the center of a road, except as provided herein: (Ord. 1952, § 1, 12/17/1991)

- (1) a building or accessory building may be located closer than 30 foot to a property line where a maintenance and open space easement for the benefit of the subject parcel has been recorded over the adjoining lot. The extent of the adjustment shall be no greater than the width of the easement, and no exception from minimum setbacks as specified in other provisions of this Code are granted pursuant to this section. (Ord. 1952, § 1, 12/17/1991)
- (2) a detached accessory building may be located within the 30 foot setback when it is constructed using non-combustible or fire resistive materials, and is located not closer than 20 feet to another building. (Ord. 1952, § 1, 12/17/1991)

The required specific distance between buildings or structures and property lines or the centerline of the road shall be measured perpendicularly in a horizontal plane extending across the complete length of said property line or lines and/or roadway. (Ord. 1952, § 1, 12/17/1991)

(b) For parcels less than one (1) acre, the County shall provide for the same practical effect (Ord. 1952, § 1, 12/17/1991)

Methods of achieving the "same practical effect" include but are not limited to: (Ord. 1952, § 1, 12/17/1991)

- (1) development of a community water system meeting the specifications as set forth in Section 3114-3 (a-c); (Ord. 1952, § 1, 12/17/1991)
- (2) establishment of a County Service Area or other acceptable form of district or association to provide maintenance of defensible space measures, including vegetation modification; (Ord. 1952, § 1, 12/17/1991)
- (3) use of non-combustible or fire-resistive materials in construction of buildings or installation of sprinklers within buildings; (Ord. 1952, § 1, 12/17/1991)
- (4) development of greenbelts in strategic locations around the subdivision or parcels; or (Ord. 1952, § 1, 12/17/1991)
- (5) road development which provides for travel lanes and parking lanes that exceed the minimum requirements of these regulations. (Ord. 1952, § 1, 12/17/1991)

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3115-3. DISPOSAL OF FLAMMABLE VEGETATION AND FUELS

Disposal, including chipping, burying, burning or removal to a landfill site approved by the County, of flammable vegetation and fuels caused by site development and construction, road and driveway construction, and fuel modification shall be completed prior to completion of road construction or final inspection of a building permit or initiation of a use under a use permit. (Ord. 1952, § 1, 12/17/1991)

3115-4. GREENBELTS

Subdivisions and other developments, which propose greenbelts as a part of the development plan, shall locate said greenbelts strategically, as a separation between wildland fuels and structures. The locations shall be approved by the inspection authority and should be consistent with the CAL FIRE Unit Fire Management Plan, where in effect. (Ord. 1952, § 1, 12/17/1991; amended by Ord. 2540, Section 1, 11/17/2015)

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CHAPTER 6

ENFORCEMENT

3116-1. VIOLATION

The following provisions shall apply to violations of the regulations as contained in this ordinance. All of the remedies provided for in this section shall be cumulative and no inclusive. (Ord. 1952, § 1, 12/17/1991)

- (a) Penalty. Any person, whether principal, agent, employee or otherwise, violating or causing or permitting the violation of any of the provisions of this Code shall be guilty of a misdemeanor and shall be subject to the penalties provided for in Section 112-5 of the Humboldt County Code. (Ord. 1952, § 1, 12/17/1991)
- (b) Public Nuisance. Any new development operated or maintained contrary to the provisions of this Code shall be the same hereby is declared to be a public nuisance and shall be subject to injunction and abatement as such. (Ord. 1952, § 1, 12/17/1991)

APPENDIX K — PUBLIC RESOURCES CODE 4291

DIVISION 4. FORESTS, FORESTRY AND RANGE AND FORAGE LANDS [4001 - 4958]

(Division 4 repealed and added by Stats. 1965, Ch. 1144.)

PART 2. PROTECTION OF FOREST, RANGE AND FORAGE LANDS [4101 - 4789.7]

(Part 2 added by Stats. 1965, Ch. 1144.)

CHAPTER 3. MOUNTAINOUS, FOREST-, BRUSH- AND GRASS-COVERED LANDS [4291 - 4299]

(Chapter 3 added by Stats. 1965, Ch. 1144.)

4291.

(a) A person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, shall at all times do all of the following:

(1) Maintain defensible space of 100 feet from each side and from the front and rear of the structure, but not beyond the property line except as provided in paragraph (2). The amount of fuel modification necessary shall take into account the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Fuels shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. This paragraph does not apply to single specimens of trees or other vegetation that are well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation. The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the first 30 feet around the structure. Consistent with fuels management objectives, steps should be taken to minimize erosion. For the purposes of this paragraph, "fuel" means any combustible material, including petroleum-based products and wildland fuels.

(2) A greater distance than that required under paragraph (1) may be required by state law, local ordinance, rule, or regulation. Clearance beyond the property line may only be required if the state law, local ordinance, rule, or regulation includes findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. Clearance on adjacent property shall only be conducted following written consent by the adjacent landowner.

(3) An insurance company that insures an occupied dwelling or occupied structure may require a greater distance than that required under paragraph (1) if a fire expert, designated by the director, provides findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. The greater distance may not be beyond the property line unless allowed by state law, local ordinance, rule, or regulation.

(4) Remove that portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe.

(5) Maintain a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood.

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(6) Maintain the roof of a structure free of leaves, needles, or other vegetative materials.

(7) Prior to constructing a new building or structure or rebuilding a building or structure damaged by a fire in an area subject to this section, the construction or rebuilding of which requires a building permit, the owner shall obtain a certification from the local building official that the dwelling or structure, as proposed to be built, complies with all applicable state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code, and shall provide a copy of the certification, upon request, to the insurer providing course of construction insurance coverage for the building or structure. Upon completion of the construction or rebuilding, the owner shall obtain from the local building official, a copy of the final inspection report that demonstrates that the dwelling or structure was constructed in compliance with all applicable state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code, and shall provide a copy of the report, upon request, to the property insurance carrier that insures the dwelling or structure.

(b) A person is not required under this section to manage fuels on land if that person does not have the legal right to manage fuels, nor is a person required to enter upon or to alter property that is owned by any other person without the consent of the owner of the property.

(c) (1) Except as provided in Section 18930 of the Health and Safety Code, the director may adopt regulations exempting a structure with an exterior constructed entirely of nonflammable materials, or, conditioned upon the contents and composition of the structure, the director may vary the requirements respecting the removing or clearing away of flammable vegetation or other combustible growth with respect to the area surrounding those structures.

(2) An exemption or variance under paragraph (1) shall not apply unless and until the occupant of the structure, or if there is not an occupant, the owner of the structure, files with the department, in a form as the director shall prescribe, a written consent to the inspection of the interior and contents of the structure to ascertain whether this section and the regulations adopted under this section are complied with at all times.

(d) The director may authorize the removal of vegetation that is not consistent with the standards of this section. The director may prescribe a procedure for the removal of that vegetation and make the expense a lien upon the building, structure, or grounds, in the same manner that is applicable to a legislative body under Section 51186 of the Government Code.

(e) The Department of Forestry and Fire Protection shall develop, periodically update, and post on its Internet Web site a guidance document on fuels management pursuant to this chapter. Guidance shall include, but not be limited to, regionally appropriate vegetation management suggestions that preserve and restore native species, minimize erosion, minimize water consumption, and permit trees near homes for shade, aesthetics, and habitat; and suggestions to minimize or eliminate the risk of flammability of non-vegetative sources of combustion such as woodpiles, propane tanks, decks, and outdoor lawn furniture.

(f) As used in this section, "person" means a private individual, organization, partnership, limited liability company, or corporation.

(Amended by Stats. 2009, Ch. 208, Sec. 4. (SB 833) Effective January 1, 2010.)

APPENDIX L — ACRONYMS

LIST OF ACRONYMS AND ABBREVIATIONS

AED	Automated External Defibrillator
ALS	Advanced Life Support
AOB	Alternative Owner Builders
ARRF	Aircraft Rescue Fire Fighting
ATV	All-Terrain Vehicle
BAER	Burned Area Emergency Response
BIA	Bureau of Indian Affairs
BID	(Humboldt County) Building Inspection Division
BLM	Bureau of Land Management
BLS	Basic Life Support
BMP	Best Management Practice
BOF	Board of Forestry
BOS	Humboldt County Board of Supervisors
BOV	Bridgeville Volunteer Fire Company
CAD	Computer-Aided Dispatch
CAFS	Compressed Air Foam System
Cal EMA	California Emergency Management Agency
CAL FIRE	California Department of Forestry and Fire Protection
CAL FIRE HUU	California Department of Forestry and Fire Protection Humboldt-Del Norte Unit
CalOSHA	California Occupational Safety and Health Administration
CalTrans	California Department of Transportation
CAR	Communities At Risk
CDF	California Department of Forestry and Fire Protection
CDF-HUU	California Department of Forestry and Fire Protection, Humboldt-Del Norte Unit
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife (formerly CDFG)
CD	Compact Disc
CDS	Humboldt County Community Development Services
CEQA	California Environmental Quality Act
CERT	Community Emergency Response Teams
CFSC	California Fire Safe Council

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CNDDDB	California Natural Diversity Database
CRC	Community Review Committee
CHP	California Highway Patrol
Cohesive Strategy	National Cohesive Wildland Fire Management Strategy
CPA	Community Planning Area
CPFSC	Crooked Prairie Fire Safe Council
CPR	Cardio Pulmonary Resuscitation
CSA	County Service Area
CSD	Community Services District
CNDDDB	California Natural Diversity Database
CR	College of the Redwoods
CRC	Community Review Committee
CWPP	Community Wildfire Protection Program
DFG	(California) Department of Fish and Game
DOI	Department of the Interior
DPA	Direct Protection Area
ERC	Energy Release Component
EMD	Emergency Medical Dispatcher
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
ERVTRT	Eel River Valley Technical Rescue Team
FBPS	Fire Behavior Prediction System
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FICC	Fortuna Interagency Command Center
Fire Chiefs	Humboldt County Fire Chiefs' Association
FLAME Act	Federal Land Assistance Management and Enhancement Act
FLASH Program	Fire-adapted Landscapes and Safe Homes Program
FMP	Fire Management Plan
FMU	Fire Management Unit
FMZ	Fire Management Zone
FPA	Fire Program Analysis
FPD	Fire Protection District
FRA	Federal Responsibility Area
FRAP	Fire Resource Assessment Program

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FRCC	Fire Regime Condition Class
FRX	Fire-Retardant Treated
FSC	Fire Safe Council
GDRCo	Green Diamond Resource Company
GIS	Geographic Information System
GPU	General Plan Update
GPS	Global Positioning System
HazMat	Hazardous Materials
HAM Radio	Amateur Radio
HBMWD	Humboldt Bay Municipal Water District
HCAOG	Humboldt County Association of Governments
HCFC	Humboldt County Fire Safe Council
HCDFC	Humboldt County Fire Dispatch Cooperative
HFA	Hazardous Fire Areas
HFPD No. 1	Humboldt Fire Protection District No. 1
HFRA	Healthy Forests Restoration Act
HOACC	Humboldt Operational Area Communications Committee
HMP	Hazard Mitigation Plan / (Humboldt Operational Area) Hazard Mitigation Plan
HRCD	Humboldt Resource Conservation District
HROP	Humboldt Regional Occupation Program
HRSP	Humboldt Redwoods State Park
HSU	Humboldt State University
HVFC	Honeydew Volunteer Fire Company
HVFC	Hoopa Volunteer Fire Company
HVIR	Hoopa Valley Indian Reservation
HVT	Hoopa Valley Tribe
HWFD	Hoopa Wildland Fire Department
HWY	Highway
IC	Incident Command
ICS	Incident Command System
ISO	Insurance Services Office
JPA	Joint Powers Authority
KFPD	Kneeland Fire Protection District
KVFD	Kneeland Volunteer Fire Department
LAFCO	Local Agency Formation Commission

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LANDFIRE	Landscape Fire Resource and Management
LM CWPP	Lower Mattole Community Wildfire Protection Plan
LMFSC	Lower Mattole Fire Safe Council
LOS	Level of Service
LRA	Local Responsibility Area
MFPP	Master Fire Protection Plan
MOU	Memorandum of Understanding
MRC	Mattole Restoration Council
MSR	Municipal Service Review
NCUAQMD	North Coast Unified Air Quality Management District
NEPA	National Environmental Policy Act
NEST	Neighborhood Emergency Support Teams
NF	National Forest
NFDRS	National Fire Danger Rating System
NFIRS	National Fire Incident Reporting System
NFPA	National Fire Protection Association
NMFS	National Marine Fisheries Services
NOAA	National Oceanic and Atmospheric Administration
North Coast EMS	North Coast Emergency Medical Services Agency
NPS	National Park Service
NWS	National Weather Service
OA	Operational Area
OASIS	Operational Area Satellite Information System
OCSD	Orleans Community Services District
OES	Office of Emergency Services
OSB FSC	Orleans/Somes Bar Fire Safe Council
OSHA	Occupational Safety and Health Administration
OVFD	Orleans Volunteer Fire Department
PG&E	Pacific Gas and Electric
PPC	Public Protection Classification
PPE	Personal Protective Equipment
PRC	Public Resource Code
PSA	Public Service Announcement
PSAP	Public Safety Answering Point
PUAP	Planning Unit Action Plan

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PVFD	Petrolia Volunteer Fire Department
RAWS	Remote Automated Weather Stations
RAC	Resource Advisory Committee
RAMS	Risk Assessment and Mitigation Strategies
RAWS	Remote Automated Weather Stations
RCD	Rural Conservation District
RCEA	Redwood Coast Energy Authority
RID	Resort Improvement District
RMP	Resource Management Plan
RMP	Redwood National Park
RNPS	Redwood National Park Service
SB	Senate Bill
SEMS	Standardized Emergency Management System
SHEPT	Southern Humboldt Emergency Preparedness Team
SHFCA	Southern Humboldt Fire Chiefs Association
SHFSC	Southern Humboldt Fire Safe Council
SMA	Streamside Management Area
SOD	Sudden Oak Death
SRA	State Responsibility Area
SRNF	Six Rivers National Forest
SWAP	Sheriff Work Alternative Program
T&E Species	Threatened and Endangered Species
TPZ	Timberland Production Zone
TVFD	Trinidad Volunteer Fire Department
UC	University of California
UCANR	University of California Agriculture and Natural Resources Division
UCCE	University of California Cooperative Extension
USAR	Urban Search and Rescue
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VFC	Volunteer Fire Company
VFD	Volunteer Fire Department
VIP	Volunteers in Prevention
VMP	Vegetation Management Program

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WCFSC	Willow Creek Fire Safe Council
WCSD	Weott Community Services District
WCVFD	Willow Creek Volunteer Fire Department
WFLC	Wildland Fire Leadership Council
WUI	Wildland-Urban Interface
WVFD	Westhaven Volunteer Fire Department
YVFC	Yurok Volunteer Fire Company

APPENDIX M —GLOSSARY

Definitions listed in this Glossary came from the following sources:

- The 2006 Humboldt County Master Fire Protection Plan and 2013 CWPP.
- Fire Plans authored by Tracy Katelman and ForEverGreen Forestry, <http://www.forevergreenforestry.com/fire.html>
- CAL FIRE California Fire Siege 2003, Glossary of Terms http://www.fire.ca.gov/fire_protection/downloads/siege/Glossaryofterms.pdf
- National Wildfire Coordinating Group Glossary of Wildland Fire <https://www.nwcg.gov/glossary/a-z>
- USDA Forest Service 2003 San Diego County Fire Siege Fire Safety Review, Appendix D: Glossary http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5296997.pdf

1-Hour Fuel: *See Fuel Description table.*

10-Hour Fuel: *See Fuel Description table.*

100- Hour Fuel: *See Fuel Description table.*

Access Roads/Routes: Roads that allow entrance into and out of a property. Routes available for fire trucks and equipment to approach and defend areas or structures, including roadways or driveways.

Adaptive Resilience: In an ecological context, adaptive resilience refers to actively or passively supporting species compositions and fuel structures that are better adapted to a warming, drying climate with more wildfire. This is accomplished by recognizing the limited impact of past fuels management, acknowledging the important role of wildfire in maintaining many ecosystems and ecosystem services, and embracing new strategies to help human communities live with fire.

All-Risk Fire Protection: Protection associated with fire response that may include fire protection, Emergency Medical Services (EMS), hazardous materials (HazMat), and rescue.

Aloft Winds: *See Winds Aloft.*

Amador Agreement: A contract that continues CAL FIRE staffing and station coverage through the winter off season.

Anchor Point: The point at which firefighters begin fireline construction, usually blocked from the spreading fire to protect firefighters from harm.

Annexation: The addition of a territory into a jurisdiction, such as a city or special district.

Anthropogenic: An adjective for something that is the result of human activities or the influence of humans on nature.

Apparatus: Fire apparatus includes firefighting vehicles of various types. For the purposes of the CWPP, fire apparatus includes wildland fire engines, rescue vehicles, ladder and aerial trucks, engines, and water tenders.

Aspect: The cardinal direction toward which a slope faces: north, south, east, west, etc. This has an effect on fire behavior and intensity. South-facing slopes dry out faster and have less moisture available for plants. North-facing slopes tend to have denser vegetation because there is more moisture available for plants. While north slopes may not burn as frequently as south slopes, they can burn with more intensity because there can be more fuel.

Assessment: The evaluation and interpretation of measurements, intelligence, and other information to provide a basis for decision-making.

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Assets at Risk: Those things that are important to quality of life that can be threatened with destruction or loss from wildfire. These include homes, businesses, 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.

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

Backburn: *See Blackline.*

Backfire: A technique used in certain locations to direct fire spread against the wind while doing prescribed burns.

Basic Life Support (BLS): The level of medical care used for victims of life-threatening illnesses or injuries until they can be given full medical care at a hospital. It can be provided by trained medical personnel, including emergency medical technicians, paramedics, and by laypersons who have received BLS training. BLS is generally used in the pre-hospital setting, and can be provided without medical equipment.

Basins: *See Watershed.*

Best Management Practices (BMPs): In this context, fire safety activities that effectively reduce wildfire risk while limiting potential negative environmental impacts. BMPs can range from reducing impacts on specific wildlife species, to maintaining or enhancing ecosystem functions and processes.

Benefit Assessment: Benefit Assessments are used by local governments to pay the costs of providing fire suppression, flood control, and other services to a particular community. These charges are based on the concept of assessing only those properties that directly benefit from the services or improvements financed. Because these charges are based on specific benefit, they are not subject to Proposition 13 limitations.

Big Red Truck Program: A community fire-safe education program where representatives from fire departments visit local residences and help landowners identify priority areas for hazard mitigation attention, such as high fuel loads and one-way-in, one-way-out roads. This program can help identify locations that are difficult for a fire truck to access.

Biochar: Organic matter that is burned slowly with limited oxygen until it becomes charcoal, which is then used as a soil amendment; biochar helps retain moisture in the soil, and it replenishes exhausted or marginal soils with organic carbon and fosters the growth of soil microbes essential for nutrient absorption. Biochar is also used as a means of carbon sequestration.

Biodiversity: The abundance and variety of plant, fungi, and animal species found in an ecosystem, including the diversity of genetics, species, and ecological types.

Biomass: The total weight of living matter in a given ecosystem. May also be defined as the total weight of plant debris that can be burned as fuel.

Biomass Utilization/Recovery: The harvest, sale, offer, trade, or utilization of woody biomass to produce bioenergy and the full range of bio-based products including lumber, composites, paper and pulp, furniture, housing components, round wood, ethanol and other liquids, chemicals, and energy feedstocks.

Bioregional/Bioregion: The characteristic features of an area (bioregion) constituting a natural ecological community of contiguous geographic terrain, delineated by natural rather than artificial borders; the region's climate, local aspects of seasons, particular landforms, watersheds, soils, native plants, and animals. Humans are also an integral aspect of a bioregion's life.

Biotic: A term referring to all living things, organisms, or their materials; of life, of living things.

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Blackline: Pre-burning, or backburning, of fuels adjacent to a control line before igniting a prescribed burn (controlled burn).

Blue Dot Program: A community fire-safety program which identifies the location of firefighting water sources by marking them with a blue reflective circle. This program also ensures that tanks and water systems are outfitted with fittings compatible with firefighting equipment and in some cases maps the location of these water sources.

Broadcast Burning: A controlled burn, where the fire is intentionally ignited and allowed to proceed over a designated area within well-defined boundaries for the reduction of fuel hazard, as a resource management treatment, or both.

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

Brushing: Clearing or "cleaning up" brushy vegetation in an area.

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

Bucket Dipping: A method of delivering water for aerial firefighting in which a specialized bucket is suspended on a cable from a helicopter, which dips the bucket into an open water source and carries water to the site of the fire.

Buffer Zone: An area of reduced vegetation that creates a barrier separating wildlands from vulnerable residential or business developments; this barrier is similar to a greenbelt in that it is usually used for another purpose, such as agriculture, recreation, parks, or golf courses.

Building Code: The building or construction code adopted by the local jurisdiction.

Built Environment: Human-made structures as opposed to the natural environment.

Burn: (1) An area burned over by wildland fire. (2) A reference to a working fire. (3) To be on fire. (4) To consume fuel during rapid combustion. (5) A fire in progress or under investigation.

Burning Conditions: The state of the combined factors of the environment—such as winds, temperature, fuel moistures, and humidity—that affect fire behavior in a specified fuel type.

Burning Period: That part of each 24-hour period when fires spread most rapidly, typically from 10:00 a.m. to sundown.

Burn-Out Times: The length of time in which flaming and smoldering phases occur in a given area or for the whole fire.

Call Downs: Community telephone networks, such as phone trees, used to dispatch help and distribute or relay information in emergency situations.

Cambium: The growing layer of a tree, located between the bark and wood of the stem.

Candle or Candling: A single tree or a very small clump of trees burning from the bottom up.

Canopy: The top layer of a forest, tree, or low-growing stand of shrubs, which is formed by leaves, needles, and branches creating a continuous cover.

Canopy Density: A term used to describe the amount of vegetative cover in the top layer of a forest; among other things, the canopy density influences the amount of light penetration, understory composition, surface reflectance, and rainfall interception in a forest landscape.

Catastrophic Fire: Wildland or wildland-urban interface fire with a fast-moving front, extending over a large area (300+ acres) and/or highly destructive to lives, property, or natural resources.

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California Environmental Quality Act (CEQA): (Chapters 1 through 6 of Division 13 of the Public Resources Code). A state statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.

Chaparral: A shrubland or heathland plant community associated with Mediterranean climates consisting primarily of highly flammable, drought-tolerant plants with hard, evergreen leaves. These communities provide habitat for many different species.

Chimney: (1) Steep narrow draw or small canyon that draws fire up in the same manner a flue draws heat from a fireplace. (2) Vertical or nearly vertical passageways for conveying flue gases to the outside.

Chipping Program/Chipping Days: A program where several individuals or communities share the resources associated with processing debris from fuel-reduction activities, including the chipper (the machine that creates the chips), staff, insurance, etc.

Climax: A theoretical, ecological notion intended to describe a relatively stable community that is in equilibrium with environmental conditions, and occurring as the terminal, end-point of succession.

Coarse Woody Material: Large-dimension wood, usually 20 inches in diameter or larger, found on the ground from fallen trees or downed branches.

Collaborative: An open, inclusive process that assumes all participants have valuable knowledge and opinions and all of their comments are heard and considered; collaboration does not mean consensus or ownership.

Combustible: Any material that, in the form in which it is used and under the conditions anticipated, will ignite and burn.

Combustion: The rapid oxidation of fuel in which heat and usually flame are produced. Combustion can be divided into four phases: pre-ignition, flaming, smoldering, and glowing.

Community: A body of people living in one place or district and considered a whole; a neighborhood, subdivision, small town, village or township with boundaries defined by the residents or by regulatory jurisdiction.

Community at Risk: Wildland-urban interface (see definition below) communities that are at high risk of damage from wildfire. (See list in Federal Register, January 4, 2001). The original list, at the request of Congress, included only those communities neighboring federal lands. The list has since been expanded through a collaborative process between the 50 states and five federal agencies.

Community Emergency Response Team (CERT): The CERT program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community.

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

Community Wildfire Protection Plan (CWPP): As defined by the Healthy Forests Restoration Act, a plan for a community at risk to wildfire that fulfills the following criteria:

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- A. The plan was developed within the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the applicable local government, local fire department, and state agency responsible for forest management, in consultation with interested parties and the federal land management agencies managing land in the vicinity of the at-risk community.
- B. The plan identifies and prioritizes areas for hazardous fuels reduction treatments and recommends the types and methods of treatment on federal and non-federal land that will protect one or more at-risk communities and essential infrastructure.
- C. The plan recommends measures to reduce structural ignitability throughout the at-risk community.

Composite Decking: Deck boards manufactured from wood fiber and plastic to form a profile that requires less maintenance and generally has a longer lifespan than natural wood.

Composition: The percentage of each species that together comprise the biota present in a given area.

Condition Class: A landscape designation based on a relative measure describing the degree of departure (low, moderate, or high) from the historical natural fire regime.

Conduction: Heat transfer through a material from a region of higher temperature to a region of lower temperature.

Conflagration: A raging, destructive fire. Often used to connote such a fire with a moving front as distinguished from a firestorm.

Conifer Forest: A stand of trees that are usually evergreen, cone-bearing, and with needle, awl, or scale-like leaves, such as pine, spruce, fir and cedar; often referred to as "softwood."

Contain a Fire: A situation where a fuel break around the fire has been completed. This may include natural barriers and/or manually or mechanically constructed firebreaks.

Containment: The process of completely surrounding a fire with natural or man-made firebreaks.

Contour Falling: Cutting and placing trees along the slope contour. This is a treatment that utilizes positioned logs to help control erosion from water flow. Logs are offset on the slope contour to slow water by creating a meandering travel path.

Control a Fire: To complete a control line around a fire, any spot fires, and any interior islands to be saved; burn out any unburned area adjacent to the fire side of the control lines; and cool down all hotspots that are immediate threats to the control line, until the lines can reasonably be expected to hold.

Controlled Burning (or Prescribed Fire): A vegetation management practice that uses fire to improve habitat and/or reduce hazardous fuels.

Convection: (1) The transfer of heat by the movement of a gas or liquid; convection, conduction, and radiation are the principal means of energy transfer. (2) As specialized in meteorology, atmospheric motions that are predominantly vertical in the absence of wind (which distinguishes this process from advection), resulting in vertical transport and mixing of atmospheric properties.

Convection Column: Heat generated from a fire that rises in a column to varying heights above the flames, depending on the size of the burn.

County Service Area (CSA): Authorized under §25210.1 of the CA Government Code, CSAs are generally single purpose, dependent special districts governed by the County Board of Supervisors. CSAs are means of providing expanded service levels to unincorporated areas where residents are willing to pay for the extra services; services may include extended police protection, fire protection, park and recreation facilities, libraries, low-power television and translation facilities and services. CSAs also may

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provide other basic services such as water and garbage collection if they are not already performed on a countywide basis.

Cover: Any plants or organic matter that hold soil in place and/or grow over and create shade that provides wildlife with an area to reproduce and find protection from predators and weather.

Critical Habitat: A specific geographic area, designated by the US Fish and Wildlife Service, which is essential for the conservation of a threatened or endangered species, and may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

Crown Density: A measurement of the thickness or density of the foliage of the treetops (crown) in a stand.

Crown Fire (Crowning): A fire that spreads through the top of the vegetative canopy; characteristic of hot fires and dry conditions. Crown fires become more or less independent from the surface fire and are generally more complex to control than surface fires.

Crown Scorch: When a fire or a convection column burns a portion or the entire crown of a tree or shrub.

Cultural Burning: A contemporary term used to define the traditional practice of burning for various cultural, ecological, and practical reasons. Burning has historically been, and is still practiced, by many indigenous groups to achieve various outcomes, which can include encouraging the growth of plants used for food, medicine, basket-weaving, and other purposes; driving out pests and disease; managing fuel loads; enhancing forage for game; and facilitating travel and hunting.

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

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

Decision Point: Established prior to tactical engagement and, once reached, forces or "triggers" firefighters to re-evaluate their situational awareness and tactical progress and effectiveness, and to make critical decisions regarding their safety.

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

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

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

Direct Protection Area (DPA): That area for which a particular fire protection organization has the primary responsibility for attacking an uncontrolled fire and for directing the suppression action. Such responsibility may develop through law, contract, or personal interest of the firefighting agent.

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

Disturbance: Various activities that disrupt the normal state of the soil, such as digging, erosion, compaction by heavy equipment, etc.

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Diurnal: Belonging to or active during the day.

Dominant: The species or individual that is the most abundant or influential in an ecosystem. For example, a dominant tree is one that stands taller than the rest and receives full sun, or the shrub species most abundant in the local understory.

Downed Woody Debris: The remains of dead trees, branches, and various woody brush that sit on the ground; generally refers to trunks of downed trees.

Draft: Using suction to draw water from ponds, swimming pools, or other bodies of water. This technique utilizes a partial vacuum formed by a suction pump and atmospheric pressure. The water is then moved where it is needed (for fire protection, for example).

Drafting Site: A location, such as a pond, river, or swimming pool, from which water may be drawn with a suction pump to be used for the purposes of fire protection.

Drip Line: The boundary of a tree's canopy, generally estimated by the extent of the tree's outermost limbs and the circular moisture line formed when rainfall drips from the limb tips.

Duff: The layer of decomposing organic materials located below the litter layer of freshly fallen twigs, needles, and leaves and immediately above the mineral soil.

Drainage(s): *See Watershed.*

Draw-Down Level: The level where the success of extinguishing a fire with initial attack forces is compromised.

Downed Fuel: *See Fuel Description table.*

Eave(s): The projecting overhang(s) at the lower edge of a roof.

Ecosystem: A community of organisms that makes up a specific area. Examples of ecosystem types include a pond or a forest.

Ecosystem Functions: The processes and interactions that occur between organisms and the physical environment.

Ecotone: The area where two or more ecosystems meet. The change in ecosystems may be due to elevation, soil type, disturbance, or other factors.

Egress: A means of exiting an area.

Embers: Burning (or glowing) particles of vegetation from tree branches, parts of shrubs or chaparral, or other combustible materials that ignite and burn during a wildfire and are carried in wind currents to locations in front of the wildfire (also known as firebrands).

Emergency Dispatch: *See Dispatch.*

Endangered Species: A population of organisms classified as such by the state or federal government as being at risk of becoming extinct because it is few in number and/or threatened by changing environmental or predation parameters.

Environmental Compliance: Conforming to environmental laws, regulations, standards, or other requirements imposed by local, state, or federal jurisdictions.

Environmentally Significant Habitat Area (ESHA): An area protected from human activities or development due to the existence of rare or especially valuable and/or vulnerable plants, animals, and habitats.

Erosion: The removal of soil over time by weather, wind and/or water, such as rain or water runoff from roads.

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Escapes: Wildfires that cannot be contained with the first attempts at suppression.

Estuary: A partly enclosed coastal body of water with one or more rivers or streams flowing into it, and with a free connection to the open sea. The inflow of both seawater and freshwater provide high levels of nutrients in both the water column and sediment, making estuaries among the most productive natural habitats in the world.

Evacuation: An organized, phased, and supervised withdrawal, dispersal, or removal of citizens from dangerous or potentially dangerous areas, and their reception and care in safe areas.

Evacuation Route: A path or road that has been preplanned for getting out of harm's way in a fire situation. The route should be well understood in advance of crisis by all participants. If there is any unclear direction, the path should be marked.

Evacuation Site: A place where the public can go in cases of emergency evacuation; oftentimes, temporary shelters are established, and food, water, and medical supplies are distributed at these locations.

Evacuation Shelter: An Evacuation Shelter serves the general population in an existing facility (or facilities), such as a school, community center, convention center, or church that the Authority Having Jurisdiction has temporarily converted for use as a shelter for disaster survivors.

Exotic Species: Plant or animal species that have been introduced into an area where they do not occur naturally; non-native species.

Exposure: (1) Property that may be endangered by a fire burning in another home or by a wildfire; (2) Direction in which a slope faces, usually with respect to cardinal directions; (3) The general surroundings of a site with special reference to its openness to winds.

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

Exurban: A region lying beyond the suburbs of a city.

Feather-Out Treatment: When reducing hazardous fuels, thinning heavily near the structure or area in need of protection and then thinning less as you move away from it.

Federal Responsibility Area (FRA): Areas within which a federal government agency has the financial responsibility of preventing and suppressing fires. These lands are generally protected by the Department of Agriculture: Forest Service, or the Department of the Interior: Bureau of Land Management, National Park Service, US Fish and Wildlife Service, or the Bureau of Indian Affairs. *See also State Responsibility Area and Local Responsibility Area.*

Fee: Also termed "exaction." A direct charge or dedication collected on a one-time basis as a condition of an approval being granted by the local government. The purpose of the fee or exaction must directly relate to the need created by the development. In addition, its amount must be proportional to the cost of improvement. Includes development impact fees, permit and application fees which cover the cost of processing permits and development plans, and regulatory fees.

Felling: The process of downing individual trees; in hand felling, an axe, saw, or chainsaw is used to drop a tree, followed up by limbing, hewing, and cutting the tree into logs.

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

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Fire: Rapid oxidation, usually with the evolution of heat and light. Requires interaction of heat, fuel, and oxygen.

Fire-Adapted Ecosystem: Where plant species have, over time, assumed certain traits or characteristics that enable them to respond favorably to reoccurring fire events specific to the part of the ecosystem in which they inhabit, allowing them to survive and/or regenerate.

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

Firebrand: A piece of wood or coal that is hot and glowing from fire activity, often dispersed by wind ahead of a fire. Also called embers.

Firebreak: A strip of land that has been cleared of vegetation to help slow or stop the spread of wildfire. It may be a road, trail, or path cleared of burnable material; a stream may also serve as a firebreak. See *Fuelbreak for the difference between the two terms.*

Fire Company: See *Volunteer Fire Company.*

Fire Danger Operating Plan: See *Unit Fire Weather Plan.*

Fire Department: See *Volunteer Fire Department.*

Fire-Dependent: Plants, vegetation communities, and specific habitat types that have evolved to rely on fire in order to exist and/or thrive.

Fire Ecology: The study of fire and its relationship to the physical, chemical, and biological components of an ecosystem.

Fire-Evolved Landscapes: See *Fire-Adapted Ecosystem.*

Fire Flow: The flow rate of a water supply expressed in gallons per minute (gpm), measured at 20 pounds per square inch (psi) residual pressure, that is available for firefighting.

Fire-Flow Requirement: A measure comparing the amount of heat a fire is capable of generating (based on building construction and occupancy) versus the amount of water required for cooling the fuels below their ignition temperature.

Fire Frequency: General term referring to the recurrence of fire in a given area over time.

Fire Front: The part of a fire within which continuous flaming combustion is taking place. Unless otherwise specified, the fire front is assumed to be the leading edge of the fire perimeter. In ground fires, the fire front may be mainly smoldering combustion.

Fire Hazard: A fuel complex, defined by volume, type, condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control.

Fire Hazard Mitigation: Various methods by which existing fire hazard can be reduced in a certain area, such as fuel breaks, non-combustible roofing, spark arrestors, etc.

Fire Hazard Severity Zone (FHSZ): Any geographical area designated pursuant to California Public Resource Code Section 4201 to contain the type and condition of vegetation, topography, weather, and structure density to increase the possibility of conflagration fires. Areas are zoned as Very High, High, or Moderate by evaluating applicable risks and hazard.

Fire History: The known frequency and intensity of fires that have occurred in a given area over a period of time.

Fire Intensity: Amount of heat released by a fire in an area in any given time period. Fire intensity is usually related to the flame lengths of a fire.

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Fire Interval: Number of years between two successive fire events for a given area. Also referred to as fire-free interval or fire-return interval.

Fire Ladders: *See Fuel Ladders.*

Fireline: *See Firebreak.*

Fire Management: Activities required for the protection of burnable wildland assets from fire, and/or the use of prescribed fire to meet land management objectives.

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

Fire Occurrence Interval: *See Fire Interval.*

Fire Perimeter: The entire outer edge or boundary of a fire. Note that while acreage of a fire is determined or estimated by the fire's perimeter, it is possible that some substantially smaller acreage may have actually been burned within that perimeter.

Fire Planning: Systematic technological and administrative management process of design, organization, facilities, and procedures, including fire use, to protect wildland from fire.

Fire Prevention: Activities such as public education, community outreach, law enforcement, and reduction of fuel hazards, intended to reduce wildland fire and the risks it poses to life and property.

Fire Protection: Firefighting tactics used to suppress wildfires. Firefighting efforts in wildland areas require different techniques, equipment, and training from the more common structural firefighting tactics used in populated areas.

Fire Protection Districts (FPD): Formal jurisdictional areas with some type of tax support authorized under §13800 et seq. of the California Health and Safety Code to provide fire protection and emergency medical services.

Fire-Protection Water: Water stored, designated, or used specifically for the purposes of fire suppression and protecting people, structures, and natural resources from fire damage.

Fire Regime: Description of the patterns of fire occurrences, frequency, size, severity, and sometimes vegetation and fire effects, in a given area or ecosystem.

Fire Resilient/Resiliency: The ability of an ecosystem to maintain its native biodiversity, ecological integrity, and natural recovery processes following a wildfire disturbance.

Fire Resistant Building: Construction designed to increase protection against fire.

Fire Resistive: Refers to properties or designs to resist the effects of any fire to which a material or structure can be expected to be subjected.

Fire Retardant: Any substance except plain water that, by chemical or physical action, reduces flammability of fuels or slows their rate of combustion.

Fire-Return Interval: *See Fire Interval.*

Fire Risk: The combination of vegetation, topography, weather, ignition sources, and fire history that leads to fire and/or ignition potential and danger in a given area.

Fire Safe: For the purposes of this plan, this term is defined as: Action(s) that moderate the severity of a fire hazard to a level of "acceptable risk," as discussed in the Safety Element of the County General Plan. In a broader context, this term describes the state of lessened severity or action(s) that moderate the severity of a fire hazard or risk, while protecting structures and surrounding property from fire, whether fire is inside the structure or is threatening the structure from exterior sources.

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Fire Safe Council: 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.

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

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

Fire Sensitive: A species of tree or other plant that is relatively more susceptible to fire damage. Sensitivity may be due to thin bark or easily ignitable foliage.

Fire Service: Organized fire protection service; its members, individually and collectively; allied organizations assisting protection agencies.

Fire Severity: Degree to which a site has been altered or disrupted by fire; loosely, a product of fire intensity and residence time.

Fire Spread: The movement of fire from one place to another.

Fire Storm: Violent convection caused by a large continuous area of intense fire. Often characterized by destructively violent surface indrafts, near and beyond the perimeter, and sometimes by tornado-like whirls. Also known as *blowup* or *extreme fire behavior*.

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.

Fire Weather: Weather conditions that influence fire ignition, behavior, and suppression, such as high temperature, low precipitation/humidity, and high winds.

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.

Firewise® Construction: The use of materials and systems in the design and construction of a home to safeguard against the ignition from a wildfire.

Firewise® Landscaping: Vegetative management that removes flammable fuels from around a home to reduce ignition exposure from radiant heat. The flammable fuels may be replaced with green lawn, gardens, certain individually spaced green, ornamental shrubs, individually spaced and pruned trees, decorative stone, or other non-flammable or flame-resistant materials.

Flame Height: The average maximum vertical extension of flames at the leading edge of the fire front. Occasional flashes that rise above the general level of flames are not considered. If flames are tilted due to wind or slope, this distance is less than the flame length.

Flame Length: The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface); an indicator of fire intensity.

Flame Resistant: A material or surface that does not propagate flame once the external source of flame is removed.

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Flaming Front: The zone of a moving fire where the combustion is primarily flaming. Behind this flaming zone combustion is primarily glowing. Light fuels typically have a shallow flaming front, whereas heavy fuels have a deeper front. Also called *fire front*.

Flammability: The degree to which a substance is likely to catch fire, be easily ignited, burn quickly, and/or have a fast rate of spreading flames.

Flash/Flashy Fuels: Fine fuels, such as grass, leaves, pine needles, ferns, mosses, and some kinds of slash, which ignite readily and are consumed rapidly by fire when dry.

FLASH (Fire-Adapted Landscapes and Safe Homes) Program: A rebate program that reimburses property owners for hazardous vegetation management completed around their homes, along access routes, and in particularly hazardous areas.

Foehn Events/Winds: A wind that blows warm, dry, and generally strong, creating extremely dry fuel and dangerous fire potential.

Forest Stand Enhancement: A combination of silvicultural thinning practices and other forest restoration activities (such as controlled burning) that aim to increase the health, resiliency, and vigor of tree communities within a forest ecosystem.

Free Burning: The condition of a fire or part of a fire that has not been slowed by natural barriers or by control measures.

Fuel(s): Combustible structures and vegetative materials. Includes dead plants, parts of living plants, duff, and other accumulations of flammable vegetation, such as grass, leaves, ground litter, shrubs, and trees that feed a fire. *See Surface Fuels*.

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

Fuel-Bed Depth: Average distance from the bottom of the litter layer to the top of the layer of fuel, usually the surface fuel.

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

Fuel Characteristics: Factors that make up fuels such as compactness, loading, horizontal continuity, vertical arrangement, chemical content, size and shape, and moisture content.

Fuel Class: Part of the National Fire Danger Rating System (NFDRS). Group of fuels possessing common characteristics. Dead fuels are grouped according to 1-, 10-, 100-, and 1000-hour time lag. Living fuels are grouped as herbaceous (annual or perennial) or woody. *See Fuel Description*.

Fuel Continuity: The amount of continuous fuel materials in a fire's path that allows the fire to extend vertically toward the crowns of trees or horizontally into nearby fuels.

Fuel Complex: The volume, type, condition, arrangement, and location of fuels.

Fuel Compositions: The makeup of combustible materials, such as grass, leaves, plants, shrubs and trees, in a collective area; the mixture of these materials, how they interact, and their respective percentages within the whole influence the area's flammability.

Fuel Description: Designation of fuel materials into categories based on size and drying times. Fuel descriptions in use are described below:

<i>Description</i>	<i>Material</i>	<i>Diameter</i>
Fine	Needles, leaves, etc.	
1 Hour	Woody material, generally drying out within 1 hour.	<1/4"
10 Hour	Woody material, generally drying out within 10 hours.	1/4"-1"

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100 Hour	Woody material, generally drying out within 4 days.	1-3"
1000 Hour	Woody material, generally drying out within 40 days.	3"+
Downed	Fuel on the ground.	
Heavy	Large logs and snags.	

Fuel Ladder: A ladder of vegetation from the ground into the canopy (or upper branches) of the trees that allows fire to climb upward.

Fuel Levels: Amounts of burnable materials, including but not limited to, living or dead vegetation, structures, and chemicals that feed a fire.

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

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

Fuel Management: Act or practice of controlling flammability and reducing resistance to control of wildland fuels through mechanical, chemical, biological, or manual means, or by fire in support of land management objectives.

Fuel Model: (1) A standardized description of fuels available to a fire, based on the amount, distribution and continuity of vegetation and wood. (2) Simulated fuel complex (or combination of vegetation types) for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified.

Fuel Modification: Manipulation or removal of fuels to reduce likelihood of ignition and/or lessen potential damage and resistance to control (e.g. lopping, chipping, crushing, piling, and burning). Also known as *Fuel Treatment*.

Fuel Moisture (Fuel-Moisture Content): The amount of water in a material divided by its oven-dry mass, expressed as a percentage. Moisture content is a key factor in determining how a fuel will burn, along with such factors as density and surface-to-volume ratio.

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

Fuel Treatment: *See Fuel Modification.*

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

Geographic Information Systems (GIS): A technology used for digitally viewing, storing, analyzing and manipulating geographical information. Layers of information can create a better understanding of how data is interrelated. Useful for landscape-level planning.

Girdling: A technique used to kill trees by cutting through the cambium and sapwood layer around the circumference of the tree. The flow of water and nutrients is broken and the tree eventually dies.

Global Positioning System (GPS): A system of navigational satellites operated by the US Department of Defense and available for civilian use. The system can track objects anywhere in the world with a high degree of accuracy.

Goodwill Service: Fire protection services provided by a fire district to a location that is outside of the district's jurisdictional boundaries and for which no compensation is provided, either through direct payment nor a tax base.

Greenbelt: Largely undeveloped, natural, or agricultural land surrounding or neighboring developed areas that is often protected from development and construction for environmental and and is usually used for agriculture, recreation, parks, or golf courses; can act as a fuelbreak.

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Ground Disturbing: An action that interrupts the natural condition of the ground, such as digging and compaction from heavy equipment.

Ground Fire: Fire that consumes organic material beneath surface ground litter, such as a peat fire.

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

Habitat: An ecological or environmental area that is inhabited by a particular species of animal, plant, or other type of organism.

Hand Crews: Diverse teams of career and temporary wildland firefighters.

Hardened Homes: Improving a building's resistance to fire, such as updating a roof with noncombustible roofing material; the goal is to increase the structure's ability to survive a fire.

Hazard: Any real or potential condition that can cause injury, illness, or death of personnel, or damage to or loss of equipment or property.

Hazard Assessment: Assessment of fuel hazards to determine fire risks; assessing the impact of each hazard in terms of potential loss, cost, or strategic degradation based on probability and severity.

Hazard Reduction/Mitigation: Any treatment of living or dead fuels that reduces the threat of ignition and fire intensity or rate of spread.

Hazardous Fuels/Fuel Loads: Accumulations of burnable materials, including but not limited to, living or dead vegetation, structures, and chemicals that can feed a fire.

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

Hazardous Materials (HazMat): Materials (such as those that are flammable or poisonous) that present a danger to life and the environment if not managed properly or released without precaution.

Hazardous Vegetation Management: Any treatment that reduces the amount of hazardous fuels.

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

Heart-Rot Decay: Fungus-caused decay of a tree's heartwood (interior wood). Trees are infected when fungal spores enter tree wounds or dead branch stubs and encounter conditions favorable for spore germination.

Heat Output: The total amount of heat that a fire releases in a specific area during the passing of the flaming front.

Heat Transfer: Process by which heat is imparted from one body to another, through conduction, convection, and radiation.

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

Helibase: The main location within a general incident area for parking, fueling, maintaining, and loading helicopters. The helibase is usually at or near the incident base.

Herbaceous Fuels: Non-woody plants that die back in the winter.

High Pruning: Cutting of both dead and live branches 10 to 15 feet up from the base of the tree. This is done on larger trees to separate the fuel continuity from the ground to the crown of a tree.

Historic Natural Condition: The climax environmental condition of a property/area that occurred in the past, before fire suppression and industrial activities. Old photos, elders' oral history, settlers' journals,

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and clues on the property (such as old stumps) may be helpful in identifying the historical natural condition of an area.

Home Assessment: Evaluation of a dwelling and its immediate surroundings to determine its potential to escape damage by an approaching wildland fire. Includes the fuel and vegetation in the yard and adjacent to the home, roof environment, decking and siding materials, prevailing winds, topography, fire history, etc., with the intent of mitigating fire hazards and risks.

Home Density: The density of homes is determined by lot size, home arrangement, and number of homes per lot. This density affects the overall exposure, spread and intensity of wildfire.

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.

Home-to-Home Ignition: The event of combustion initiation that creates fire as embers pass from one home to another. The action of one home igniting adjacent homes.

Humboldt County Fire Chiefs Association (HCFCFA): An independent organization comprised of fire chiefs from each of the County's fire departments. The HCFCFA serves as a sounding board for local fire service issues and contains several subgroups that carry out specific functions, such as fire prevention, training, and arson investigation.

Humboldt County Operational Area Hazard Mitigation Plan (HMP): A multi-jurisdictional, multi-hazard local hazard mitigation plan. The plan includes a risk assessment and recommended mitigation actions to reduce vulnerability to damage from natural hazards. It is set up in two volumes so that elements that are jurisdiction-specific can easily be distinguished from those that apply to the whole planning area.

Hydrology: The science that describes the waters of the Earth, including movement, distribution, seasonal patterns, and conservation.

Hydrophobic Soils: Literally meaning "water-fearing;" refers to soil that will no longer absorb water.

Ignitability: The susceptibility to ignite or catch on fire.

Ignition: The event of combustion initiation that creates fire.

Ignition Factor: The conditions, subsequent actions, and sequence of events that bring a competent ignition source into contact with the materials first ignited. Also referred to as the *cause of fire*.

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

Ignition Potential: Chance that a firebrand will cause an ignition when it lands on receptive fuels.

Ignition Resistant: (1) Possessing properties that serve to slow or prevent possible ignition in order to slow the rate of fire spread. Can apply to vegetation or structural components. (2) The California Building Code defines ignition resistant in a specific way that is based on meeting a minimum flame-spread rating after the material has been subjected to a specified weathering procedure. A material that is ignition resistant has passed this test. The California Building Code is based on the International Code Council requirement for exterior fire-retardant wood (lumber and plywood).

Ignition Sources: Combustible elements that create the potential for fire starts, such as vehicle sparks near roadside fuels or downed power lines.

Immediate Threat Evacuation: An evacuation announcement made during an immediate or immanent fire situation and residents are in danger of life-threatening events.

Impact Fees: Fees (often called "developer fees" or "development impact fees") that are levied on new development to cover the cost of infrastructure or facilities necessitated by that development.

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Impingement: This occurs when flames from a fire touch an object (e.g. a plant, deck, or building).

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

Incident Commander: The person within the Incident Command System who is responsible for overall management of the incident and reports to the Agency Administrator for the agency having incident jurisdiction.

Incident Command System (ICS): A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.

Indirect Attack: A method of fire suppression in which suppression activities takes place some distance from the fire perimeter, and often take advantage of fire barriers.

Ingress-Egress: Roads and other avenues to enter and leave a property. Also refers to the act or right to come in or go through, as in entering a property (ingress), and the act or right to depart or go out, as in exiting a property (egress).

Infrastructure: Roadways, utilities, and other basic elements serving developed areas.

Ingrowth: The trees that grow large enough in a season to be considered a sapling or pole timber.

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

Initial Entry: The first stage of vegetation and tree thinning performed in a fuel-reduction treatment.

Initial Site Assessment: The preliminary steps of an evaluation of a site to determine fuel hazards and health conditions. Information is gathered to help plan a fuel hazard-reduction treatment.

Interface Community: (Defined in the Federal Register, January 4, 2001) The Interface Community exists where structures directly abut wildland fuels. There is a clear line of demarcation between residential, business, and public structures and wildland fuels. Wildland fuels do not generally continue into the developed area. The development density for an interface community is usually 3 or more structures per acre, with shared municipal services. Fire protection is generally provided by a local government fire department with the responsibility to protect the structure from both an interior fire and an advancing wildland fire. An alternative definition of the interface community emphasizes a population density of 250 or more people per square mile.

Interface Fuels: Refers to anything related to human development that can burn. Interface fuels are grouped into three categories: (1) urban structures; (2) landscaping; (3) urban "debris." Also known as *urban fuels*.

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

Insurance Services Office (ISO): Private organization that formulates fire safety ratings based on fire threat and responsible agency's ability to respond to the threat. ISO ratings from one (excellent) to ten (no fire protection). Insurance companies have used ISO ratings to set insurance premiums. ISO may

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establish multiple ratings within a community, such as a rating of 5 in the hydrated areas and 8 in the non-hydrated areas.

Invasive Plants/Weeds/Species: Undesirable plants that are not native and have been introduced to an area by humans. These plants generally have no natural enemies and are able to spread rapidly throughout the new location. Some examples include Himalayan blackberries, English ivy, arundo, tamarisk, and Scotch broom.

Jackpots: Generally, small pockets of dense fuels, which could allow a fire to flare up and burn more intensely.

Jurisdictional Agency: The agency having land and resource management responsibility for a specific geographical or functional area as provided by federal, state, or local law.

Jurisdictional Area/Boundaries: *See Response Area.*

Key Ecosystem Component: An important piece of an ecosystem such as soil, native species, or mature/rare habitats, which are essential to the stability of that ecosystem.

Knox Box: A small safe typically mounted on a wall or post that holds the keys to a building or gate for firefighter or EMT use in emergency situations.

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

Local Agency Formation Commission (LAFCO): Created by the State Legislature in 1963 to discourage urban sprawl and encourage the orderly formation and development of local government agencies. LAFCOs review proposals for the formation of new local governmental agencies and for changes in the organization of existing agencies. There is a LAFCO in each county in California except San Francisco. LAFCO is a seven-member Commission comprised of two city council members (chosen by the Council of Mayors), two county supervisor members (chosen by the Board of Supervisors), two special district members (chosen by Independent Special District election), and one public member (chosen by the members of the Commission).

Landscape: The visible features of an area of land, including topography, water bodies, vegetation, human elements, such as land uses and structures, and transitory elements such as lighting and weather conditions.

Land Use Plan(ning): A set of decisions that establish management direction for land within an administrative area; an assimilation of land-use-plan-level decisions developed through the planning process regardless of the scale at which the decisions were developed.

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

Late Seral/Succession Forest: A forest that has evolved, through successional processes, near to the end of the successional line, or climax forest. Only through disturbance (fire or clear-cutting, for example) will the forest return to an earlier seral (successional) stage.

Leading Edge of a Fire: The foremost part of a fire that is guiding the fire in the direction of travel.

Leaf Drop: A normal condition of growth for many plants, whose lower leaves gradually die and fall off.

Leave-Trees/Patches: Swaths or clusters of trees or other vegetation that have been selected to remain standing in an area of fuel treatment.

Level-of-Service (LOS) Standard: Quantifiable measures against which services being delivered by a service provider can be compared. Standards based upon recognized and accepted professional and

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county standards, while reflecting the local situation within which services are being delivered. Level-of-service standards for fire protection may include response times, personnel per given population, and emergency water supply. LOS standards can be used to evaluate the way in which fire protection services are being delivered, for use in countywide fire-planning efforts.

Light Fuels: *See Fine Fuels.*

Lightning Activity Level (LAL): A number, on a scale of 1 to 6, that reflects the frequency and character of cloud-to-ground lightning. The scale is exponential, based on powers of 2 (e.g., LAL 3 indicates twice the lightning of LAL 2).

Limbing/Limb Up: Removing selected branches of a standing or fallen tree or shrub.

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

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

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

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

Local Agency Boundary: A specific land area that has been approved by LAFCO, within which a local agency (either a special district or a city) is obligated to provide services, and from which it generates tax revenue.

Manual Treatment/Fuel Reduction: Methods of modifying wildfire fuel complexes without the use of machinery; such treatments may include chainsaws, fire-use applications, chemical treatments, and grazing.

Mast: Nuts or fruits of trees and shrubs, such as acorns, walnuts, or berries that collect on the forest floor and are a food source for animals.

Mastication: The process of “chewing up” or grinding vegetative fuels with machinery to reduce their hazard as a fuel source.

Mechanical Treatments/Fuel Reduction: Methods of modifying fuel complexes with machinery; these treatments include chipping, piling, felling and piling, crushing, and mastication.

Merchantable Timber: Timber that is viable for sale under the current economic situation. This is generally determined by the part of the stem (trunk) that is suitable for timber products.

Mesic: The condition of being normally moist, as in vegetation or ecosystems.

Mitigation: Those activities implemented prior to, during, or after an incident which are designed to reduce or eliminate risks to persons or property that lessen the actual or potential effects or consequences of an incident. Mitigation measures can include efforts to educate governments, businesses, and the general public on measures they can take to reduce loss and injury and area often informed by lessons learned from prior incidents.

Moisture Content/Levels: The dry weight of a material, such as wood or soil, compared to the wet weight of the same material. It is not unusual for live material to have moisture content greater than 100% because it could contain more water than solid material by weight.

Monitor: To watch, keep track of, or check regularly for changes --in this case, to the environment.

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Montane: A mountainous region of moist, cool, upland slopes that occurs below the treeline and is predominantly composed of evergreen trees. It is also described as the lower vegetation belt on mountains that are composed of montane plants and animals.

Mulch: A material (such as decaying leaves, bark, or compost) spread around or over a plant to keep invasive weeds down, to reduce moisture loss and/or to enrich and insulate the soil; as a verb, the application of such material.

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

National Wildland Fire Management Strategy: A collaboratively developed strategic document intended to provide a framework to coordinate multiple agency and homeowner efforts toward three goals: 1) Resilient Landscapes; 2) Fire Adapted Communities; and 3) Safe and Effective Wildfire Response.

National Environmental Policy Act (NEPA): The basic national law for protection of the environment, passed by Congress in 1969. NEPA sets policy and procedures for environmental protection, and authorizes Environmental Impact Statements and Environmental Assessments to be used as analytical tools to help federal managers make decisions on management of federal lands.

National Fire Danger Rating System (NFDRS): A uniform fire danger rating system that focuses on the environmental factors that control the moisture content of fuels.

National Fire Plan: “A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan.” Prepared by the Secretaries of the Interior and Agriculture and Western Governors. May 2002.

National Fire Incident Reporting System (NFIRS): A database of fire incident reports compiled at the local fire department level. NFIRS was an outgrowth of the 1974 National Fire Prevention and Control Act, Public Law 93–498. The U.S. Fire Administration (USFA), an entity of the Department of Homeland Security, developed NFIRS as a means of assessing the nature and scope of the fire problem in the United States.

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

National Wildfire Coordinating Group (NWCG): An organization formed under the direction of the Secretaries of Agriculture and the Interior that includes representatives of the U.S. Forest Service, Bureau of Land Management, Bureau of Indian Affairs, National Park Service, U.S. Fish and Wildlife Service and National Association of State Foresters. The group’s purpose is to facilitate coordination and effectiveness of wildland fire activities and provide a forum to discuss, recommend action, or resolve issues and problems of substantive nature. NWCG is the certifying body for all courses in the National Fire Curriculum.

Natural Barriers: Naturally existing breaks in fuel continuity within a landscape, which can help block the spread of fire in the direction of their location; natural barriers include: lakes, streams, ponds, roads, cultivated fields, and pastures.

Natural Disturbance: Disruptions, like fire and floods, which occur in the environment without the intervention of humans.

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. Five natural (historical) fire regimes are classified based on average number of years

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between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant overstory vegetation.

Natural Resources: A necessary or beneficial material source (such as timber, minerals, water, and grazing area) occurring in nature that has a value in human commerce.

Niche: A species or population's role and/or function within an ecosystem. Includes resource use, interactions, etc.

Nurse Log: A tree that has fallen, died, and started to decompose. The decaying log is rich in moisture and nutrients and provides a germination place for plants, as well as habitat for insects.

Open Burning: The use of outdoor fires for disposing of natural vegetation around homes.

Operational Area: An intermediate level of the state emergency services organization, consisting of a county and all political subdivisions within the county area.

One-Way-In, One-Way-Out Roads: Non-continuous and non-connecting roads that constitute the sole ingress/egress route into/away from a particular location; oftentimes, these roads lead to residences or small neighborhoods, and can be located in remote or semi-remote areas. These roads can become hazardous in emergency incidences when simultaneous home evacuations and emergency response are necessary.

Organic Matter: The fraction of soil that includes plant and animal residues at various stages of decomposition, cells and tissues of soil organisms, and substances synthesized by the soil population.

Overstory: The topmost trees in a forest that compose the upper canopy layer, compared to the understory, which is the lower woody or herbaceous layer underneath the treetops.

Patch Burning: (1) A method of prescribed burning where patches of trees and vegetation are retained in a given area while other parts of the treatment area are burned. (2) A range management technique used to reduce grazing pressure where sections of the range are burned on a rotating basis and livestock are shifted onto the most recently burned unit.

Pathogens: Insects or disease that can affect a site or individual plant.

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

Perennial: (1) Plants that live for more than two growing seasons. For fire danger rating purposes, biennial plants (alive for two growing seasons) are classed with perennials. (2) In reference to water, a stream that flows year-round during a typical year.

Permeability: In this case, a condition whereby fire can spread through a community with minimal negative impact.

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

- Structure PPE, or Bunker Gear, includes NFPA/OSHA compliant helmet, goggles, hood, coat, pants, boots, gloves, pocket tools, and Self Contained Breathing Apparatus.
- Wildland PPE includes 8-inch laced leather boots with lug soles, fire shelter, hardhat with chinstrap, goggles, earplugs, aramid (flame-resistant) shirts and trousers, leather gloves, and individual first aid kits.

Photo Point Monitoring: Utilizing a specific, identifiable point on a property from where photos are taken over time to compare and monitor changes.

Pile Burning: A method used to reduce fuel wherein vegetation is cut, stacked, and then burned.

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Planning Unit (Planning Compartment): Geographic subdivisions of the CWPP. The boundaries of the Planning Units were developed using existing Humboldt County planning tools, taking into consideration watershed boundaries, established community planning areas, fire department/district protection boundaries, tribal land boundaries, and state and federal agency administrative boundaries.

Plant Community: A group of plants that are interrelated and occupy a given area.

Plant Succession: In ecology, progressive change of the plant and animal life of an area in response to environmental conditions.

Point of Attack: That part of the fire on which work is started when suppression crews arrive.

Pole Sized: Generally younger trees with a trunk between four and eight inches.

Post-Fire Effects: Lingering or residual impacts following a wildfire fire that create hazardous conditions for people and the environment. These may include soil erosion and slope instability, which can cause sedimentation in watersheds, negatively impact drinking water, and create flood risks; invasive species may also take hold and alter natural vegetation compositions and create additional fire hazards.

Pre-Fire Mitigation: Prior to fire ignition, a systematic application of risk assessment, safety, prevention, and hazard reduction techniques to reduce wildland fires, damages, and cost of suppression.

Pre-Fire Plan: A plan to address fire issues before ignition, including fire prevention actions such as hazardous fuel reduction. Occasionally, these plans may extend into the suppression phase of fire protection and include such items as evacuation routes, fuelbreaks, and firefighting strategies.

Preparedness: (1) Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination. (2) Mental readiness to recognize changes in fire danger and act promptly when action is appropriate. (3) The range of deliberate, critical tasks and activities necessary to build, sustain, and improve the capability to protect against, respond to, and recover from wildfire.

Prescribed Fire (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 desired intensity, and able to achieve its stated objectives. A written, approved burn plan must exist, and environmental requirements (where applicable) must be met, prior to ignition.

Precautionary Evacuation: An evacuation of the public away from an area which seems to be in the path of an oncoming, uncontained wildfire. Precautionary evacuations are especially likely in areas with limited ingress and egress in order to ensure that residents get out while they can and clear the road for emergency response vehicles.

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

Productive: A term used for land or forests that are growing efficiently and in a vigorous manner.

Protection Resources: Assets that are available to support fire protection efforts and public safety; protection resources include firefighting facilities, personnel and equipment, fire protection water storage and areas from which water may be drafted, open areas that can act as fuelbreaks or evacuation safe zones, and access roads.

Pruning: The act of cutting back the unwanted portions of a plant, or cutting for the purpose of enhancing growth.

Pump Chance: An area where water can be pumped from a pond or creek for fire-suppression purposes.

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Radiant Heat: Heat energy carried by electromagnetic waves longer than light waves and shorter than radio waves. Radiant heat (electromagnetic radiation) increases the sensible temperature of any substance capable of absorbing the radiation, especially solid and opaque objects.

Radiation: Transfer of heat in straight lines through a gas or vacuum other than by heating of the intervening space.

Rate of Spread: The speed of an advancing fire. May be measured by the growth in area or by the speed of the leading edge of the fire.

Regeneration: The renewal of trees or forests by planting seedlings, or direct seeding by humans, wind, birds or animals after large disturbances like fire. It also refers to young trees that were naturally seeded or planted.

Registered Professional Forester (RPF): A person licensed in California to manage state or private forestlands and advise landowners on management of their forests. For more information, see http://bofdata.fire.ca.gov/professional_foresters_registration.

Relative Humidity: A measure of moisture in the air. If the humidity is 100%, the air is completely saturated with moisture. If the humidity is less than 20%, the air is very dry. When the air is dry, it absorbs moisture from the fuels in the forest, making them more flammable.

Release: Using thinning techniques to free a tree or group of trees from competition for nutrients, sunlight, and water by removing the competing trees and shrubs.

Residence Time: Time, in seconds, require for the flaming front of a fire to pass a stationary point at the surface of the fuel. The total length of time that one flaming front of the fire occupies one point.

Resilient/Resiliency: The ability of an ecosystem or community to return to its functionally balanced state after a disturbance, such as fire.

Resistance to Control: The relative difficulty of constructing and holding a control line as affected by resistance to line construction and by fire behavior. Also known as difficulty of control.

Response: (1) Movement of an individual firefighting resource from its assigned standby location to another location, or to an incident in reaction to dispatch orders, or to a reported alarm. (2) Activities that address the short-term, direct effect of an incident, including immediate actions to save lives, protect property, and meet basic human needs. Also includes the execution of emergency operations plans as well as mitigation activities designed to limit the loss of life, personal injury, property damage, and other unfavorable outcomes.

Retention Patch: A clump of vegetation that has been isolated from contiguous fuels and retained for wildlife habitat and/or native plant species diversity.

Resort Improvement Districts (RID): Districts authorized under §13000 of the Public Resources Code to provide a broad range of services (similar to CSDs), including fire protection, in unincorporated areas that are occupied seasonally for recreation and/or resort purposes.

Resource Management Plan (RMP): A document prepared by field office staff with public participation and approved by field office managers that provides general guidance and direction for land management activities at a field office. The RMP identifies the need for fire in a particular area and for a specific benefit.

Response Area: The CWPP defines two types of response areas, District Response Areas and Non-District Response Areas.

- District Response Areas are areas outside the local agency boundaries of the special district or city within which the fire department associated with local agency provides fire protection.

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- **Non-District Response Areas** are areas within which a volunteer fire department or company provides fire protection. The primary difference between a response area (district or non-district) and a local agency boundary is that there is no legislated obligation for a fire organization to provide structural fire protection within a response area.

Response Time: For the purposes of the CWPP, response time is the time that elapses between the moment a 911 call is placed to the emergency dispatch center and the time that a first-responder arrives on scene. Response time includes dispatch time, turnout time (the time it takes firefighters to travel to the fire station, don their gear, and prepare the apparatus), and travel time.

Restoration Activity/Efforts: Activities designed to help repair damage or disturbance caused by wildfire, or the wildfire suppression activity, that are intended to restore the landscape back to its original state.

Riparian: A strip of land along the bank of a natural freshwater stream, river, creek, or lake that provides vast diversity and productivity of plants and animals.

Risk: (1) The chance of a fire starting as determined by the presence and activity of causative agents; (2) A chance of suffering harm or loss; (3) A number related to the potential of firebrands to which a given area will be exposed during a rating day.

Risk Assessment: The process of identifying and evaluating assets or values at risk.

Risk Factors: Factors can be either natural (i.e. wind, temperature) or human-associated. Human-associated risk factors are those we have control of, such as building materials (e.g. roofs, chimneys, siding, windows, etc.), design, and location of the home, that can influence whether a home or structure can easily ignite, and if so, whether fire can be sustained to the extent that the structure would be lost.

Roof Assembly: The component(s) above the roof structural framing including the roof deck, vapor barrier, insulation, roof cover, coatings, toppings, or any combination thereof.

Roof Classification: Roof classification is determined by tests that expose the top surface of roof decks to both gas flames and burning wood brands. Tests are arranged to provide three levels of severity by adjusting the temperature and duration of the gas flame and the sizes of the burning wood brands. Successful coverings are rated Class A, Class B, or Class C, with Class A withstanding the most severe exposure, Class B withstanding intermediate exposure, and Class C withstanding the least severe exposure.

Roof Covering: The membrane, which may also be the roof assembly, that resists fire and provides weather protection to the building against water infiltration, wind, and impact.

Safety Zone: An area cleared of flammable materials used by firefighters for escape in the event the line is outflanked or in case a spot fire causes fuels outside the line to render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand, allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuel breaks; they are greatly enlarged areas which can be used with relative safety by firefighters and their equipment in the event of a fire blowup in the vicinity.

Salvage Logging: Logging and removing merchantable trees after a fire to capture economic potential. This is a very controversial subject due to impacts on ecosystem recovery.

Sawlogs: A log that meets minimum standards of diameter, length, and defect for sawing into lumber.

Scratch Line: An incomplete control line in the beginning stages of fire suppression that is constructed as an emergency backup for spreading fires.

Sediment/Sedimentation: Particles of topsoil, sand, and minerals that come from soil erosion or decomposing plants and animals; wind, water, and ice carry these particles. When excessive sediment collects in waterways it can harm fish and wildlife habitat.

Seedbank: A repository of dormant seeds found buried in the soil.

Sensitive Habitat/Environmentally Sensitive Habitat: Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. Sensitive habitat areas include, but are not limited to, riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species.

Sensitive Species: A plant or animal species that can tolerate a small range of resources and environmental situations, or habitat. These species raise concerns about population numbers and may be recognized locally as rare or listed as Threatened or Endangered by the state or federal Endangered Species Act.

Serotinous: A condition where seeds are retained within cones that only open and release seeds en masse following fire. The mechanism varies, with some cones sealed by resin and waxes that melt during the fire, allowing the cones to open afterwards, releasing the seed.

Setback: The minimum distance by which any building or structure must be separated from a street or property line.

Shade Tolerant: Attribute of a species that is able to grow and mature normally in and/or prefers shaded areas.

Shaded Fuelbreak: A fuelbreak built in a timbered area where the trees on the break are thinned and pruned to reduce the fire potential yet retain enough crown canopy to make a less favorable microclimate for surface fires and regeneration.

Shelter-In-Place: During a wildfire, sheltering in place means to stay inside a home or structure that is fire-resistive and air tight, and remain there until the emergency is over.

Shrublands: Plant communities characterized by vegetation dominated by shrubs (woody plants with many branches, usually growing less than 8 feet high), often also including grasses, herbs, and geophytes. Mediterranean shrublands in the California North Coast contain northern coastal shrub and coastal sage scrub.

Signage: Address markers, road postings, and street signs that designate the location of residences and help orient people within a community or area. Highly visible signage is important for helping emergency responders quickly locate incident sites.

Silvicultural: The practice of caring for forest trees in a way that meets management objectives. For example, foresters may control the composition and quality of a forest stand for goods such as timber and/or benefits to an ecosystem.

Site Specific: Applicable to a specific piece of land and its associated attributes and conditions (e.g. microclimate, soils, vegetation).

Size Class: The division of trees by the size of their diameter, sometimes split into three categories—seedlings, pole, and saw timber—or by diameter in inches.

Slash: Debris left after logging, pruning, thinning, or brush cutting; includes logs, chips, bark, branches, stumps, and broken understory trees or brush.

Slope: Upward or downward incline or slant, usually calculated as a percentage. One percent of slope means a rise or fall of one foot of elevation within a distance of 100 feet. Thus, 45 percent would equal 45 feet of rise in 100 feet.

Slope Stability/Instability: The degree to which a slope is susceptible to erosion and slides, or the measure of its overall stability.

Small-Diameter Wood Products: Logs generally less than 10-inches in diameter at the large end.

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Snow water equivalent (SWE): A measurement of how much water is present within a snowpack. It can be thought of as the depth of water that would theoretically result if you melted the entire snowpack instantaneously.

Snag: A standing dead tree that has usually lost most of its branches. Snags offer essential food and cover for a host of wildlife species.

Social Capital: The individual and communal time and energy that is available for such things as community improvement, social networking, civic engagement, personal recreation, and other activities that create social bonds between individuals and groups; can also refer to community support for a specific person, organization, or concept.

Soffit: The underside of an architectural element such as a cantilever, an arch, a staircase, or a cornice.

Soil Type: Refers to the different combinations of soil particles and soil composition. Soil can vary greatly within short distances.

Spatial Distribution: The manner in which plants are arranged throughout an area.

Special District: As government organizations, special districts are a type of local agency that deliver specific public services within defined boundaries. The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (the state law that governs the activities of LAFCO) more narrowly defines a special district and excludes school related districts, financing districts and numerous other districts.

Special-Status Species: Animal or plant species that are officially listed, proposed for listing, or are a candidate for possible listing under the state and/or federal Endangered Species Act. Also includes species that are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring. *See also Sensitive Species.*

Special Tax: Any tax imposed for specific purposes, including a tax imposed for special purposes, which is placed into a general fund. (Subdivision (d), Section 1, Article XIII C of the California Constitution). All taxes imposed by any local government shall be deemed to be either general taxes or special taxes. Special purpose districts or agencies, including school districts, shall have no power to levy general taxes (Subdivision (a), Section 2, Article XIII C of the California Constitution)

Species Composition: The combination of species found in a particular site.

Spot Fire: A fire ignited outside the perimeter of the main fire by flying sparks or embers.

Stacking Functions: Achieving several goals at once with one activity.

Stand: A group of trees or shrubs with similar species composition, age, and condition that makes the group distinguishable from other trees in the area.

Stand Composition: *see Species Composition.*

Standard: A criterion; the ideal in terms of which something can be judged. An acknowledged measure of comparison for quantitative or qualitative value.

Standardized Emergency Management System (SEMS): (California Government Code § 8607). The group of principles developed for coordinating state and local emergency response in California. SEMS provides for organization of a multiple-level emergency response, and is intended to structure and facilitate the flow of emergency information and resources within and between the organizational levels--the field response, local government, operational areas, regions and the state management level. SEMS incorporates by reference: the Incident Command System (ICS); multi-agency or inter-agency coordination; the State's Mutual Aid Program; and Operational Areas.

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Standard Operating Procedure: (1) A written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely for the performance of designated operations or actions. (2) An organizational directive that establishes a standard course of action.

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

Stand Structure Model: The spatial arrangement of the forest stand, describing the density and connectivity of the understory, mid-story, and overstory vegetation.

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

§ 4126. The Board of Forestry shall include within state responsibility areas all of the following lands: (a) Lands covered wholly or in part by forests or by trees producing or capable of producing forest products. (b) Lands covered wholly or in part by timber, brush, undergrowth, or grass, whether of commercial value or not, which protect the soil from excessive erosion, retard runoff of water or accelerate water percolation, if such lands are sources of water which is available for irrigation or for domestic or industrial use. (c) Lands in areas which are principally used or useful for range or forage purposes, which are contiguous to the lands described in subdivisions (a) and (b). § 4127. The Board of Forestry shall not include within state responsibility areas any of the following lands: (a) Lands owned or controlled by the federal government or any agency of the federal government. (b) Lands within the exterior boundaries of any city, except a city and county with a population of less than 25,000 if, at the time the city and county government is established, the county contains no municipal corporations. (c) Any other lands within the state which do not come within any of the classes which are described in Section 4126.

Stemwood: The wood of the main stem or trunk of a plant.

Strip Patch: In prescribed burning, a narrow section or area where the fuel is burnt while the surrounding area is left untreated.

Streamside Management Areas (SMA): Wet areas within the natural environment, such as natural ponds, springs, vernal pools, marshes, and wet meadows (exhibiting standing water year-long or riparian vegetation). The use of, or proposed development within or affecting these areas requires compliance with the Streamside Management Area Ordinance of the County of Humboldt—a set of standards and regulations designed to protect the ecological health and integrity of the ecosystems they support.

Structure: Any building or structure used for support or shelter of any use or occupancy.

Structural Fire Protection: The protection of a structure from interior and exterior fire ignition sources. This fire protection service is normally provided by municipal fire departments with trained and equipped personnel. After life safety, the agency's priority is to keep the fire from leaving the structure of origin and to protect the structure from an advancing wildland fire. (The equipment and training required to conduct structural fire protection is not normally provided by the wildland firefighter.)

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

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

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.

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

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Surface Fire: Fire that burns loose debris on the surface, which includes dead branches, leaves, and low vegetation.

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

Surface Mineral Soil: The top layer of the earth's surface, consisting of rock and mineral particles mixed with organic matter. Surface mineral soil is not flammable.

Suspended Dead Material: Typically composed of pine needles that are draped on living brush. Made up of dead fuels not in direct contact with the ground, consisting of dead needles, foliage, twigs, branches, stems, bark, vines, moss, and high brush. In general, these fuels easily dry out and can carry surface fires into the canopy.

Swamper Burning: A method of prescribed fire where fuel is added gradually and continually to a burning pile over the course of a day.

Thinning: The act of removing a percentage of vegetation to encourage an open space and healthy growth for the remaining vegetation.

Threatened Species: Any species including animals, plants, fungi, etc. that is vulnerable to extinction in the near future, and is so classified by the state or federal government.

Torch/Torching: A rapid and intense burning of a single or small group of trees/shrubs, causing the upward movement of fire; also known as crown fire initiation or flare-up.

Touch-Off: A controlled burning operation performed by a forestry or fire crew, where large quantities of forest treatment slash are arranged in hand piles and ignited with drip torches simultaneously by multiple crew members.

Topographic Breaks: Natural formations within the topography of a landscape that can help break up fuel continuity and reduce the spread of fire. *See also Natural Barriers.*

Topography: Geographic elements of an area, such as slope steepness, aspect, existence of hills, canyons, and rough terrain.

Treatment: An action or controlled technique that is applied in a specific process. *See Fuel Treatment.*

Tributaries: A stream, creek, or river that flows into a main stem (or parent) river or lake. Tributaries do not flow directly into a sea or ocean.

Turn-Around Space: A portion of a roadway, unobstructed by parking, that allows for a safe reversal of direction for emergency apparatus.

Turn-Outs: Open spaces along roadways, unobstructed by regular parking, that allow for the safe passage of vehicles and can provide emergency parking for firefighting apparatuses.

Type Conversion: The unintended replacement of native plant communities due to various disturbances, such as more frequent and unnatural fires. Typically replacement is by invasive or non-native plants.

Underburn: A prescribed fire method where burning is conducted in the understory so that the fire consumes surface fuels but not trees or shrubs. Also known as understory burning.

Understory: Generally herbaceous or shrubby vegetation that makes up the plant layer under the tree canopy layer.

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Unit Fire Weather Plan: Also known as a Fire Danger Operating Plan, documents the establishment and management of the local fire weather system and incorporates fire danger modeling into local fire management decisions. Fire danger operating plans include but are not limited to responsible parties (e.g. station maintenance, data entry); fire danger rating areas (e.g. location, development criteria); National Fire Danger Rating System thresholds and breakpoints (e.g. staffing levels, adjective ratings, preparedness levels, and indexes used for each); and operational procedures.

Untreated: Not altered from a natural or original state; unprocessed, e.g. no fuel-reduction or defensible-space activities.

Urban Fuels: Any flammable materials within a landscape as a result of urban development. Examples include urban structures, landscaping, and urban debris such as wood piles, trash dumps along roadsides, and die-back from weedy invaders.

Values at Risk: *See Assets at Risk.*

Variable-Density Treatment: Silvicultural thinning practice where some portions of a stand are left lightly or completely un-thinned ("skips"), providing areas with high stem density, heavy shade, and freedom from disturbance; while other parts of the stand are heavily cut ("gaps"), including removal of some dominant trees to provide more light for subdominant trees and understory plants. Intermediate levels of thinning are similarly applied in a typical variable-density prescription. This practice is also known as "free thinning."

Vegetation Composition: *See Plant Composition and/or Stand Composition.*

Vegetation Management: The use of fire, timber harvest, tree thinning, rangeland, and wildlife habitat activities, practices, and projects that alter the vegetation to meet vegetation resource management objectives.

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

Vernal Pool: Seasonal amphibious environments dominated by annual herbs and grasses adapted to germination and early growth under water. Spring desiccation triggers flowering and fruit set, resulting in colorful concentric bands around the drying pools.

Vertical and Horizontal Structure Diversity: Describes the configuration of trees within a forest stand that create a variation of structure where trees stand straight up and down (vertical) or grow at an angle (horizontal).

Vertical Fuels: Those fuels (brush, small trees, decks, etc.) that provide a continuous layer of fuels from the ground up into the upper fuel layers (i.e., tree canopy or roofs).

Viewshed: The landscape or topography visible from a geographic point, especially that having aesthetic value.

Volunteer Fire Department: A fire department associated with a local agency (either a city or a special district authorized to provide fire protection) that is comprised almost entirely of volunteer, unpaid, firefighters, whose primary objective is community fire protection.

Volunteer Fire Company: A fire department not associated with a local agency (either a city or a special district authorized to provide fire protection) that is comprised almost entirely of volunteer, unpaid, firefighters. Volunteer Fire Companies also include volunteer firefighting organizations associated with Indian Tribes whose primary objective is community fire protection rather than wildland fire suppression, and volunteer firefighting organizations associated with timber/lumber companies who provide community fire protection.

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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.

Water Tender: A ground vehicle capable of transporting specified quantities of water.

Wick: A combustible material that allows fire to travel along a confined path to larger fuel sources. An example would be a wooden fence connected to a home.

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.*

Wildfire Risk: *See Fire Risk.*

Wildlands: Areas in which development is essentially nonexistent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered. Can also include large cattle ranches and forests managed for timber production.

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

Wildland Fire: A non-structure (i.e. non-house) fire that occurs in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire. *See also Wildfire.*

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

Winds Aloft: Upper winds that occur in the atmosphere above the surface level, generally 2,000 feet and higher.

Windthrow: Trees that are uprooted by wind events. Formerly protected stands whose edges are opened up and become vulnerable to this effect. Also known as "blow-downs."

Woody Biomass: The trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment, that are the by-products of forest management.

Woody Biomass Utilization: *See Biomass Utilization.*

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PART 5: RISK ASSESSMENT DETAIL

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PART 6: APPENDICES

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APPENDIX O.1 WILDFIRE IGNITION PREVENTION

GOAL 1: REDUCE HUMAN-CAUSED WILDFIRE IGNITIONS.

OBJECTIVE 1

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL AND ITS COLLABORATORS WILL SUPPORT EFFORTS TO REDUCE THE RATE OF HUMAN-CAUSED WILDFIRE IGNITIONS THROUGH EDUCATIONAL OUTREACH AND OTHER COLLABORATIVE PROJECTS.

The following metrics and priority actions have been identified by the Humboldt County Fire Safe Council towards meeting the goal of reducing human-caused wildfire ignitions throughout the county.

*For more information on fire prevention in Humboldt County, see Chapter 5.4, **Community Preparedness**.*

It is the intention of the collaborators of this CWPP that everything recommended in this Action Plan be implemented expeditiously over the next five years. That said, implementation is subject to the availability of funds and other resources, and the willingness and ability of community members and CWPP collaborators to take action.

3.1.1 METRIC: IGNITION DATA AND REPORTING

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL WILL ANNUALLY REVIEW FIRE AGENCY DATA ON WILDFIRE IGNITION PATTERNS TO IDENTIFY TRENDS.

PRIORITY ACTION 3.1.1-1 CREATE A COUNTYWIDE IGNITIONS REPORT, WITH INFORMATION ON CURRENT TRENDS IN WILDFIRE IGNITIONS.	
DESCRIPTION	<p>Through the Fortuna Interagency Command Center (FICC) dispatch, wildfire-ignition data are collected on all fire response in the county, whether local, state, tribal, or federal. CAL FIRE dispatches and collects data for most local fire departments. Humboldt Bay, Arcata, Hoopa, and Fortuna Fire Departments track their own dispatch and ignition data, which are then summarized into the Humboldt County Fire Chiefs’ Association (HCFCA) Annual Report. Six Rivers National Forest (SRNF) and Redwood National Park (RNP) also track their own ignitions. Bureau of Land Management (BLM) ignition data are tracked through CAL FIRE. The US Department of Interior (DOI) also tracks BLM and Hoopa ignition data.</p> <p>The Humboldt County Fire Safe Council (HCFSC) Wildfire Ignition Prevention Work Group will request wildfire-ignition data (not including medical calls) from these cooperating agencies and then review it to identify trends in local ignitions, including rates, new ignition causes, and geographical hot spots. From this data the HCFSC will explore identifying acceptable levels of ignitions and a target ignition-rate change, to compare it with population changes in a given area.</p> <p>A report will be created to be presented annually to the HCFSC and then to the County Board of Supervisors (BOS), ideally at the same time as the annual HCFCA report presentation.</p> <p>The report will display the information in an easy-to-understand format. It will be shared via existing networks, including HCFSC and HCFCA contacts, social media, and local media outlets.</p> <p>As part of this process, the HCFSC Wildfire Ignition Prevention Work Group will identify data issues, such as the level of detail that would be useful for tracking and understanding local ignition sources—for example, tracking ignitions related to the marijuana industry and homeless camps. Identifying data issues to track at the state level (e.g. marijuana) could also be an outcome of this action.</p> <p>The information generated in these reports would then assist the HCFSC and its partners in identifying future priority actions to reduce unplanned ignitions. It would also be useful in funding applications, especially to support local volunteer fire departments.</p>

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RESPONSIBLE PARTY	HCFSC Wildfire Ignition Prevention Work Group
ADDITIONAL PARTNERS	CAL FIRE, HCFA, SRNF, BLM, RNP, fire departments, County Planning and Building, PG&E.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Request current wildfire ignitions data from CAL FIRE, USFS, DOI, and Hoopa. ➤ Seek assistance from Humboldt State University, including potential interns. ➤ Review existing data and reports in <i>HCFA Annual Report</i>. ➤ Review CAL FIRE and federal data. ➤ Summarize data, identify any potential data gaps and how to fill those. ➤ Discuss findings in committee, including trends and insights. ➤ Decide on report format, what information, and level of detail to include. ➤ Evaluate data and write report. ➤ Format data to make it presentable to the public. ➤ Share draft report with key partners for review and input. ➤ Create final draft of report. ➤ Make presentation to HCFSC. ➤ Post information on HCFSC web page, county websites, HCFA website, social media, and elsewhere. ➤ Present annually to County Supervisors with annual HCFA presentation; invite HCFSC partners to participate. ➤ Share success stories on websites, social media, and other media outlets as identified in <i>Metric 3.4.1</i>. ➤ Share results with HCFSC at next quarterly meeting. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ANNUAL REPORT ON COUNTYWIDE IGNITIONS AND TRENDS PRESENTED TO THE BOARD OF SUPERVISORS AND SHARED PUBLICLY.

The following Potential Projects are supported by this CWPP as having a positive benefit towards meeting this metric, objective, and goal. The Humboldt County Fire Safe Council and its collaborators support and encourage implementation of the potential projects listed throughout this Action Plan.

POTENTIAL PROJECTS

- Develop an administrative support structure to assist local fire organizations with incident reporting.

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3.1.2 METRIC: IGNITION PREVENTION

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL WILL ANNUALLY ACCOMPLISH AT LEAST ONE COLLABORATIVE PROJECT TO REDUCE HUMAN-CAUSED WILDFIRE IGNITIONS.

PRIORITY ACTION 3.1.2-1 PROVIDE INFORMATION AND OUTREACH TO MARIJUANA CULTIVATORS AND PROCESSORS TO REDUCE IGNITIONS IN THAT INDUSTRY.	
DESCRIPTION	<p>The HCFSC Ignition Prevention Work Group will identify one priority collaborative ignition prevention project annually. Topics could include fire ignitions related to recreation, utilities, power-tool use, and more (<i>see Potential Projects below</i>).</p> <p>Beginning in 2019 with outreach to the newly legalized marijuana industry, the Work Group will explore various ways to communicate the need to be careful and safe to reduce ignitions, and how to prepare marijuana-growing and -processing properties to reduce hazards.</p> <p>Information will be included about the new National Fire Protection Association (NFPA) <i>Marijuana Standards, NFPA 1, Chapter 38: Marijuana Growing, Processing, or Extraction Facilities</i>,¹ which applies to the growing and processing of marijuana within new and existing buildings. Further information on potential risks and hazards from the marijuana industry is available in <i>NFPA’s Hazards of the Trade</i>.²</p> <p>Messaging ideas include a “So you want to grow?” poster and a “Don’t let your smoke go up in smoke!” campaign.</p> <p>Outreach could include a contest to give away a standpipe kit for attachment to a water tank as a way to promote quick and efficient connections for local fire departments. Marijuana cultivation supply stores and dispensaries would be approached as sponsors.</p> <p>Information would be shared via County Planning and Building during the permit process, at local events (e.g. Roll on the Mattole or County Fair), through all relevant social media and local media outlets, and through local cannabis trade organizations and consultants.</p> <p>The handout could include information about impacts on water, conservation, and the need to have water for fire suppression. County fire-safe regulations regarding water storage are available at https://humboldt.gov.org/1812/Fire-Safe.</p> <p>Due to the large number of cultivators and the attention to the newly legalized industry, this action could increase the visibility of the HCFSC and its work around the county.</p>
RESPONSIBLE PARTY	HCFSC Wildfire Ignition Prevention Work Group
ADDITIONAL PARTNERS	Fire departments, cannabis organizations and consultants, supply stores, dispensaries, HCFA, CAL FIRE, SRNF, BLM, RNP.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Brainstorm regarding messaging and desired outcomes. ➤ Review what is already included or required regarding fire safety in the County permitting process. ➤ Research <i>NFPA Marijuana Standards, Chapter 38</i>, and how best to share that locally. ➤ Brainstorm potential outreach actions and identify priority actions. ➤ Identify potential funding sources, including cannabis industry associations and consultants. ➤ Draft messaging and related documents or materials. ➤ Present draft to HCFSC. ➤ Incorporate comments and create final draft of outreach materials or messaging.

¹ Marijuana Grow & Extraction Facilities [Webpage]. *National Fire Protection Association Journal*. Retrieved from <https://www.nfpa.org/Public-Education/By-topic/Property-type-and-vehicles/Marijuana-grow-and-extraction-facilities>

² Roman, J. (2016). Hazards of the Trade. *National Fire Protection Association Journal*. Retrieved from <https://www.nfpa.org/News-and-Research/Publications/NFPA-Journal/2016/September-October-2016/Features/Growing-Pains/Hazards-of-the-Trade>

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	➤ Implement outreach strategies.
	➤ Present results to HCFSC.
	➤ Monitor for effectiveness at getting the message out to the target audience and changes in behavior.
	➤ Update materials based on monitoring and feedback.
	➤ Identify target audience or sector for next year’s ignition prevention program, if not another action focused on marijuana.
	➤ Share materials and success stories on websites, social media, and other media outlets as identified in Metric 3.4.1.
	➤ Share results with HCFSC at next quarterly meeting.
	➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	OUTREACH TO ASSIST THE CANNABIS INDUSTRY IN REDUCING IGNITIONS, AND IDENTIFICATION OF TARGET SECTOR FOR NEXT YEAR’S PROGRAM.

POTENTIAL PROJECTS

- Reduce ignitions from recreation.
 - Target areas with historic or high ignitions, including the King Range National Recreation Area (especially Spanish Flat), and other areas with frequent ignitions.
 - Visit campgrounds and do fire-prevention education with kids around the campfire.
- Work with PG&E to reduce the risk of ignitions caused by power lines, by:
 - Identifying opportunities and plans for relocating or burying power lines, and
 - Initiating effective communication and coordination regarding PG&E plans to turn off lines during high wind or Red Flag conditions.
- Use the *One Less Spark/One Less Wildfire* educational campaign, <http://www.readyforwildfire.org/One-Less-Spark-Campaign>.
- Explore actions targeted to homesteaders, railroads, real estate professionals, hunters, and/or other sectors.
- Support prevention programs in the schools with fire trucks, e.g. Humboldt Bay Fire’s program.
- Support the *Big Red Truck* program, where fire trucks go to rural homes to demonstrate ingress and egress issues. Tie this to Defensible Space Inspections. These visits could be used as a fundraising source and/or to get volunteers for local fire departments.
- Inform 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, especially in coastal areas where residents may be less prepared for wildfire.

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Priority Action 3.2.2-1: Update <i>Living with Wildfire in Northwestern California</i> and distribute widely.	0.2-3
Priority Action 3.2.2-2: Create a local video about defensible space and hardened homes.	0.2-4
Priority Action 3.2.2-3: Continually build a photo and graphic library of hardened homes, defensible space, and fuel hazard-reduction projects in Humboldt County.	0.2-5
3.2.3 Metric: DEFENSIBLE-SPACE COMPLIANCE	0.2-6
Priority Action 3.2.3-1: Collaborate to create defensible space for elderly and disabled residents who are not able to do this for themselves.	0.2-6
Priority Action 3.2.3-2: Identify priority-interface areas for implementation of defensible space and hardened homes on private properties.	0.2-7
3.2.4 Metric: COMMUNITY WILDFIRE-PREPAREDNESS ORGANIZATIONS	0.2-8
Priority Action 3.2.4-1: Support the formation of new Fire Safe Councils or Firewise® Communities to coordinate local community wildfire-preparedness efforts.	0.2-8
Priority Action 3.2.4-2: Help organize a regional Fire Safe Council capacity-building workshop to help inspire new FSCs and sustain existing ones.	0.2-9
3.2.5 Metric: ROADSIDE HAZARDOUS-FUEL REDUCTION	0.2-10
Priority Action 3.2.5-1: Support funding and collaboration opportunities to help County Roads Maintenance implement fuel-reduction projects for safe ingress and egress, and to serve as strategic fire breaks.	0.2-10
Priority Action 3.2.5-2: Work with Cal Trans to define a process to facilitate fuel reduction to reduce fuel hazards along prioritized principal roads throughout the county.	0.2-12
3.2.6 Metric: COMMUNITY FUEL REDUCTION	0.2-13
Priority Action 3.2.6-1: Work with leaders in each Planning Unit to support project development, including identification of needed resources and potential obstacles to facilitate fuel-hazard reduction project implementation and maintenance.	0.2-13
Priority Action 3.2.6-2: Engage PG&E to actively reduce fuels and potential ignitions along power lines through collaborative efforts to implement risk-reduction projects.	0.2-14
3.2.7 Metric: UTILIZING EXCESS FUELS	0.2-15
Priority Action 3.2.7-1: Support and create community chipping programs to assist residents in disposing of thinned materials.	0.2-15
Priority Action 3.2.7-2: Follow and share the latest research on options for utilizing and disposing of woody materials generated from fuel-reduction activities.	0.2-15

APPENDIX 3.2: WILDFIRE PREPAREDNESS

GOAL 2: INCREASE COMMUNITY RESILIENCE AND ADAPTATION TO WILDFIRE.

OBJECTIVE 2

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL AND ITS COLLABORATORS WILL FACILITATE COMMUNITY WILDFIRE PREPAREDNESS, RESILIENCE, AND ADAPTATION TO WILDFIRE BY SUPPORTING AND PROMOTING FIRE SAFE COUNCILS, FIREWISE® AND FIRE ADAPTED COMMUNITIES, AND OTHER ACTIVITIES TO REDUCE STRUCTURAL IGNITABILITY AND HAZARDOUS FUELS.

The following metrics and priority actions have been identified by the Humboldt County Fire Safe Council towards meeting the goal of increasing community resilience and adaptation to wildfire. This goal is focused on community preparedness throughout the year. *Goal 3: Disaster Preparedness* addresses what do before, during, and after an emergency event, i.e. *Ready, Set, Go*. *Goal 5: Restoration of Beneficial Fire* addresses ecosystem resilience and the landscape scale.

For more information on community preparedness, see Chapter 5.4, Community Preparedness. For more information on Humboldt County’s wildfire environment, see Chapter 5.2, Wildfire Environment.

It is the intention of the collaborators of this CWPP that everything recommended in this Action Plan be implemented expeditiously over the next five years. That said, implementation is subject to the availability of funds and other resources, and the willingness and ability of community members and CWPP collaborators to take action.

AROUND THE HOME

3.2.1 METRIC: HARDENED HOMES

A MAJORITY OF RESIDENTS WILL HAVE A WORKING FAMILIARITY WITH THE CONCEPT OF HARDENED HOMES, TO BE ABLE TO FIRE-SAFE THEIR HOUSES AND OTHER STRUCTURES TO MAKE THEM RESILIENT TO WILDFIRE.

PRIORITY ACTION 3.2.1-1 CREATE AND DISTRIBUTE A BROCHURE HOW TO FIRE-SAFE (OR HARDEN) YOUR HUMBOLDT-COUNTY HOME.	
DESCRIPTION	<p>New information continues to come forward regarding the most effective ways to prepare one’s home and property to survive wildfire. This is especially true after the recent fire seasons during which unprecedented numbers of homes were lost. Many of these homes were ignited by embers—small burning pieces that were flying through the air at high speeds—being forced into ventilation systems, cracks, under eaves and roofs, or anywhere else they could find to land and smolder until igniting. Other homes were lost from home-to-home combustion, the heat from one house being so great that it caused nearby homes to ignite.</p> <p>Given this experience, it’s more important than ever to provide current information to Humboldt County residents to prepare their homes for the eventuality of wildfire, especially the home and the first five feet out from it. This information is needed in many rural parts of the county where homes are scattered among the wildlands. It is also needed in the urban areas of the county, where redwoods and the cooler climate create the ambience that so many enjoy, while giving a false sense of minimal wildfire risk. <i>Hardening</i>¹ or fire-</p>

¹ Hardened Homes: This term refers to improving a building's resistance to fire, such as updating a roof with non-combustible roofing material; the goal is to make the structure survivable in a fire.

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	<p>safing homes and outbuildings can increase wildfire safety for those living among the redwoods and other <i>urban fuels</i>².</p> <p>This action item will create local materials and share them broadly throughout the county. In addition to the usual outlets, they will be shared with the homebuilding, insurance, real estate, landscaping, and building-supply industries. Materials will discuss where to site new homes to maximize fire safety and how to build a hardened home. It will use photos of Humboldt County homes, and include the following information:</p> <ul style="list-style-type: none"> ○ Siting away from steep slopes, wind tunnels and draws. ○ Non-combustible roof coverings, and the importance of replacing unrated, untreated, wood-shake roofs with highly rated roofs, kept in good condition, and free of combustible debris. ○ Keeping the first five feet around a home free of all combustible materials. ○ Learning about fire behavior from existing vegetation and fire history. ○ Graphically depicting current WUI building standards in a user-friendly format. <p>These materials could be used to support Priority Action 3.2.3-2.</p>
<p>RESPONSIBLE PARTY</p>	<p>Humboldt County Fire Safe Council (HCFSC) Wildfire Preparedness Work Group</p>
<p>ADDITIONAL PARTNERS</p>	<p>County Public Works, County Planning and Building, Fire Safe Councils (FSCs) and Firewise® Communities, University of California Cooperative Extension (UCCE), California Fire Science Consortium, real estate, building, and development industries.</p>
<p>POTENTIAL ACTION STEPS</p>	<ul style="list-style-type: none"> ➤ Identify audience and objectives for the brochure. ➤ Set up committee to create the brochure. ➤ Gather relevant materials (text and graphics) and get permission to use them. ➤ Write text. ➤ Send text and general content for review to <i>Work Group</i>. ➤ Find any other needed graphics (or design and/or take photos). ➤ Design and do desktop production. ➤ <i>Work Group</i> review designed brochure. ➤ Identify distribution sources. ➤ Identity funding sources for printing (especially in-kind resources). ➤ Incorporate comments and create final draft. ➤ Distribute final draft to <i>HCFSC</i> for review. ➤ Incorporate final comments. ➤ Print. ➤ Distribute hard copies and online. ➤ Conduct outreach and work with local media to publicize the brochure. ➤ Share results with <i>HCFSC</i> and funders. ➤ Share materials on <i>HCFSC</i> website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
<p>DESIRED OUTCOME</p>	<p>PRINTING, DISTRIBUTION, AND PUBLICITY OF THE BROCHURE ENTITLED <i>HOW TO FIRE-SAFE (OR HARDEN) YOUR HUMBOLDT-COUNTY HOME.</i></p>

² Urban Fuels: Any flammable materials within a landscape as a result of urban development. Examples include urban structures, landscaping, and urban debris such as wood piles, trash dumps along roadsides, and die-back from weedy invaders.

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The following lists of Potential Projects are those supported by this CWPP as having a positive benefit towards meeting this Metric, Objective, and Goal. The Humboldt County Fire Safe Council and its collaborators support and encourage implementation of the potential projects listed throughout this Action Plan.

POTENTIAL PROJECTS

- Explore parallel incentive programs that can finance upgrading homes to current WUI-building standards, including replacing untreated wood-shake roofs.
- Create and implement educational programs on hardening homes, including the possibility of a WUI-building products fair.
- Work with State Fire Marshal-approved WUI building-product vendors to create discounted wholesale purchases and installation of products to harden homes at the neighborhood or community scale.
- Have an HCFSC booth at local events and fairs to share information about hardened homes and defensible space.

3.2.2 METRIC: DEFENSIBLE-SPACE EDUCATION

A MAJORITY OF RESIDENTS IN HIGH FIRE-HAZARD AREAS WILL HAVE A WORKING FAMILIARITY WITH HAZARDOUS FUEL-REDUCTION PRACTICES, INCLUDING DEFENSIBLE SPACE, TO BE ABLE TO IMPLEMENT THESE ON THEIR PROPERTIES.

PRIORITY ACTION 3.2.2-1 UPDATE LIVING WITH WILDFIRE IN NORTHWESTERN CALIFORNIA AND DISTRIBUTE WIDELY.	
DESCRIPTION	The second edition of <i>Living with Wildfire in Northwestern California</i> was published and distributed in 2017 and very well received. It was produced by the HCFSC and supported by the County of Humboldt, CAL FIRE, and the US Forest Service (Six Rivers National Forest, SRNF). It will be updated at least once in the next five years. The 2017 edition is available online via: https://humboldt.gov/livingwithwildfire or via CAL FIRE ³ and SRNF ⁴ websites. A smaller Humboldt County version of <i>Living with Wildfire</i> is included in <i>Appendix H</i> of this CWPP.
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group
ADDITIONAL PARTNERS	County of Humboldt, Six Rivers National Forest (SRNF), Redwood National Park (RNP), CAL FIRE, Bureau of Land Management (BLM), tribes, FSCs, Firewise® Communities.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Invite other HCFSC members to join <i>Living with Wildfire</i> editorial committee. ➤ Identify sponsors to fund production, and timeline. ➤ Identify text updates needed. ➤ Identify new content to add, including: Sudden Oak Death, shaded fuel breaks, local and state environmental and other relevant planning laws and regulations. (<i>See Chapter 5.2 and the Appendices of this CWPP for some of these materials</i>). ➤ Identify graphics needed, including local hardened homes with defensible space. ➤ Find funding to print and distribute to all rural Post Office boxes, following SRNF distribution in 2017 and 2018. ➤ Identify people to write text and create graphics and/or take photos. ➤ Edit new text and graphics. ➤ Design new publication.

³ Living with Wildfire in Northwestern California, 2nd edition. [PDF] Retrieved from CAL FIRE website http://www.fire.ca.gov/HUU/downloads/Living_w-Wildfire_NW_CAL_April2017.pdf

⁴ Living with Wildfire in Northwestern California, 2nd edition. Retrieved from SRNF website <https://www.fs.usda.gov/main/srnf/maps-pubs>

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	<ul style="list-style-type: none"> ➤ Committee review draft, share with sponsoring agencies. ➤ Finalize text and graphics. ➤ Print. ➤ Distribute. ➤ Monitor results. ➤ Share results with HCFSC and funders. ➤ Share materials on HCFSC and other sponsor’s websites, social media, local media outlets, and other avenues. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	LIVING WITH WILDFIRE IN NORTHWESTERN CALIFORNIA, UPDATED AND DISTRIBUTED WIDELY, INCLUDING TO ALL RURAL POST OFFICE BOXES.

PRIORITY ACTION 3.2.2-2 CREATE A LOCAL VIDEO ABOUT DEFENSIBLE SPACE AND HARDENED HOMES.	
DESCRIPTION	<p>Videos are an effective way to reach the uninitiated, especially when used in social media and in schools. This would build on the information in <i>Priority Actions 3.2.1-1</i> and <i>3.2.2-1</i>, and share it in an easily accessible format.</p> <p>See Orleans/Somes Bar FSC <i>Lifestyles of the Rural and Fire Safe</i> for an entertaining local fire safety video example: https://www.youtube.com/watch?v=0hmFABXAojA</p>
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group
ADDITIONAL PARTNERS	FSCs, Firewise® Communities, tribes, local media partners (e.g. Access Humboldt, Ink People, Klamath-Salmon Media Collaborative), CAL FIRE, North Coast Unified Air Quality Management District (NCUAQMD), SRNF, RNP, BLM.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify main topics and draft outline. ➤ Identify local homes and landscapes to use for visuals. ➤ Draft budget and look for funding and/or in-kind support. ➤ Identify avenues for distribution, especially to local schools ➤ Create storyboard outline and review with partners. ➤ Film, edit, and create video. ➤ Promote via social media. ➤ Distribute to local schools. ➤ Invite federal and state agencies to help with distribution. ➤ Monitor results. ➤ Share results with HCFSC and funders. ➤ Share materials on HCFSC website, social media, local media outlets, and other avenues, such as those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	CREATE A LOCAL VIDEO ABOUT DEFENSIBLE SPACE AND HARDENED HOMES.

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PRIORITY ACTION 3.2.2-3 CONTINUALLY BUILD A PHOTO AND GRAPHIC LIBRARY OF HARDENED HOMES, DEFENSIBLE SPACE, AND FUEL HAZARD-REDUCTION PROJECTS IN HUMBOLDT COUNTY.	
DESCRIPTION	There was a need for local images for the second edition of <i>Living with Wildfire in Northwestern California</i> and for this CWPP. These images and graphics are needed for ongoing education and outreach materials, as are identified in several priority actions. This action would also explore the possibility of a local fire-safety photo contest.
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group
ADDITIONAL PARTNERS	FSCs, Firewise® Communities, fire departments, CAL FIRE, other state and federal partners, photography and journalism students and professionals.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Build an online database to house current and future images. ➤ Identify main subject areas needed. ➤ Identify sources to request photos. ➤ Outreach to existing networks. ➤ Outreach via social media and local media outlets. ➤ Explore possibility of a photo contest, including online options. ➤ Share results with HCFSC. ➤ Share materials on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	AN EXTENSIVE PHOTO LIBRARY DEMONSTRATING EXAMPLES OF COMMUNITY WILDFIRE PREPAREDNESS IN HUMBOLDT COUNTY.

POTENTIAL PROJECTS

- Develop curriculum for use in schools (high school in particular). Curriculum to include fire ecology, wildfire hazard, fire-safe practices, defensible space, etc.
- Work with the local-insurance industry to provide education on appropriate local fuel-reduction practices, and materials for them to share with policyholders.
 - Incentivize insurance industry to work with customers.
- Develop Humboldt County fire-safety posters and displays to use at public events; take advantage of all possible opportunities to display them at local events.
- Work with 4-H chapters to develop local fire-safety educational programs.
- Fund and develop a service-learning program in local high schools focused on fire safety and defensible space.
- Target fire-safety educational efforts to new residents, especially those coming from urban areas and others with little experience with fire in the WUI.
 - Develop a welcome-neighbor program, offering a welcome basket with fire-safety information for new residents.
 - Distribute fire-safety information through realtors, water districts and other utilities, fire departments, chambers of commerce, insurance industry, and other interested partners.
 - Work with realtors to provide forms for new buyers that 1) provide information about fire protections, obligations, and services; and 2) procure for firefighters information such as the presence/absence of disabled and elderly persons, livestock, new gates, etc.
- Coordinate conservation and fire-safety objectives in educational programs, including promoting options for conserving water, and incentives to replace exotic plants with native species.
 - Offer public workshops to educate and train residents in how to manage their vegetation to reduce their wildfire hazard while protecting ecological health and/or economic productivity.
- Provide education to residents connecting fire-safe forests, timber production, and ecological restoration efforts.

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3.2.3 METRIC: DEFENSIBLE-SPACE COMPLIANCE

A MAJORITY OF HABITABLE STRUCTURES IN THE STATE RESPONSIBILITY AREA WILL BE TARGETED FOR INSPECTION FOR DEFENSIBLE SPACE, WITH NINETY PERCENT COMPLIANCE OF THOSE INSPECTED AS DEFINED BY CALIFORNIA LAWS.

PRIORITY ACTION 3.2.3-1 COLLABORATE TO CREATE DEFENSIBLE SPACE FOR ELDERLY AND DISABLED RESIDENTS WHO ARE NOT ABLE TO DO THIS FOR THEMSELVES.	
DESCRIPTION	<p>There are many success stories from around the county and elsewhere in the state of assisting those who are unable to do their own defensible space work. Fire Safe Councils (FSCs) often target these populations for grant-funded projects and tie them into local chipping programs, such as exist with the Lower Mattole, Willow Creek, and Orleans-Somes Bar FSCs. Systematizing assistance for elderly and disabled residents in each community who need this support, and ensuring getting the work done—especially with volunteers, will create numerous public benefits to neighborhoods and communities. Although state inmate crews are not able to work directly around homes due to liability issues, using well-supervised crews of local youth could be explored. These activities would ideally be tied into local chipper programs.</p>
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group
ADDITIONAL PARTNERS	FSCs, Firewise® Communities, tribes, CAL FIRE, Area One Agency on Aging, Tri-County Independent Living, County Department of Health and Human Services, Dreamquest Agents of Change, Senior Centers, Family Resource Centers, Community Service Districts, community centers and Granges.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify project targets regarding number of homes, which communities, types of assistance, etc. ➤ Talk to local FSCs who have implemented similar projects about what has worked and not with their projects. ➤ Identify compliance issues and begin permitting process. ➤ Identify funding needs and secure funding and in-kind donations (i.e. labor, chippers, pick-up trucks, etc.). ➤ Explore possibility of a countywide cost-share program. ➤ Meet with state legislators to explore incentivizing fire safe practices such as defensible space through tax breaks or other measures. ➤ Prioritize how many homes to treat each year. ➤ Contact community spark plugs, fire departments, and elected officials for recommendations for priority homes to treat. ➤ Identify and organize volunteers to help, such as service groups, Boy Scouts, university clubs, church congregations, road and neighborhood associations, etc. ➤ Share project with partners and practitioners to help identify other potential participants. ➤ Identify priority homes to treat in each community and around the county. ➤ Identify applicable laws and regulations. Develop compliance plans and apply measures to avoid the potential spread of invasive species. Review existing compliance resources and best management practices to determine if additional guidance materials are necessary. ➤ Approach landowners and invite to participate. ➤ Develop and sign landowner agreements. ➤ Implement defensible-space treatments. ➤ Document the project with photos and videos. ➤ Monitor results. ➤ Share results with HCFSC and project partners.

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	<ul style="list-style-type: none"> ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	FIFTY HOMES ANNUALLY TREATED FOR DEFENSIBLE SPACE FOR ELDERLY AND DISABLED RESIDENTS THROUGHOUT THE COUNTY.

PRIORITY ACTION 3.2.3-2 IDENTIFY PRIORITY-INTERFACE AREAS FOR IMPLEMENTATION OF DEFENSIBLE SPACE AND HARDENED HOMES ON PRIVATE PROPERTIES.	
DESCRIPTION	Following catastrophic fires, FEMA makes funding available through various programs to eligible entities throughout California. Eligible-funded activities can include defensible-space measures and ignition-resistant construction. FEMA is interested in funding projects to create defensible space and hardened homes on properties that will have a strategic, positive impact on their community. The County of Humboldt can explore applying for one of these grants for strategic WUI areas.
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group
ADDITIONAL PARTNERS	County Planning and Building, County Public Works, County OES, local entities with successful FEMA grants.
POTENTIAL ACTION STEPS	➤ Review current FEMA funding guidelines and monitor for project application solicitations.
	➤ Review history of local FEMA-funded pre-disaster projects.
	➤ Identify project partners.
	➤ Identify priority areas.
	➤ Develop basic project concepts and treatment prescriptions. Look for examples from other successfully funded communities.
	➤ Draft preliminary budget.
	➤ Draft pre-proposal.
	➤ If accepted, seek funding to create full proposal.
	➤ Create full proposal.
	➤ Identify permitting and compliance issues, applicable laws, and regulations. Develop compliance plans and incorporate measures to avoid the potential spread of invasive species. Review existing compliance resources and best management practices to determine if additional guidance materials are necessary.
	➤ Implement project
	➤ Monitor results.
	➤ Share results with HCFSC and project partners.
➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i> .	
➤ Write up a summary for next CWPP Update.	
DESIRED OUTCOME	KEY INTERFACE NEIGHBORHOODS ALONG THE EDGE OF DENSELY-POPULATED AREAS WOULD HAVE HARDENED HOMES AND DEFENSIBLE SPACE IMPLEMENTED.

POTENTIAL PROJECTS

- Seek continued funding for the FLASH program.
- Support CAL FIRE funding for Defensible Space Inspections.
- County offer a defensible space advisory visit. Could serve as an independent verification for insurance or escrow companies.
- Explore other incentive programs to help residents create defensible space around their homes and in their neighborhoods.

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- Provide a portal for the public to access information about possible grant funding, permitting information, and chipper program availability.
- Potentially develop a list of contractors/individuals with the ability to burn/chip/work for private property owners (especially those physically unable to implement defensible space requirements).
- Share information about County *SRA Fire-Safe Regulations* (see *Metric 3.6.6 and Appendix J*): <https://humboldtqov.org/documentcenter/view/278>.
- Contact local hardware stores and distributors about offering firefighting tools such as McLeods and Pulaskis at a discounted price to local volunteer fire fighters, Fire Safe Councils, and other related groups.

AROUND THE NEIGHBORHOOD AND COMMUNITY

3.2.4 METRIC: COMMUNITY WILDFIRE-PREPAREDNESS ORGANIZATIONS

ALL RESIDENTS WILL HAVE ACCESS TO FIRE SAFE COUNCILS, FIREWISE® COMMUNITIES, LOCAL FIRE DEPARTMENTS, AND/OR OTHER SIMILAR COMMUNITY WILDFIRE-PREPAREDNESS ORGANIZATIONS WHERE THEY LIVE.

PRIORITY ACTION 3.2.4-1 SUPPORT THE FORMATION OF NEW FIRE SAFE COUNCILS OR FIREWISE® COMMUNITIES TO COORDINATE LOCAL COMMUNITY WILDFIRE-PREPAREDNESS EFFORTS.			
DESCRIPTION	<p>Several communities around the county have expressed an interest in creating a local Fire Safe Council (FSC) or Firewise® Community. These were confirmed at the 2017 CWPP workshops. This project would provide assistance to those communities to help them get started, potentially connecting them with a mentor from another community in the county.</p> <p>This action would support formation of new FSCs where there is a need and potential for success. Underserved areas include:</p> <ul style="list-style-type: none"> ○ Avenue of the Giants (Planning Unit 14), ○ Eel (Planning Unit 10), and ○ Humboldt Bay Area (Planning Unit 8), specifically the WUI areas around McKinleyville, Fieldbrook, Arcata, Blue Lake, and Eureka. <p>Assistance may also be provided for the recognition of new Firewise® Community sites where needed, including:</p> <table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ○ Alderpoint ○ Avenue of the Giants individual communities ○ Blue Lake and greater area ○ Blue Lake Rancheria ○ Briceland ○ Ettersburg ○ Fieldbrook </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ○ Garberville/Redway area ○ Hoopa ○ Orick ○ Table Bluff Rancheria ○ Westhaven/Trinidad ○ Whitethorn ○ Neighborhoods thought the county in high wildfire risk areas where there are interested residents. </td> </tr> </table>	<ul style="list-style-type: none"> ○ Alderpoint ○ Avenue of the Giants individual communities ○ Blue Lake and greater area ○ Blue Lake Rancheria ○ Briceland ○ Ettersburg ○ Fieldbrook 	<ul style="list-style-type: none"> ○ Garberville/Redway area ○ Hoopa ○ Orick ○ Table Bluff Rancheria ○ Westhaven/Trinidad ○ Whitethorn ○ Neighborhoods thought the county in high wildfire risk areas where there are interested residents.
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RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group		
ADDITIONAL PARTNERS	County Public Works, CAL FIRE, Firewise® USA, SRNF/RNP, National Fire Protection Association (NFPA)/Firewise® Communities, tribes, FSCs, watershed groups and other community organizations, road associations, community centers, Neighborhood Watch.		
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Review <i>Planning Unit Action Plans</i> in this CWPP to identify which communities have expressed interest. ➤ Reach out to representatives from these target communities. ➤ Invite interested community members to attend a local or county Fire Safe Council or Firewise® Community meeting to see how they work. ➤ Work one-on-one with target communities to assess their needs. ➤ Hold a countywide workshop to share experience between existing and potential FSCs and Firewise® communities. 		

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	<ul style="list-style-type: none"> ➤ Identify local FSC and Firewise® mentors and find support for their participation. ➤ Share the steps to becoming recognized as Firewise® with interested communities: <ul style="list-style-type: none"> ○ Form a board or committee and create an Action Plan based on the <i>Community Wildfire Risk Assessment</i>. This can be a duty added to an already existing board or committee. ○ Conduct one wildfire risk-reduction educational outreach event. ○ At a minimum, invest the equivalent of one volunteer hour (valued at \$24.14) per dwelling unit in wildfire risk-reduction actions. ○ Submit an electronic application. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	FIVE NEW AND FUNCTIONAL FIRE SAFE COUNCILS AND/OR FIREWISE® COMMUNITIES FORMED.

PRIORITY ACTION 3.2.4-2 HELP ORGANIZE A REGIONAL FIRE SAFE COUNCIL (FSC) CAPACITY-BUILDING GATHERING TO HELP INSPIRE NEW FSCS AND SUSTAIN EXISTING ONES.	
DESCRIPTION	In the early days of Fire Safe Councils in the region, several annual workshops were held to share successes and challenges. These were rewarding events for all involved. Funding was secured between the California Fire Safe Council, insurance companies, and agencies to cover food and inexpensive lodging, as well as mileage for one vehicle from each participating FSC. Several FSCs from throughout northern California have begun discussions about holding another regional meeting, tentatively scheduled for early 2019 in Sonoma County.
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group with the Fire Adapted Communities Learning Network
ADDITIONAL PARTNERS	Other Northern California FSCs (including Sonoma, Santa Clara, and Nevada Counties), California Fire Safe Council (CFSC), local FSCs, local Firewise® Communities, NFPA, CAL FIRE, SRNF, Northern California Prescribed Fire Council, Fire Learning Network.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Establish or contact existing organizing committee to support. ➤ Contact Fire Adapted Communities Learning Network, CFSC, NFPA, and others for organizing and financial support. ➤ Confirm dates and location. ➤ Draft a save-the-date announcement and share with appropriate networks. ➤ Identify facility, caterers, and budget. ➤ Secure funding. ➤ Draft agenda and circulate. ➤ Confirm presenters and/or workshops. ➤ Send out invitations, including funding for one vehicle from each county FSC. ➤ Share invitation with existing networks ➤ Identify volunteers to help with tasks at the event. ➤ Hold event. ➤ Document event with photos and videos. ➤ Share results with HCFSC, project partners, and funders. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	A REGIONAL FIRE SAFE COUNCIL GATHERING.

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POTENTIAL PROJECTS

- Encourage Humboldt County organizations working towards community fire safety to join the [Fire Adapted Communities Learning Network](#).
- Support creation of neighborhood associations to advance volunteerism in fire-safe activities.
- Work with local [FSCs](#) to develop ongoing financial and in-kind support (including organizational development, technical support, grant writing support, fundraising, and training) to ensure their long-term sustainability and autonomy.
- Encourage and facilitate collaboration on grant proposals, *see Metric 3.6.11*.
- Maintain a current list of funding sources and contact information for interested partners; provide example applications of successful proposals.
- Share fire-safety education and activities with homeowner associations.

IN THE WILDLAND-URBAN INTERFACE

3.2.5 METRIC: ROADSIDE HAZARDOUS-FUEL REDUCTION

HAZARDOUS FUELS WILL BE TREATED ALONG TEN PERCENT OF PRIMARY AND SECONDARY ROADS WITH ADJACENT FLAMMABLE VEGETATION AT LEVELS THAT COULD POSE A THREAT TO SAFE INGRESS AND EGRESS AND PROVIDE STRATEGIC FUEL BREAKS.

PRIORITY ACTION 3.2.5-1 SUPPORT FUNDING AND COLLABORATION OPPORTUNITIES TO HELP COUNTY ROAD MAINTENANCE IMPLEMENT FUEL-REDUCTION PROJECTS FOR SAFE INGRESS AND EGRESS, AND TO SERVE AS STRATEGIC FUEL BREAKS.	
DESCRIPTION	<p>There are many public roads throughout the county that have unsafe levels of roadside fuels (flammable vegetation). These fuels need to be managed for both wildfire evacuation (ingress and egress) and general visibility for driver safety. Roads treated for fuel reduction can also act as important fuel breaks for fire protection. County Public Works, Road Maintenance (County Roads) routinely maintains all County roads, including hazardous-roadside vegetation. However, due to funding and staffing cuts over recent decades, many key evacuation routes are overgrown.</p> <p>County Roads hires CAL FIRE inmate crews to help with roadside hazardous-fuel reduction. They have also partnered with CAL FIRE on roadside shaded-fuel breaks beyond the County right-of-way. The amount and type of work that these crews can do is limited by County staff supervision and support equipment. With more equipment and staff to lead projects, County Roads estimate they could employ crews for five months/year to complete approximately two-hundred miles of roadside fuel breaks over the next five years. To achieve this, the County would need three new employees, two more equipment trailers with porta potties, and two more chippers.</p> <p>Developing County agreements with the California Conservation Corps (CCC) for their crews to assist with this work, as well as collaborating on projects with local FSCs and others doing fuel-hazard reduction is a beneficial step to explore in this action. Expanding these partnerships could be especially helpful when CAL FIRE crews are unavailable, and for projects beyond the County right-of-way. Finally, these partnership agreements would facilitate identification of best practices for treatment prescriptions as strategic fuel breaks. Building partnerships with local FSCs would also support FSC work along county roads, such as waivers for encroachment permits and the sharing equipment (e.g. roadwork signs).</p> <p>This action would also explore options to develop agreements with Caltrans, PG&E, and the Shelter Cove Resort Improvement District (RID) to support work along each other's easements. These agreements would improve efficiency, allowing work to be completed by one jurisdiction within the easement of another when it is adjacent to an active project area. Currently, adjacent vegetation remains untreated until the other jurisdiction can address it. The ability of County Roads to fully participate in this priority action would be contingent on both securing grant funds to support specific tasks, as well as sustainable funding from sources such as California Senate Bill 1, Road Repair and Accountability Act.</p>

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	HCFSC will support County Roads to identify funding and collaboration opportunities to increase the Division’s capacity to keep up with roadside-vegetation management, to expand work beyond the County right-of-way, and explore various effective fuel-treatment methods.
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group with County Public Works Road Maintenance
ADDITIONAL PARTNERS	County Board of Supervisors (BOS), County OES, California Conservation Corps (CCC), Cal Trans, CAL FIRE, FSCs, Shelter Cove Resort Improvement District, Redwood Community Action Agency (RCAA), Humboldt Area Foundation.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Meet with County Roads to confirm staffing and equipment needs, calculate associated funding needs, and identify how to support the establishment and maintenance of roadside-fuel breaks. ➤ Work with County Roads staff and local FSCs to refine and confirm the target number of miles for treatment and prescription goals under for the five-year period. ➤ Identify priority evacuation routes needing treatment from <i>Planning Unit Action Plans</i> and other sources. Provide a list to County Roads with potential collaborative partners in each area, where applicable. ➤ Identify applicable laws and regulations. Develop compliance plans and apply measures to avoid the potential spread of invasive species. Review existing compliance resources and best management practices to determine if additional guidance materials are necessary. ➤ Develop partnerships and funding plans to secure the necessary resources for the work identified above. ➤ Brainstorm potential matching funding sources. ➤ Brainstorm talking points to share with potential funders, legislators, and the BOS. ➤ Provide support to County Roads when road-maintenance funding legislation and policy opportunities arise. The success of larger funding initiatives for County Roads could provide additional support for and/or matching funding. ➤ Review progress with County Roads staff. ➤ Monitor results. ➤ Share results with HCFSC, BOS, funders, and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	TREATMENT OF TWO-HUNDRED MILES OF COUNTY ROADS AND EXPANDED PARTNERSHIPS TO SUPPORT ROADSIDE VEGETATION MAINTENANCE.

POTENTIAL PROJECTS

- Secure funding and other resources to repair, maintain, and/or upgrade priority ingress and egress sites.

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PRIORITY ACTION 3.2.5-2 WORK WITH CAL TRANS TO DEFINE A PROCESS TO FACILITATE FUEL REDUCTION TO REDUCE FUEL HAZARDS ALONG PRIORITIZED PRINCIPAL ROADS THROUGHOUT THE COUNTY.	
DESCRIPTION	Coordination is needed with <i>Cal Trans</i> at the local and state levels to ensure maintenance and roadside-fuel reduction of priority evacuation routes throughout the county. Identifying a landscape-scale network of treated roads will also help facilitate implementation of prescribed fire treatments, as described in <i>Chapter 3.5, Restoration of Beneficial Fire</i> and <i>Priority Action 3.5.3-1</i> .
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group with Cal Trans
ADDITIONAL PARTNERS	County Roads, BOS, County OES, CCC, CAL FIRE, FSCs, State elected officials.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify priority evacuation routes needing treatment from <i>Planning Unit Action Plans</i>. ➤ Looks for examples of how other communities or counties have developed successful cooperative relationships with <i>Cal Trans</i>. ➤ Prioritize public roads for treatment. ➤ Identify applicable laws and regulations. Develop compliance plans and apply measures to avoid the potential spread of invasive species. Review existing compliance resources and best management practices to determine if additional guidance materials are necessary. ➤ Identify areas where prescribed fire could be used along principal roads. ➤ Schedule initial meeting with local <i>Cal Trans</i> office. ➤ Meet with <i>Cal Trans</i>. ➤ Evaluate if assistance is needed from statewide elected officials or agency partners. ➤ Monitor results. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	COORDINATION PROCESS IN PLACE WITH CAL TRANS TO IMPLEMENT HAZARDOUS-FUEL REDUCTION ALONG PUBLIC ROADS.

POTENTIAL PROJECTS

- Work collaboratively to pool resources to create shaded-fuel breaks along key access roads, especially those identified at community workshops, to improve safety for evacuation as well as for firefighters responding to a wildfire.
- Continue to identify priority areas along roadways to reduce hazardous fuels.
- Identify priority roads as a *CAL FIRE* or *Forest Service* hazard, to reduce permitting issues.

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3.2.6 METRIC: COMMUNITY FUEL REDUCTION

EVERY PLANNING UNIT AS DEFINED IN THIS CWPP WILL HAVE AT LEAST ONE PRIORITY FUEL-REDUCTION PROJECT COMPLETED.

PRIORITY ACTION 3.2.6-1 WORK WITH LEADERS IN EACH PLANNING UNIT TO SUPPORT PROJECT DEVELOPMENT, INCLUDING IDENTIFICATION OF NEEDED RESOURCES AND POTENTIAL OBSTACLES TO FACILITATE FUEL-HAZARD REDUCTION PROJECT IMPLEMENTATION AND MAINTENANCE.	
DESCRIPTION	<p>Community fuel breaks between homes and wildland areas are an important component to creating fire-safe communities. Often, these areas are along public lands, or larger private lands such as industrial timber lands. Priority treatment areas are identified in the <i>Planning Unit Action Plans</i> of this CWPP. Local fire departments, Fire Safe Councils, Firewise® Communities, and state and federal agency representatives can work together to design and implement priority projects.</p> <p>Compliance and permitting issues can slow down projects. Therefore, it's important to identify projects early and begin the planning process to facilitate timely implementation. This is especially true for projects on federal lands or with federal funding.</p> <p>The goals of this action are to facilitate community-scale fuel reduction-project implementation and maintenance in each Planning Unit throughout the county; collaborate to properly permit projects through the required process; and employ methods that minimize carbon emissions and maintain and/or restore ecosystem function, process, and health. Ideally these community-scale fuel-reduction projects will tie into the collaborative processes identified in <i>Metrics 3.5.3</i> and <i>3.5.7</i> regarding creation of larger, landscape-scale fuel treatments and where to manage wildfire.</p>
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group
ADDITIONAL PARTNERS	SRNF, BLM, RNP, CAL FIRE, CCC, Cal Trans, tribes, FSCs, Firewise® Communities, fire departments, timber industry, watershed councils and other community organizations, Resource Conservation Districts, Community Service Districts.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify a process for identification of initial communities in each Planning Unit. ➤ Identify community spark plugs and agency leaders in targeted communities. ➤ Share priority projects from <i>Planning Unit Action Plan</i>. ➤ Identify project mentors if needed. ➤ Convene meetings to identify priority fuel reduction, shaded fuel breaks, and/or maintenance project areas. ➤ Evaluate options for fuels reduction methods with consideration of associated carbon emissions and ecosystem impacts and strive for a balance between potential impacts and expected benefits. ➤ Identify applicable laws and regulations. Develop compliance plans and apply measures to avoid the potential spread of invasive species. Review existing compliance resources and best management practices to determine if additional guidance materials are necessary. ➤ Dovetail fuel treatments along roads with fisheries concerns to enhance project efficiency and funding opportunities. ➤ Brainstorm regarding implementation funding, lead agency, and other details. ➤ Begin planning and permitting process. ➤ Direct communities to resources such as CAL FIRE and CCC crews, and other potential in-kind resources. Look for local matching funds. ➤ Apply for funding. ➤ Secure funding, identify contractors. ➤ Begin project implementation. ➤ Monitor results. ➤ Share results with HCFSC, project partners, and funders.

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	<ul style="list-style-type: none"> ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	AT LEAST ONE FUEL-HAZARD REDUCTION OR MAINTENANCE PROJECT COMPLETED OR IN DEVELOPMENT IN EACH PLANNING UNIT.

PRIORITY ACTION 3.2.6-2 ENGAGE PG&E TO ACTIVELY REDUCE FUELS AND POTENTIAL IGNITIONS ALONG POWER LINES THROUGH COLLABORATIVE EFFORTS TO IMPLEMENT RISK-REDUCTION PROJECTS.

DESCRIPTION	The number of fires related to power lines appears to be increasing, especially with more extreme weather events. PG&E’s active participation in risk reduction is needed in Humboldt County. This action would explore options with PG&E to ensure fuels are reduced along priority easements throughout the county. This could include using its community-investment program to support a local FSC to undertake supplemental-fuel reduction to occur in between the regular maintenance times of PG&E’s contracted crews. Collaborating to alter PG&E’s vegetation management policies and specifications would also be explored.
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group with PG&E
ADDITIONAL PARTNERS	FSCs, Firewise® Communities, County OES, fuel-reduction crews and tree-trimming contractors, CCC, volunteer fire departments, Shelter Cove Resort Improvement District, CAL FIRE.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify priority-powerline easements for fuel reduction, using the <i>Planning Unit Action Plans</i> of this CWPP. ➤ Identify PG&E point person in each management area for efficient project implementation. ➤ Work at local and state levels with PG&E to discuss project implementation and funding options. ➤ Explore opportunities for local fuel-reduction crews to work on PG&E maintenance along power lines. ➤ Identify applicable laws and regulations. Develop compliance plans and apply measures to avoid the potential spread of invasive species. Review existing compliance resources and best management practices to determine if additional guidance materials are necessary. ➤ Work with PG&E to share relevant maintenance information to document lines being treated and/or maintained. ➤ Set up meetings to discuss standards and vegetation-management protocol. ➤ Identify a process to work with PG&E and landowners regarding PG&E easements through their properties. ➤ Monitor results. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ACTIVE RELATIONSHIPS WITH PG&E AT LOCAL AND STATE LEVELS TO ADDRESS PRIORITY AREAS FOR REDUCING FUEL HAZARDS ALONG PG&E EASEMENTS.

POTENTIAL PROJECTS

- Develop an “Adopt a Fuelbreak” program for maintenance of fuelbreaks and employ appropriate maintenance practices.
- Support creation of local goat herds for fuel reduction and maintenance.

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3.2.7 METRIC: UTILIZING EXCESS FUELS

MATERIALS RESULTING FROM HAZARDOUS FUEL-REDUCTION ACTIVITIES WILL BE UTILIZED LOCALLY.

PRIORITY ACTION 3.2.7-1 SUPPORT AND CREATE COMMUNITY CHIPPING PROGRAMS TO ASSIST RESIDENTS IN DISPOSING OF THINNED MATERIALS.	
DESCRIPTION	Chipping programs have a credible history of encouraging fuel reduction around homes and neighborhoods. Such programs offer free or low-cost chipping for landowners who reduce fuels and need to dispose of the excess materials. Local Fire Safe Councils, such as the Willow Creek, Lower Mattole, and Orleans/Somes Bar Fire Safe Councils have had effective chipping programs in place for years. Additionally, CAL FIRE has chippers (sometimes with crews) that can work with local FSCs and Firewise® Communities to chip thinned materials. The timber industry can also partner with neighboring communities to offer free chipping services.
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group
ADDITIONAL PARTNERS	FSCs, Firewise® Communities, CAL FIRE, SRNF, BLM, RNP, NCUAQMD, timber industry, watershed councils, Resource Conservation Districts, CCC, volunteer fire departments.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Review existing chipping programs to learn what works and doesn't. ➤ Explore creating a countywide and/or local chipping programs. ➤ Research insurance and maintenance issues and options. ➤ Draft a project proposal and budget. ➤ Seek funding. Air Quality Districts have funded similar programs in other counties. ➤ Create outreach materials to share throughout the county. ➤ Implement through HCFSC, local FSCs, Firewise® Communities, non-profit/watershed council and/or Resource Conservation District partners. ➤ Monitor results. ➤ Share results with HCFSC, project partners, and funders. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	COUNTYWIDE AND/OR NEW LOCAL COMMUNITY-CHIPPING PROGRAM IS IN PLACE AND AVAILABLE TO COLLABORATING ORGANIZATIONS.

PRIORITY ACTION 3.2.7-2 FOLLOW AND SHARE THE LATEST RESEARCH ON OPTIONS FOR UTILIZING AND DISPOSING OF WOODY MATERIALS GENERATED FROM FUEL-REDUCTION ACTIVITIES.	
DESCRIPTION	<p>Information and education are needed for both practitioners and the public regarding the options available for locally disposing of and/or utilizing materials resulting from fuel reduction and related activities. This comparison would 1) examine the ultimate fate of woody materials and its effectiveness in reducing fuels or other project objectives, and 2) where utilization options (e.g. fuel wood, biochar, energy, etc.) can be achieved, an evaluation of emissions, community exposure to pollutants, and substitution for fossil fuels. The comparison would address economic, ecological, and social considerations including community exposure to smoke and other emissions from wildfire or fuel-reduction activities, ecological benefits and impacts, and economic feasibility of the following options:</p> <ul style="list-style-type: none"> ○ Wildfire, ○ Pile and burn in forest, ○ Prescribed fire, ○ Lop and scatter, ○ Mastication, ○ Chipping, ○ Large-scale composting facilities, ○ Mycological products, ○ Firewood for wood stoves, ○ Value-added wood products,

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	<ul style="list-style-type: none"> ○ Other wood products (e.g. round logs, biochar, biofuels, etc.), ○ As feedstock for biomass power plants. <p>Initial review of applicable research would include:</p> <ul style="list-style-type: none"> ○ The research cited in <i>Figure 5.1.1, 2017 Orleans Smoke Impacts</i>, in the <i>Air Quality</i> section of <i>Chapter 5.1, Assets and Values at Risk</i>, comparing the smoke impacts from wildfire versus prescribed fire. ○ NCUAQMD materials regarding wood-burning stoves and the importance of correctly seasoning wood, including identifying and communicating practical alternatives to using unseasoned or wet wood to regulate stove temperature, and NCUAQMD's <i>Woodstove Replacement Program</i>.⁵ ○ Education about the differences in wood stove designs and fuel types. ○ The federal Environmental Protection Agency's (EPA) <i>Strategies for Reducing Residential Wood Smoke</i>⁶ materials. ○ Current relevant research of the Schatz Energy Research Center.⁷ <p>Finally, evaluate disposal/utilization options from the perspective of those living with respiratory issues or other smoke sensitive health conditions and explore options for protecting them; this could result in using alternative methods near sensitive populations or employing mitigation measures to reduce smoke impacts.</p>
RESPONSIBLE PARTY	HCFSC Wildfire Preparedness Work Group with Schatz Energy Research Center
ADDITIONAL PARTNERS	University of California Cooperative Extension, NCUAQMD, community organizations, FSCs, Firewise® Communities, Hayfork Watershed Research and Training Center and other regional partners working on biomass, timber industry.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Establish project committee. ➤ Identify current research and review, including local information from Schatz Energy Research Center. ➤ Review existing programs and materials by EPA, NCUAQMD, and others. ➤ Identify and review current projects being implemented, and support positive projects. ➤ Share current information with HCFSC partners and networks, including inviting speakers to quarterly meetings. ➤ Outreach to conservation groups on the importance of utilizing fuels locally. ➤ Share results with HCFSC and project partners. ➤ Share information on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	INCREASED AWARENESS OF THE OPTIONS, AND SUPPORT FOR, BEST PRACTICES OF LOCAL WOODY MATERIAL UTILIZATION.

POTENTIAL PROJECTS

- Invest in the development of clear, concise, and well-cited facts regarding ecological impacts associated with wildfire, controlled burning, and other options.
- Summarize air quality data from the North Coast Air Basin to describe the relative impact of different pollutant sources that contribute to Humboldt's non-attainment. Describe measures that would mitigate each emission source and its relative cost.
- Communicate to local government the break-even costs for bringing local residues to local markets (differentiated by residue-quality classes and end-products).

⁵ NCUAQMD. Wood Stove Replacement Program [Webpage]. Retrieved from <http://www.ncuaqmd.org/index.php?page=wood.stove>

⁶ Environmental Protection Agency. (2013). Strategies for Reducing Residential Wood Smoke. (pp. 16-21). Retrieved from <https://www.epa.gov/burnwise/strategies-reducing-residential-wood-smoke>

⁷ Available from: <http://www.schatzlab.org/projects/bioenergy.html>

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APPENDIX O: DISASTER PREPAREDNESS

GOAL 3: INCREASE RESIDENTS’ ABILITY TO EFFECTIVELY PREPARE FOR AND SURVIVE WILDFIRE DISASTERS.

OBJECTIVE 3

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL WILL ASSIST ITS COLLABORATORS IN DEVELOPING AND IMPLEMENTING STRATEGIES TO HELP RESIDENTS EFFECTIVELY PREPARE FOR AND SURVIVE WILDFIRE.

The following Metrics and Priority Actions have been identified by the Humboldt County Fire Safe Council to be accomplished over the next five years towards meeting the goal of increasing Humboldt County residents’ ability to effectively prepare for and survive wildfire. This goal is focused on what to do before, during, and after a wildfire event. *Goal 2: Wildfire Preparedness* addresses community preparedness throughout the year.

For more information on fire protection and emergency response in Humboldt County, see Chapter 5.3, Wildfire Protection. For more information on community preparedness, see Chapter 5.4, Community Preparedness.

It is the intention of the collaborators of this CWPP that everything recommended in this Action Plan be implemented expeditiously over the next five years. That said, implementation is subject to the availability of funds and other resources, and the willingness and ability of community members and CWPP collaborators to take action.

3.3.1 METRIC: EDUCATION

A MAJORITY OF RESIDENTS WILL BE PROVIDED INFORMATION ON HOW TO PREPARE THEIR HOMES AND FAMILIES IN THE EVENT OF AN ONCOMING WILDFIRE AND HOW TO SAFELY EVACUATE.

PRIORITY ACTION 3.3.1-1 DEVELOP AND IMPLEMENT COLLABORATIVE OUTREACH STRATEGIES REGARDING FAMILY AND COMMUNITY DISASTER PREPAREDNESS FOR WILDFIRE.	
DESCRIPTION	<p>Collaborating across agencies to create and share disaster preparedness information and outreach strategies will help to educate residents about how to prepare for an emergency and evacuate safely when needed. Special emphasis will be placed on the importance of creating family disaster and evacuation plans. Recent megafires illuminated the importance of residents being prepared to evacuate with very little notice. This action will share outreach materials including <i>Ready, Set, Go!</i> through direct channels and media, with the possibility of finding funding to mail materials to every post office box in rural areas.</p> <p>Information will include:</p> <ul style="list-style-type: none"> ○ Personal and household preparedness. ○ Family Disaster Plan and Family Evacuation Plan templates. ○ <i>Ready, Set, Go!</i> ○ Messaging to evacuate early when notified to do so and to be ready to go quickly; importance of listening for and heeding information from local law enforcement. ○ Recommended two weeks of emergency supplies in Humboldt County (vs. the 72-hour national recommendation). ○ Preparing Go Bags and Survival Kits, with valuables and emergency supplies. ○ The difference between <i>Voluntary Evacuation Advisories</i> and <i>Mandatory Evacuation Orders</i>. ○ Safe evacuation during a wildfire event, including planning for multiple escape routes for a variety of different wildfire scenarios. ○ Having easily passable, unlocked gates during emergencies.

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	<ul style="list-style-type: none"> ○ Protective measures to take when Mandatory Evacuation is not elected or possible, and the risks of sheltering in place. <p>This action could target the business community at some point.</p>
RESPONSIBLE PARTY	Humboldt County Fire Safe Council (HCFSC) Disaster Preparedness Work Group
ADDITIONAL PARTNERS	County Office of Emergency Services (OES), County Sheriff, CAL FIRE, tribes, fire departments, local law enforcement, local media.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Brainstorm topics to address in outreach campaigns. ➤ Identify a topic for the first campaign and points to highlight in outreach materials. ➤ Brainstorm talking points. ➤ Review existing materials, including <i>Ready, Set, Go!</i> ➤ Gather supporting materials, including examples done by other communities, graphics, text, etc. ➤ Share with collaborators for review, input, and approval. ➤ Identify implementation tasks, e.g. writing materials, media releases, creating a brochure, doing interviews, etc. ➤ Share with HCFSC and ask for volunteers to help with media tasks such as interviews. ➤ Identify and implement outreach strategy. ➤ Document results, including copies of newspaper articles, social media exposure, radio or TV interviews, etc. ➤ Share results with HCFSC. ➤ Collaborators meet before fire season every year to discuss what everyone is doing and how to support each other’s outreach efforts. ➤ Share materials and success stories on websites, social media, and other media outlets as identified in <i>Metric 3.4.1</i>. ➤ Monitor results. ➤ Share results with HCFSC at next quarterly meeting. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	IMPLEMENTATION OF AT LEAST ONE WILDFIRE DISASTER-PREPAREDNESS CAMPAIGN.

3.3.2 METRIC: EVACUATION

A MAJORITY OF RESPONSE PARTNERS WILL BE INVITED TO PARTICIPATE IN THE COMPILATION, REVIEW, TRAINING, AND EXERCISE OF THE COUNTY EVACUATION PLAN.

<p>PRIORITY ACTION 3.3.2-1 COLLABORATE WITH KEY RESPONSE PARTNERS TO COMPLETE AND EXERCISE THE COUNTYWIDE EVACUATION PLAN.</p>	
DESCRIPTION	<p>The <i>Humboldt County Evacuation Plan</i> is being developed by County OES and will cover all hazards, including wildfire.</p> <p>Safe, coordinated evacuation requires the participation and collaborative training of law enforcement and fire agencies with jurisdictional responsibility, social services, volunteer organizations, and other community groups.</p>
RESPONSIBLE PARTY	County OES with HCFSC Disaster Preparedness Work Group

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ADDITIONAL PARTNERS	Law enforcement agencies, CAL FIRE, Humboldt County Fire Chiefs’ Association (HCFCA), fire departments, Six Rivers National Forest (SRNF), Redwood National Park (RNP), Bureau of Land Management (BLM), County Department of Health and Human Services (DHHS), Community Emergency Response Teams (CERTs), American Red Cross, Voluntary Organizations Active in Disasters (VOAD), Humboldt transit agencies, and interested public.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify HCFSC role. ➤ Meet with individual jurisdictions to include input and considerations for incorporated, unincorporated, State Responsibility Area (SRA), Federal Responsibility Area (FRA), and tribal communities. ➤ Develop evacuation maps in conjunction with written plan. ➤ Provide draft plan to stakeholders and response agencies for open review period. ➤ Request endorsement from HCFCA, HCFSC, CAL FIRE, and SRNF for recommended approval by County Board of Supervisors. ➤ Exercise the plan with agencies responsible for evacuation and mass care, including tabletop and full-scale exercises. ➤ Share success stories on websites, social media, and other media outlets as identified in <i>Metric 3.4.1</i>. ➤ Share results with HCFSC at next quarterly meeting. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	FINALIZATION AND EXERCISE OF THE COUNTYWIDE EVACUATION PLAN.

The following lists of Potential Projects are those supported by this CWPP as having a positive benefit towards meeting this Metric, Objective, and Goal. The Humboldt County Fire Safe Council and its collaborators support and encourage implementation of the potential projects listed throughout this Action Plan.

POTENTIAL PROJECTS

- Review the community-identified evacuation information generated through this planning process for development as incident-specific evacuation areas and routes.
- Identify existing options for local pet and livestock emergency evacuation. Create a local **Disaster Animal Response Team**. Work with feed stores, veterinarians, boarding facilities, and animal associations to identify needs and resources, and educate residents on options.
 - Collaborate to develop local horse and livestock evacuation plans.
 - Emphasize the importance of having a plan in place to evacuate horses, especially if residents don’t have a trailer. Trailer-train horses to safely evacuate. Identify areas where residents have large animals and no means of evacuating them.
 - Distribute existing pet and large-animal evacuation literature.

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3.3.3 METRIC: EVACUATION SITES AND SHELTERS

EVERY COMMUNITY WILL HAVE POTENTIAL EVACUATION SITES AND SHELTERS IDENTIFIED AND EVALUATED, WITH AGREEMENTS IN PLACE.

PRIORITY ACTION 3.3.3-1 COLLABORATE TO UPDATE OPTIONS FOR EVACUATION SITES AND SHELTERS.	
DESCRIPTION	HCFSC Disaster Preparedness Work Group will work with County OES to identify local evacuation sites and temporary shelter areas. Appropriate sites will be evaluated for accessibility (including those identified at community meetings) and ability to function as evacuation sites and/or assistance centers during emergency situations.
RESPONSIBLE PARTY	County OES
ADDITIONAL PARTNERS	County Health and Human Services (DHHS, including Public Health, Social Services, and Mental Health), HCFSC Disaster Preparedness Work Group, American Red Cross, fire departments, HCFCA, municipalities, Fire Safe Councils (FSCs) and Firewise® Communities, schools, County Office of Education, County Chief Administrative Officer, County Americans with Disabilities (ADA) Coordinator, other community partners.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Review preliminary list of existing sites. ➤ Review and incorporate the community-identified evacuation information generated at the CWPP workshops. ➤ Gather information from local fire departments and other local entities regarding potential sites. ➤ Identify which sites are still appropriate, ADA- and Fair Housing Act-compliant, but may need maintenance. ➤ Evaluate facility capacity and resources (e.g. parking, restrooms, showers, kitchen, power, communications, etc.). ➤ Relevant County departments develop and maintain agreements with facilities. ➤ Work with facility owners/managers and community volunteers to identify available resources and gaps for shelter operations. ➤ Identify potential funding sources to build supply caches in rural communities. ➤ Review results with Work Group. ➤ Share results with HCFSC. ➤ Monitor results. ➤ Share materials on HCFSC website, social media, local media outlets, and other avenues as identified in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	MAINTENANCE OF A CURRENT LIST OF EVACUATION SITES AND SHELTER SITES.

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3.3.4 METRIC: WATER SOURCES

RESIDENTS WILL BE PROVIDED INFORMATION ON DEVELOPING AND IDENTIFYING WATER SOURCES FOR FIRE SUPPRESSION, AND SHARING THAT INFORMATION WITH LOCAL FIRE-PROTECTION AGENCIES.

<p style="text-align: center;">PRIORITY ACTION 3.3.4-1 DEVELOP AND IMPLEMENT AN OUTREACH STRATEGY TO INFORM RESIDENTS OF THE NEED TO HAVE ACCESSIBLE, MAPPED, AND IDENTIFIABLE WATER FOR FIRE SUPPRESSION, AND HOW TO SHARE INFORMATION WITH LOCAL FIRE AGENCIES.</p>	
DESCRIPTION	<p>Design a program to educate residents about how to properly set up water tanks and sources for use by firefighters. Include the following information:</p> <ul style="list-style-type: none"> ○ Make sure existing and future water tanks have proper fittings for fire hoses. ○ Fill water tanks in winter. (Use the Sanctuary Forest Storage and Forbearance Program¹ as a model.) ○ Include signage about where the water is located, e.g. a Blue Dot program with blue reflective markers.² <p>This information would then be shared with local fire departments and included in local map books. <i>(See Metric 3.4.8.)</i></p>
RESPONSIBLE PARTY	HCFSC Disaster Preparedness Work Group with HCFA
ADDITIONAL PARTNERS	Fire departments, County OES, CAL FIRE, tribes, FSCs and Firewise® Communities, hardware/garden supply stores, SRNF, BLM, RNP, County Planning and Building (GIS).
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify and review existing educational materials. ➤ Find and photograph local examples of good water storage, fittings, signage, etc. ➤ Develop any needed new materials. ➤ Create talking points. ➤ Identify outreach strategy, e.g. local media, social media, handouts, workshops, etc. ➤ Develop a display to use in local hardware stores and other relevant locations, in coordination with the address/signage campaign. <i>(See Metric 3.3.5.)</i> ➤ Identify locations for displays. ➤ Set up displays. ➤ Get information into local fire department map books. ➤ Share results with HCFSC and HCFA. ➤ Monitor results. ➤ Share materials on HCFSC website, social media, local media outlets, and other avenues as identified in <i>Metric 3.4.1.</i> ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	IDENTIFICATION OF AVAILABLE WATER FOR FIRE SUPPRESSION FOR LOCAL FIRE AGENCIES.

¹ Storage and Forbearance Program. Sanctuary Forest. Retrieved from <http://www.sanctuaryforest.org/programs/water-stewardship/tanks-forbearance-program>

² Blue Reflective Hydrant Markers. (2001). FireHydrant.org. Retrieved from <http://www.firehydrant.org/info/bluedot.html>

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POTENTIAL PROJECTS

Residents:

- Develop incentive-based programs for residents to acquire, develop, and/or maintain extra water sources for firefighting.
- Create a handout similar to Mendocino County FSC “Developing Water Supplies for Fire Protection” and Humboldt #1 Fire Protection District handouts.
- Identify barriers to installing water tanks, ponds, and water bladders for fire-suppression efforts (permit costs, increased taxes, etc.).

Fire Suppression:

- Secure funding to design and implement a countywide Blue Dot program, providing information and materials for installing reflective blue dots and signs identifying the location of water for use by firefighters, especially in high-risk areas or those not served by a community water system.
- Encourage RAC-funded programs to place water storage tanks for fire protection on lands adjacent to federal lands, especially in the areas of Orleans, Weitchpec, Willow Creek, Titlow Hill, and Dinsmore (Forest Service adjacency) and Redwood Valley, Whitethorn, Shelter Cove, Honeydew, and Prosper Ridge (Bureau of Land Management (BLM) adjacency).
- Explore funding for a water storage program (tanks, ponds, water bladders, and/or water tenders) for rural areas, especially on private lands not adjacent to federal lands, in all communities in the State Responsibility Area (SRA) not mentioned above and not already on a public or private community water system. Prioritize zones of High and Very High Fire Hazard Severity.

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3.3.5 METRIC: SIGNAGE

A MAJORITY OF RESIDENTS WILL MEET LOCAL AUTHORITY AND/OR HUMBOLDT COUNTY REGULATIONS³ FOR ROAD AND HOME SIGNAGE.

PRIORITY ACTION 3.3.5-1 DEVELOP AND IMPLEMENT AN OUTREACH PROGRAM TO INFORM RESIDENTS REGARDING CURRENT ROAD AND HOME SIGNAGE REQUIREMENTS AND HOW TO ECONOMICALLY MEET THEM.	
DESCRIPTION	This action item would develop a program that promotes and provides resources for installing road name signs and home address signs, with a particular emphasis on educating residents about the importance of posting and maintaining such signage. This is critical for rapid response of emergency responders. This action could include creating a handout for residents (with photos) regarding the importance of, and how to effectively post signs, including how to confirm a resident’s legal, physical address. It could be distributed with building permits and at community events. Finally, it would encourage work with hardware stores and other places that sell reflective signage to develop promotional displays for public education.
RESPONSIBLE PARTY	HCFSC Disaster Preparedness Work Group
ADDITIONAL PARTNERS	Fire departments, tribes, County OES, CAL FIRE, ambulance service, law enforcement, Law Enforcement Chiefs Association (LECA), Neighborhood Watch groups, community volunteer organizations (e.g. Rotary, Scouts), hardware stores.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Gather existing materials, review and identify needs. ➤ Identify outreach options. ➤ Create new materials if needed. ➤ Develop a display to use in local hardware stores and other relevant locations, in coordination with a Blue Dot campaign. ➤ Identify locations for displays. ➤ Set up displays. ➤ Share results with HCFSC and HCFA. ➤ Monitor results. ➤ Share materials and successes on HCFSC website, social media, local media outlets, and other avenues as identified in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	IMPLEMENTED OUTREACH STRATEGY REGARDING THE IMPORTANCE OF ADEQUATE SIGNAGE.

POTENTIAL PROJECTS

- Explore incentives for private road and address signage conformance.
- Standardize county mile-markers along rural roads to assist emergency responders’ ability to locate incident sites quickly and efficiently.
- Standardize road signs and road numbers in rural areas where it is an issue, such as Hoopa.

³ County of Humboldt, Department of Planning & Building. Resource Library: Fire Safe. Retrieved from <https://humboldtqov.org/1812/Fire-Safe>

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3.3.6 METRIC: COMMUNITY EMERGENCY RESPONSE TEAMS

SUPPORT AND IMPROVE EXISTING COMMUNITY EMERGENCY RESPONSE TEAM (CERT) CAPACITY.

PRIORITY ACTION 3.3.6-1 FACILITATE COLLABORATION AND STRENGTHEN RELATIONSHIPS BETWEEN THE HUMBOLDT CERT COALITION AND FIRE DEPARTMENTS AND OTHER RESPONSE AGENCIES BEFORE EMERGENCIES.	
DESCRIPTION	<p>HCFSC Disaster Preparedness Work Group will collaborate with the Humboldt CERT Coalition (HCC), County OES, and the Humboldt County Fire Chiefs’ Association (HCFCA) to facilitate better collaboration and communication between CERTs and fire departments, including educating departments on the benefits of working with CERTs. This collaboration will help to:</p> <ul style="list-style-type: none"> ○ Build strong CERT team leaders. ○ Establish clear lines of communication before emergency events. ○ Promote opportunities for collaboration in advance of emergencies. ○ Identify projects to utilize CERT teams in between emergencies, e.g. traffic control in parades, etc. This will also serve as ongoing training for CERTs. <ul style="list-style-type: none"> ● Submit these voluntary events or trainings to State Training Office⁴ to ensure state compensation fund insurance coverage.
RESPONSIBLE PARTY	HCFSC Disaster Preparedness Work Group with Humboldt CERT Coalition
ADDITIONAL PARTNERS	Local CERTs, County OES, fire departments, local law enforcement, LECA.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify primary collaboration and communication issues. ➤ Make presentations to HCFCA and LECA. Invite members to participate in project committee. ➤ Have committee meetings to discuss potential options and avenues for collaboration. ➤ Encourage local training opportunities for CERTs at community events. ➤ Educate CERTs and sponsoring organizations regarding state compensation coverage for such training events. ➤ Review progress and identify new issues at regular Humboldt Operational Area meetings. ➤ Train additional community members, and connect trained residents to existing teams. ➤ Provide collaborative training and exercise opportunities for all CERT members at least twice annually. ➤ Share results at Humboldt Operational Area meeting. ➤ Share results with HCFSC, HCFCA, and LECA. ➤ Monitor results. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues as identified in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	INCREASED CERT PARTICIPATION WITH LOCAL FIRE DEPARTMENTS AND OTHER RESPONSE AGENCIES.

⁴ Cal OES. Disaster Service Worker Volunteer Program. Retrieved from <http://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness/disaster-service-worker-volunteer-program>

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PRIORITY ACTION 3.3.6-2 COLLABORATE WITH OTHER EMERGENCY RESPONDERS TO CREATE A COUNTYWIDE CERT.	
DESCRIPTION	In many areas throughout the county, there are not enough volunteers to create a local CERT. A countywide CERT could function in these areas and be housed under the County Sheriff's Office. Project partners could also identify volunteers who may be numerous enough in some areas to create a community-specific team under a local fire department. Funding for training countywide CERT members is already budgeted through County OES.
RESPONSIBLE PARTY	County OES with HCFSC Disaster Preparedness Work Group
ADDITIONAL PARTNERS	Humboldt CERT Coalition, local CERTs, County OES, HCFCA, fire departments, local law enforcement, LECA.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify role for HCFSC. ➤ Provide CERT training. ➤ Identify potential county team leaders among county employees. ➤ Identify communities interested in developing CERT and disaster preparedness capabilities. ➤ Establish training schedule for communities based on interest and capacity. ➤ Support independent development of community capability with biannual training and collaboration opportunities. ➤ Identify funding to purchase equipment for volunteers. ➤ Share results at Humboldt Operational Area meeting. ➤ Share results with HCFSC, HCFCA, LECA. ➤ Monitor results. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues as identified in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	CREATION OF A COUNTYWIDE CERT.

PRIORITY ACTION 3.3.6-3 IDENTIFY AND TRAIN ADDITIONAL CERT INSTRUCTORS.	
DESCRIPTION	There is community interest in getting trained to become a CERT member. However, there is a shortage of qualified trainers in Humboldt County. Getting more trainers trained, whether locally or out of the area, will facilitate the involvement of more CERT members around the county. It would be more cost-effective to send interested trainers out of town for trainings initially, with the goal of generating enough interest locally to bring a <i>Train the Trainer (T3)</i> course to Humboldt. Humboldt CERT Coalition (HCC) and County OES are currently sending students to CERT T3 trainings out of the area.
RESPONSIBLE PARTY	County OES, Humboldt CERT Coalition, and HCFSC Disaster Preparedness Work Group
ADDITIONAL PARTNERS	Local CERTs, County OES, fire departments, local law enforcement, LECA, HCFCA.

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POTENTIAL ACTION STEPS	➤ Identify HCFSC role.
	➤ Identify potential CERT members and others to be trained as trainers.
	➤ Identify trainer training opportunities elsewhere.
	➤ Investigate options to bring <i>Train the Trainer (T3)</i> course to Humboldt.
	➤ Look for funding options to support trainings, including local business sponsorships.
	➤ Send Humboldt residents to be trained as trainers.
	➤ Share results with HCFSC.
	➤ Monitor results.
	➤ Share successes on HCFSC website, social media, local media outlets, and other avenues as identified in <i>Metric 3.4.1</i> .
	➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ADDITIONAL INSTRUCTORS TRAINED TO PROVIDE MORE CERT TRAINING LOCALLY.

POTENTIAL PROJECTS

- Secure funding for community CERT trainings from local philanthropic organizations and businesses.

3.3.7 METRIC: COMMUNITY LIAISONS

FIVE NEW COMMUNITY LIAISONS ACTIVELY COLLABORATING WITH EMERGENCY RESPONDERS.

PRIORITY ACTION 3.3.7-1 COLLABORATE WITH COUNTY OES TO IDENTIFY FIVE NEW COMMUNITY LIAISONS.	
DESCRIPTION	More local community volunteers are needed to act as liaisons with agency and emergency personnel. In responding to fire and law enforcement agencies they provide invaluable information about community concerns, needs, resources, evacuation routes, and access and functional needs. Such a program would be most effective in areas with very high vulnerability and community receptiveness.
RESPONSIBLE PARTY	County OES with HCFSC Disaster Preparedness Work Group
ADDITIONAL PARTNERS	FSCs and Firewise® Communities, fire departments, Community Service Districts, community groups and nonprofits.
POTENTIAL ACTION STEPS	➤ Identify priority communities.
	➤ Define what “liaison” means in this context, the purpose and limitations of the role, and potential variations to fit individual communities.
	➤ Identify community leaders/spark plugs to recommend as potential liaisons.
	➤ Identify potential liaisons in each community, including through this CWPP process.
	➤ Explore using mentors to support new liaisons.
	➤ Coordinate with <i>Neighborhood Watch</i> and other community volunteer organizations.
	➤ Train liaisons.
	➤ Share results with HCFSC.
	➤ Monitor results.
	➤ Share materials on HCFSC website, social media, local media outlets, and other avenues as identified in <i>Metric 3.4.1</i> .
➤ Write up a summary for next CWPP Update.	
DESIRED OUTCOME	FIVE NEW COMMUNITY LIAISONS IDENTIFIED.

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PRIORITY ACTION 3.3.7-2 COMPLETE COMMUNITY PROFILES FOR EVACUATION PLANNING.	
DESCRIPTION	Community Profiles provide critical information regarding what a particular community looks like, who lives there, their specific needs and concerns, and what resources they have available. These profiles will provide key information to County OES and response partners in advance of an emergency to better prepare for and respond during an emergency, especially in wildland-urban interface (WUI) communities.
RESPONSIBLE PARTY	County OES and HCFSC Disaster Preparedness Work Group
ADDITIONAL PARTNERS	FSCs and Firewise® Communities, fire departments, local elected officials, community health resources, businesses, County DHHS, Family Resource Centers, medical providers.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Complete a Community Profile form in coordination with local fire departments, volunteer agencies and community organizations, FSCs, and County DHHS. ➤ Compile and share information with fire and law enforcement agencies. ➤ Maintain profiles to ensure accuracy; make available as a resource during planned or imminent evacuations. ➤ Review <i>Planning Unit Action Plan</i> documents of this CWPP for background information to include. ➤ Share results with HCFSC. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	COMMUNITY PROFILES COMPLETED FOR ALL WUI COMMUNITIES.

3.3.8 METRIC: NOTIFICATION

A MAJORITY OF RESIDENTS WILL RECEIVE TIMELY NOTIFICATION OF AN APPROACHING WILDFIRE AND OTHER RELEVANT PUBLIC INFORMATION.

PRIORITY ACTION 3.3.8-1 COLLABORATE TO DEVELOP INDIVIDUAL EMERGENCY COMMUNICATION PLANS FOR COMMUNITIES WHERE NOTIFICATION ISSUES ARE IDENTIFIED AS A PRIORITY IN THEIR PLANNING UNIT ACTION PLAN.	
DESCRIPTION	<p>This action will facilitate emergency notifications at the neighborhood level, where Humboldt Alert notifications may not reach residents, by developing local communication plans.</p> <p>Several communities have specific needs, not always met by Humboldt Alert. Petrolia identified this issue at their CWPP workshop because of limited cellular coverage and other communication issues.</p>
RESPONSIBLE PARTY	County OES with HCFSC Disaster Preparedness Work Group
ADDITIONAL PARTNERS	Fire departments, FSCs and Firewise® Communities, local law enforcement representatives, schools, community centers.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify target communities via their <i>Planning Unit Action Plan</i> in this CWPP. ➤ Meet with community representatives, local fire departments, and FSC/Firewise® groups. ➤ Identify the community’s needs, resources, and action steps to implement the communication plans. ➤ Support local organizations to implement the identified actions. ➤ Look for potential funding and other resources to support local efforts.

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	<ul style="list-style-type: none"> ➤ Document and share findings related to communication obstacles in WUI communities. ➤ Share results with HCFSC. ➤ Monitor results. ➤ Share success stories on websites, social media, local media outlets, and other avenues as identified in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	EMERGENCY COMMUNICATION PLANS IN PLACE FOR THOSE COMMUNITIES WITH IDENTIFIED EMERGENCY NOTIFICATION ISSUES.

PRIORITY ACTION 3.3.8-2 WORK WITH FIRE AGENCIES TO EDUCATE THEM ON HUMBOLDT ALERT AND HOW THEY CAN USE IT IN THE EVENT OF AN EMERGENCY.	
DESCRIPTION	<i>Humboldt Alert</i> is a county resource that local fire departments can use to notify residents in their communities of wildfire activity and other public safety information. This action would train fire departments and other agencies in how to access and best use <i>Humboldt Alert</i> .
RESPONSIBLE PARTY	County OES with HCFA
ADDITIONAL PARTNERS	HCFCSC Disaster Preparedness Work Group, fire departments.
POTENTIAL ACTION STEPS	County OES meet with HCFA to identify potential issues and uses.
	Develop materials regarding how fire departments can use <i>Humboldt Alert</i> .
	Develop <i>Humboldt Alert</i> capacity for responders, including internal notification groups for non-public alerts.
	Share materials and information with HCFA.
	HCFCSC and HCFA help share information to all fire departments.
	Share results with HCFSC.
	Monitor results.
	Share materials on HCFSC website, social media, local media outlets, and other avenues as identified in <i>Metric 3.4.1</i> .
Write up a summary for next CWPP Update.	
DESIRED OUTCOME	LOCAL AND TRIBAL FIRE DEPARTMENTS KNOW HOW TO REQUEST NOTIFICATIONS VIA HUMBOLDT ALERT.

POTENTIAL PROJECTS

- Set up network of HAM radios to communicate where appropriate out of the local area and to CB radios. This could assist local communications in rural isolated communities.
- Elevate awareness and use of existing notification systems such as KHSU and KMUD radio and other local FM and AM radio stations.
- Improve coordination and communications between wildfire managers, North Coast Unified Air Quality Management District, and local radio and news organizations.
- Collaborate to explore additional measures for alerting residents to pending emergencies, including social networks, popular blogs, and local radio broadcasts.
- Contact cellular providers regarding maintaining existing equipment and exploring additional cellular tower locations.

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APPENDIX O: FIRE PROTECTION

GOAL 4: SUPPORT FIRE-PROTECTION SERVICES FOR PEOPLE, PROPERTY, COMMUNITIES, AND NATURAL RESOURCES.

OBJECTIVE 4

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL WILL SUPPORT ITS COLLABORATORS IN INCREASING FIRE AGENCIES' CAPACITY TO PROVIDE FIRE-PROTECTION SERVICES FOR ALL PEOPLE, PROPERTY, COMMUNITIES, AND NATURAL RESOURCES.

The following Metrics and Priority Actions have been identified by the Humboldt County Fire Safe Council to be accomplished over the next five years towards meeting the goal of supporting fire protection services for people, property, communities, and natural resources in Humboldt County.

For more information on Humboldt County's fire-protection resources and needs, see Chapter 5.3, Wildfire Protection.

It is the intention of the collaborators of this CWPP that everything recommended in this Action Plan be implemented expeditiously over the next five years. That said, implementation is subject to the availability of funds and other resources, and the willingness and ability of community members and CWPP collaborators to take action.

3.4.1 METRIC: STAFFING

ALL FIRE-PROTECTION AGENCIES WILL MAINTAIN LEVEL OF SERVICE STAFFING AS PER NFPA 1710 OR 1720, AS IS APPLICABLE TO THEIR AGENCY, AND GIVEN TRAVEL-TIME CONSTRAINTS.

PRIORITY ACTION 3.4.1-1 INCREASE COMMUNITY AWARENESS OF VOLUNTEER STAFFING AND OTHER FIRE-SERVICE NEEDS BY SUPPORTING THE DEVELOPMENT AND MAINTENANCE OF A WEBSITE.	
DESCRIPTION	The Humboldt County Fire Safe Council (HCFSC) Fire Protection Work Group will support the Humboldt County Fire Chiefs' Association (HCFA) to create a website to share information with residents about volunteer staffing issues and other current needs. The website's purpose will be to educate community members regarding how they can support their local fire department, including helping with fundraisers, grant writing, reporting, paperwork, and/or becoming a volunteer firefighter. The site will include links to individual fire department websites and how community members can volunteer and join their local department.
RESPONSIBLE PARTY	Humboldt County Fire Chiefs' Association (HCFA) with HCFSC Fire Protection Work Group
ADDITIONAL PARTNERS	Local fire departments, County of Humboldt, Fire Safe Councils (FSCs), local media, student volunteers or interns.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ HCFA and Work Group meet to identify the type of information and level of detail to share on the website, and how the HCFSC can provide support. ➤ Review <i>HCFA Annual Report</i> and other documents for content. Contact fire service representatives to identify information to share. ➤ Explore various options regarding where to host the site, including HCFA, HCFSC, another County site, or elsewhere; decide where to host site. ➤ Contact site host to develop a template for hosting information. ➤ Create template for how to share the information, including how community members can participate by volunteering. ➤ Create first iteration of information to share.

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	<ul style="list-style-type: none"> ➤ Put information online and test site. ➤ Set up a process for updating and maintaining the information. ➤ Announce the new website via networks (e.g. HCFCA, HCFSC), local media, and social media. ➤ Support HCFCA to regularly update current volunteer needs. ➤ Share results with HCFSC at next quarterly meeting. ➤ Continually monitor visits and results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	WEBSITE WITH CURRENT INFORMATION REGARDING VOLUNTEER STAFFING AND OTHER FIRE-SERVICE NEEDS.

PRIORITY ACTION 3.4.1-2 COLLABORATE WITH HUMBOLDT COUNTY FIRE CHIEFS' ASSOCIATION TO DEVELOP A PROGRAM TO INCREASE COMMUNITY AWARENESS OF VOLUNTEER STAFFING AND OTHER FIRE-SERVICE NEEDS.

DESCRIPTION	<p>The HCFSC Fire Protection Work Group will work with information developed for the website in <i>Priority Action 3.4.1-1</i> above and identify other avenues to share this information with the public. This could include traditional media outlets (e.g. TV, radio, newspapers), social media, local blogs, and other avenues, including trader magazines. The outreach program could include:</p> <ul style="list-style-type: none"> ○ Creating a series of articles to share about local fire-protection needs, including one on each local fire department. ○ Exploring writing a regular column about local fire department needs in area newspapers and/or blogs. ○ Sharing the website, updates, and articles on social media, through HCFSC, HCFCA, local fire departments, and other supporters. ○ Coordinate with the successful annual media work of the Fire Academy.
RESPONSIBLE PARTY	HCFSC Fire Protection Work Group with HCFCA
ADDITIONAL PARTNERS	Local fire departments, local media, local bloggers, County of Humboldt.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Create, or obtain a copy of a media list of local media outlets. Check with HCFSC partners for existing information and contacts. ➤ Explore options for a local fire-department column: who would write it, how often, where would it be published, etc. ➤ Contact prioritized media outlets regarding hosting a regular column. ➤ Contact the <i>Fire Academy</i> regarding their media efforts and how to collaborate. ➤ Identify topics for feature stories or short stories to share with reporters about local fire departments and their needs. ➤ Reach out to local fire departments asking for potential authors for columns, and/or speakers to be on local radio or TV. ➤ Identify a list of authors for columns or articles, and speakers for TV and radio. ➤ Write three columns or articles to get the project started; identify who will write successive columns. ➤ Write a 1-2 paragraph summary of the project to share with local media to engage their interest and participation. ➤ Identify local bloggers who might be interested in supporting local fire departments. ➤ Reach out to bloggers and share the project summary. ➤ Reach out to local radio and TV stations regarding creating a quarterly, short, public-service program featuring local fire departments. ➤ Regularly share social media updates via HCFCA, HCFSC, and collaborators.

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	<ul style="list-style-type: none"> ➤ Continue to identify future topics, authors, and speakers. ➤ Share results with HCFSC at next quarterly meeting. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ONGOING AND CONSISTENT SOCIAL-MEDIA POSTINGS, QUARTERLY RADIO ANNOUNCEMENTS, AND ONE OR MORE NEWSPAPER ARTICLES ANNUALLY.

The following lists of Potential Projects are those supported by this CWPP as having a positive benefit towards meeting this Metric, Objective, and Goal. The Humboldt County Fire Safe Council and its collaborators support and encourage implementation of the potential projects listed throughout this Action Plan.

POTENTIAL PROJECTS

- Identify process whereby mutual aid partners can help fill minimum staffing requirements in remote areas.
- Explore solutions to staffing issues throughout the day because of volunteers who work during the day, etc.

3.4.2 METRIC: FUNDING

A MAJORITY OF FIRE-PROTECTION AGENCIES WILL HAVE ADEQUATE AND SUSTAINABLE FUNDING.

PRIORITY ACTION 3.4.2-1 SUPPORT HUMBOLDT COUNTY FIRE CHIEFS' ASSOCIATION EFFORTS TO PARTICIPATE IN FUNDING OPPORTUNITIES AND ALLOCATIONS TO LOCAL FIRE-SERVICE AGENCIES.	
DESCRIPTION	<p>Nearly every fire department in Humboldt County needs additional funding to perform the services expected of them by their citizenry to ensure adequate and sustainable community fire protection for all county residents. There is a lack of resources available to dedicate to raising more funds.</p> <p>Via this action item, the HCFSC will support HCFCA to explore options for sustainable and reliable sources of ongoing funding for fire-protection districts and departments. Funding sources could include:</p> <ul style="list-style-type: none"> ○ Revenue exchange agreements, ○ Special taxes, ○ Benefit assessments, ○ Mitigation fees, ○ User fees, ○ Impact fees, ○ Insurance billing, ○ Grant funding, and ○ Revenue sharing agreements for Proposition 172, funding measures such as the Marijuana Excise Tax and Public Safety Sales Tax, and others. ○ Revenue allocated through state legislation (legislation could also take the form of tax credits and/or discounts). <p>Funding would help cover costs, including but not limited to the following:</p> <ul style="list-style-type: none"> ○ Dispatch fees and planning, ○ Insurance and workers compensation expenses, ○ Training programs, both local and countywide, ○ Regional coordinators to support: logistics, collaborative efforts, administrative tasks, capacity building, fundraising, recruitment and retention programs, training programs, and more, ○ Sustained services to all places where there is demand,

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	<ul style="list-style-type: none"> ○ Maintaining operable and up-to-date equipment, and ○ Structures to protect and secure equipment. <p>Defining a cost per firefighter, or a local actual cost per unit of population could help departments to educate their populace regarding the basic funds needed to support a volunteer department. (<i>Fortuna Fire</i> has a display of what it costs to fully outfit a volunteer firefighter.) This information could be useful to understand if it is more expensive to outfit a firefighter and/or cover basic expenses in rural areas, and/or if there is there an economy of scale to funding local fire protection.</p> <p>Finally, this action item would support all local fire departments in having access to quality materials for handing out at fundraising events, to support their local fundraising efforts.</p>
RESPONSIBLE PARTY	HCFA with HCFSC Fire Protection Work Group
ADDITIONAL PARTNERS	Fire departments, County of Humboldt, Fire Safe Councils and Firewise® Communities, Humboldt Area Foundation, community organizations.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ HCFA and Work Group collaborate to identify priority funding needs for the year; including review of HCFA <i>Strategic Plan</i>, the challenges and needs identified in the <i>HCFA Annual Report</i>, and other relevant resources. Review and update priorities annually. ➤ Brainstorm regarding possible funding sources available to support local fire departments. ➤ Develop a local database where the Work Group can track information regarding all possible funding sources, application requirements, how to apply, deadlines, and other relevant information. ➤ Meet with state legislators to discuss the development of funding bills to fund rural fire services. ➤ Provide technical support for the consolidation, expansion, and/or formation of special districts that provide fire-protection services and identify revenue sources (special taxes, benefit tax assessments, impact fees, property taxes). ➤ Provide guidance to local special districts regarding how to ground-truth and update local tax rolls to reflect new developments in order to capture the additional revenues they are due through benefit assessments or special taxes. ➤ Meet with elected officials and decision makers regarding revenue-sharing agreements for Proposition 172, funding measures such as the Public Safety Sales Tax and Marijuana Excise Tax, and other potential sources. ➤ Meet with Humboldt Area Foundation to discuss local and regional funding options, and learn how to do a database search for possible foundation grant support. ➤ Report regularly to HCFSC and HCFA regarding funding opportunities and to stay abreast of funding priorities. ➤ Share funding success stories on website, social media, and other media outlets as identified in <i>Metric 3.4.1</i> above. ➤ Annually evaluate the effectiveness of funding strategies in terms of the rate of funding and identify new strategies for the following year. ➤ Share results with HCFSC at next quarterly meeting. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	LOCAL FIRE SERVICE RECEIVES AN INCREASED RATE OF FUNDING.

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3.4.3 METRIC: EQUIPMENT

75% OF FIRE-PROTECTION AGENCIES WILL HAVE SAFE AND ADEQUATE EQUIPMENT.

PRIORITY ACTION 3.4.3-1 PROVIDE EDUCATION AND SUPPORT FOR MEETING EXISTING MAINTENANCE AND REPAIR STANDARDS.	
DESCRIPTION	Many local fire departments are operating with old equipment that require constant maintenance, especially water tenders. This action item would assist departments in meetings existing maintenance and repair standards with proper forms, inspection templates, and general education regarding these standards.
RESPONSIBLE PARTY	HCFCFA with HCFSC Fire Protection Work Group
ADDITIONAL PARTNERS	Fire departments, state and federal fire protection agencies.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify HCFSC role, such as helping to develop templates and networking. ➤ Research existing templates to use as a basis. ➤ Review and summarize existing standards. ➤ Create checklist forms for local fire departments to use in meeting the standards. Include details in the checklist for filling in actual information (as opposed to only checking a box). ➤ Develop an achievable maintenance schedule. ➤ Ensure all template forms are in a format that can be adapted to include local specifics for each department, e.g. their specific apparatus maintenance schedules. ➤ Share draft documents to HCFCFA and HCFSC networks for review and comment. ➤ Incorporate review and finalize template language with HCFCFA. ➤ Share templates with HCFCFA, fire departments, and other partners. ➤ Share details about the existing standards and template resources on website, social media, and other media outlets as identified in <i>Metric 3.4.1</i> above. ➤ Share results with HCFSC at next quarterly meeting. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ALL LOCAL FIRE-SERVICE PROVIDERS WILL HAVE ACCESS TO INFORMATION ABOUT, AND GUIDANCE MATERIALS TO, MEET MAINTENANCE AND REPAIR STANDARDS.

PRIORITY ACTION 3.4.3-2 EXPLORE AGREEMENTS WITH COUNTY, STATE, OR PRIVATE ENTITIES THAT HAVE EXISTING FACILITIES TO PROVIDE AFFORDABLE EMERGENCY APPARATUS MAINTENANCE AND REPAIR.	
DESCRIPTION	<p>As described above, much firefighting apparatus is in need of maintenance and repair. This action item explores creative options to keep equipment maintained, and to help meet the standard of the previous action.</p> <p>Historically, the timber industry and others who maintained heavy equipment helped with local fire-department equipment maintenance. This action item focuses on exploring potential cooperation opportunities. It does not commit agency partners to provide equipment or maintenance.</p>
RESPONSIBLE PARTY	HCFCFA with HCFSC Fire Protection Work Group
ADDITIONAL PARTNERS	Local fire departments, CAL FIRE, SRNF, BLM, timber and other natural-resource industries, county, state, or private entities that have existing facilities, including County Motor Pool, school districts.

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POTENTIAL ACTION STEPS	➤ Identify HCFSC role.
	➤ Identify the types of maintenance needs to fill.
	➤ Brainstorm potential cooperators.
	➤ Identify contacts within each potential cooperating entity.
	➤ Split up identified contacts and reach out to them to explore the possibility for them to support local fire departments through equipment maintenance.
	➤ Research similar agreements in other areas for potential language.
	➤ Find a local attorney willing to help draft the agreement language pro bono.
	➤ Create first draft of agreement language.
	➤ Share draft agreement language with HCFCA, HCFSC, and interested individuals for initial review.
	➤ Incorporate initial review into draft agreement language.
	➤ Create a final draft of the agreement language to share with potential cooperators.
	➤ Incorporate cooperator’s review into final agreement language.
	➤ Share final agreement language with HCFCA for approval.
	➤ HCFCA finalize and sign agreements with cooperators.
	➤ Share the signing of agreements on website, social media, and other media outlets as identified in <i>Metric 3.4.1</i> above.
➤ Share results with HCFSC at next quarterly meeting.	
➤ Continually monitor results.	
➤ Write up a summary for next CWPP Update.	
DESIRED OUTCOME	AGREEMENTS IN PLACE WITH ENTITIES TO ASSIST WITH REPAIRS AND MAINTENANCE OF LOCAL FIRE APPARATUS.

3.4.4 METRIC: TRAINING

NFPA 1403 STRUCTURAL AND NWCG FFT2 WILDLAND TRAININGS WILL BE AVAILABLE AT THE LOCAL LEVEL FOR ALL FIRE-PROTECTION AGENCIES.

PRIORITY ACTION 3.4.4-1 ESTABLISH REGULAR FIRE-TRAINING PROGRAMS AND CLASSES AT THE LOCAL LEVEL TO SERVE ALL REGIONS THROUGHOUT THE COUNTY.	
DESCRIPTION	<p>As previously stated in this CWPP, consistent and local training opportunities for local fire departments is a priority need for local firefighters. Given the remote nature of many areas, trainings are needed regionally, in the southern, north-eastern, and northern areas of the county, as well as in the existing facilities in the Eel River Valley and Humboldt Bay.</p> <p>HCFCA is currently using Public Safety Sales Tax funding for training facilities. There is now a need to establish structured and coordinated training <u>programs</u>, as well as individual courses. This action would create a standard curriculum and course materials.</p> <p>These trainings would promote National Fire Protection Association (NFPA) 1403¹ as a goal to achieve for structural trainings, and National Wildfire Coordinating Group (NWCG) Firefighter Type 2² for wildland fire training.</p>
RESPONSIBLE PARTY	Humboldt County Fire Instructors Association (under the guidance of HCFCA) with HCFSC Fire Protection Work Group

¹ NFPA 1403: Standard on Live Fire Training Evolutions. (2018). National Fire Protection Association. Retrieved from <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1403>

² Firefighter Type 2 (Crewmember), FFTS. (2018). National Wildfire Coordinating Group. Retrieved from <https://www.nwcg.gov/fft2-firefighter-type2>

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ADDITIONAL PARTNERS	Local fire departments, CAL FIRE, SRNF, BLM, County Office of Emergency Services (OES), College of the Redwoods.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify HCFSC role. ➤ Survey local fire departments and fire academies to identify training needs. ➤ Identify and review existing training options available locally, including courses, trainers, and facilities. ➤ Identify training gaps. ➤ Draft proposed training program. ➤ Send proposed training program for review to HCFCA, Fire Academy, and others. ➤ Identify potential funding sources. ➤ Seek funding to cover expenses. ➤ Get trainers trained to teach courses locally. ➤ Share results with HCFCA and local departments. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share announcements of training opportunities on websites, social media, and other media outlets as identified in <i>Metric 3.4.1</i> above. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	REGULAR FIRE-TRAINING PROGRAMS IN THE SOUTHERN, CENTRAL, AND NORTHERN REGIONS OF THE COUNTY.

3.4.5 METRIC: DISPATCH

EFFICIENT AND EFFECTIVE EMERGENCY DISPATCH SERVICES WILL BE IMPROVED AND MAINTAINED THROUGHOUT THE COUNTY, INCLUDING INCREASING COVERAGE AREA TO 80%.

PRIORITY ACTION 3.4.5-1 EVALUATE CURRENT DISPATCH COVERAGE AREAS TO IDENTIFY AREAS OF DEFICIENCY.	
DESCRIPTION	Given the rural nature of Humboldt County, it is no surprise that there are several areas around the county where one does not have cellular service, let alone radio dispatch capacity. These dispatch “hole” areas include Miranda, Myers Flat, Weott, Whitethorn, Ettersburg, Honeydew, and nearby Whale Gulch, among others. This action item would identify these exact areas of dispatch deficiency so they can be addressed in future actions.
RESPONSIBLE PARTY	HCFCA Communications Committee with HCFSC Fire Protection Work Group
ADDITIONAL PARTNERS	Fortuna Interagency Command Center (FICC), CAL FIRE, County OES, additional Public Safety Access Points (PSAP) including Eureka, Fortuna, County Sheriff, local fire agencies—especially those in areas without radio coverage, County of Humboldt Communications, Bureau of Land Management, local communications equipment and service vendors.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify HCFSC role with the HCFCA Communications Committee and identify opportunities for support. ➤ Survey local fire departments (via HCFCA) and dispatchers to identify geographic holes in coverage. ➤ Work with County Communications and FICC to overlay these deficiency areas with call and incident maps to identify an initial list of priority areas. ➤ Review map of initial priorities with additional data layers for residences and structures, high-traffic roads, and historical emergency-incident locations. ➤ Review draft maps with HCFCA, FICC, CAL FIRE, and County OES. ➤ Incorporate comments from review of draft maps. ➤ Finalize maps and share with HCFCA, FICC, CAL FIRE, and County OES. ➤ Review future options to address deficiency needs, as well as opportunities for the HCFSC to provide support.

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	<ul style="list-style-type: none"> ➤ Share results with HCFSC at next quarterly meeting. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	IDENTIFICATION OF AREAS OF DISPATCH COVERAGE DEFICIENCY.

POTENTIAL PROJECTS

- Secure funding to expand the program of outfitting emergency response vehicles with on-board computers that enhance dispatch and aid firefighters in their efforts to locate incidents.

3.4.6 METRIC: LEVEL OF SERVICE

ALL FIRE AGENCIES WILL DEVELOP AND ADOPT LEVEL OF SERVICE STANDARDS FOR THE NEEDS OF THEIR COMMUNITY.

PRIORITY ACTION 3.4.6-1 PROVIDE EDUCATION AND SUPPORT TO ASSIST FIRE AGENCIES IN IDENTIFYING OPPORTUNITIES TO MEET NFPA 1710 OR 1720 STANDARDS, AS PER AGENCY NEED.	
DESCRIPTION	<p>There are aspects of the National Fire Protection Association (NFPA) response standards that are challenging for rural fire departments. Specifically, response-time expectations cannot consistently be met in many areas due to terrain and roadway limitations. Hence, fire departments either decline to adopt the standards, or ignore the specific expectations as “not applicable.”</p> <p>Additionally, education is needed regarding <i>NFPA 1710</i> and <i>1720</i> standards for many local fire departments in order to support them in meeting the applicable standard.</p>
RESPONSIBLE PARTY	HCFCA with HCFSC Fire Protection Work Group
ADDITIONAL PARTNERS	Fire departments, CAL FIRE, County Roads, Southern Humboldt Fire Chiefs.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify common themes among different departments. ➤ Review call volumes and logs to get a sense of actual call times. ➤ Create a survey for all fire departments regarding their issues in meeting the standards, to better understand their challenges and realities. Include questions for departments that are unable to meet the response standard in rural areas. ➤ Survey local fire departments. ➤ Identify common themes from surveys, call logs, and conversations. ➤ Identify educational needs to address. ➤ Create a guidebook for local fire departments to help them meet these standards. ➤ Educate individual departments about why they should strive to meet the standards. ➤ Look at options and opportunities to meet the response standard. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share materials on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ALL LOCAL FIRE AGENCIES WILL UNDERSTAND AND MOVE TOWARDS MEETING NFPA 1710 OR 1720.

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PRIORITY ACTION 3.4.6-2 SUPPORT AND ASSIST LOCAL FIRE AGENCIES IN REPORTING LEVEL OF SERVICE IMPROVEMENTS TO ISO TO IMPROVE LOCAL RATINGS.	
DESCRIPTION	Local fire agencies, such as the <i>Westhaven Fire Company</i> , have been successful in improving their <i>Insurance Service Office (ISO)</i> ratings, which has resulted in the lowering of insurance rates for local residents. This action item would help local fire agencies to understand and facilitate the reporting process to ISO, and back to their community, to help improve ratings and ideally lower local insurance premiums.
RESPONSIBLE PARTY	HCFSC Fire Protection Work Group with HCFCA
ADDITIONAL PARTNERS	Local fire agencies, ISO, insurance companies.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Review ISO procedures. ➤ Talk to <i>Westhaven Fire Company</i> regarding how they did this, what they learned, and what they suggest for other local fire departments. ➤ Develop a simple, step-by-step handout to share with local VFDs regarding how to report their improvements to ISO. ➤ Share handout with local fire departments via HCFCA and other regular channels. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share materials on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	IMPROVEMENT OF ISO RATINGS IN COMMUNITIES WHERE LEVEL OF SERVICE HAS IMPROVED.

3.4.7 METRIC: ENVIRONMENTAL IMPACTS

IDENTIFY AND PLAN TO MINIMIZE NEGATIVE IMPACTS OF FIRE-RESPONSE OPERATIONS TO ECOSYSTEM PROCESSES AND FUNCTIONS.

PRIORITY ACTION 3.4.7-1 COLLABORATE WITH LOCAL FISHERIES RESTORATION ORGANIZATIONS TO MINIMIZE NEGATIVE IMPACTS TO CRITICAL FISH HABITAT.	
DESCRIPTION	There is increasing interest and need to ensure that fire-suppression efforts in the county do not threaten or harm already vulnerable salmonid populations. Several tangible steps can be taken toward this end, beginning with supporting and encouraging communications between fisheries-restoration organizations and fire-suppression agencies. These conversations are already happening in several of the more remote areas where fisheries habitat restoration occurs, such as Southern Humboldt and the Mid-Klamath. Representatives from these communities can help spread this message to other fire departments, as well as to state and federal fire-protection agencies. This collaboration is critical during large fires when firefighters are here from outside of the county. This information would also be beneficial to add to pre-fire attack plans (<i>see Metric 3.4.8 below</i>).
RESPONSIBLE PARTY	HCFSC Fire Protection Work Group
ADDITIONAL PARTNERS	HCFCA, Salmonid Restoration Federation, watershed organizations, CAL FIRE, SRNF, fire departments.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify local, experienced fire-protection and/or fisheries-restoration experts around the county to join a committee to lead this effort. ➤ Brainstorm a list of critical issues and potential solutions.

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	<ul style="list-style-type: none"> ➤ Develop a list of recommendations and share with HCFCFA for review. ➤ Educate parties on the negative impacts of fire exclusion on river processes and functions, and to critical fish habitat. ➤ Identify areas of critical fish habitat and include “no dipping” or “fish-screen required” areas on pre-attack maps and include in existing databases, (Aviation already has some of this information). ➤ Highlight potential for less bucket dipping and water drafting in critical fish habitat during incidents (which often occur at critical times for salmonids). ➤ Work with wildfire managers to increase the use of fish screens on water tenders, water pumps, and other pumping devices during large wildfire events. ➤ Tie into Minimum Impact Suppression Tactics (MIST). Educate fire service agencies on how to achieve MIST. ➤ Share with HCFCFA. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share results and success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	STANDARD OPERATING PROCEDURES TO MINIMIZE NEGATIVE IMPACTS TO FISH HABITAT.

3.4.8 METRIC: PRE-FIRE ATTACK PLANS

DEVELOP PRE-FIRE ATTACK PLANS FOR FIVE LOCAL FIRE AGENCIES.

PRIORITY ACTION 3.4.8-1 CREATE AND PROVIDE RESPONSE-AREA MAPS FOR EACH LOCAL FIRE AGENCY.	
DESCRIPTION	There are several local fire organizations who do not have a detailed map of their response area. These “Response-Area Maps” detail the boundaries where each fire agency is committed to responding with fire protection services. Through HCFCFA, the County of Humboldt, CAL FIRE, and SRNF, coverage-area maps will be created and shared with every local fire agency that does not already have this data resource. Maps are currently available to local fire departments for purchase at County Planning and Building/GIS.
RESPONSIBLE PARTY	HCFSC Fire Protection Work Group with HCFCFA
ADDITIONAL PARTNERS	Fire departments, CAL FIRE, SRNF, County Planning and Building GIS.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Survey local fire departments through HCFCFA to identify those that do not have a base map showing their response area. ➤ Make a list of all those agencies in need of maps. ➤ Identify funding sources to pay for maps for organizations that need them. ➤ Identify data layers to be included on the maps. ➤ Review County GIS example maps using County data for response-area boundaries. ➤ Share template with SRNF, BLM, RNP, and/or other interested agencies. ➤ Facilitate communications between local departments and the agency creating the map to ensure the final product will serve the needs of the local fire department. ➤ Ensure final maps are delivered to the respective fire department. ➤ Report to HCFCFA. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>.

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	<ul style="list-style-type: none"> ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	RESPONSE-AREA MAPS CREATED FOR EACH LOCAL FIRE AGENCY.

PRIORITY ACTION 3.4.8-2 CREATE A COUNTY MAP BOOK OF FIRE-PROTECTION RESPONSE AREAS AND RESOURCES.	
DESCRIPTION	<p>Use the maps created in <i>Priority Action 3.4.8-1</i>, combined with existing response-area maps, protection values as identified in this CWPP process, and other data layers as deemed available and appropriate, to create a county-wide map book for fire protection. This map book could include:</p> <ul style="list-style-type: none"> ○ Home addresses, water sources, access routes, safety zones, and other resource information that can be gathered, ○ Road ingress and egress issues that could increase emergency response times, ○ Local water sites identified at community workshops, including water sources identified for fire suppression; share this information with local fire agencies (<i>see Metric 3.3.4</i>).
RESPONSIBLE PARTY	HCFSC Fire Protection Work Group with HCFCA and County OES
ADDITIONAL PARTNERS	Fire departments, CAL FIRE, SRNF, County of Humboldt Planning and Building GIS.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Decide on data layers to include. ➤ Identify which maps are completed and which are needed. ➤ Review local examples of map books, including Mattole and Briceland versions. ➤ Identify budget and funding needs. ➤ Seek funding to implement. ➤ Talk to agencies regarding who will lead the project, or if several will collaborate. ➤ Work with one of the above agencies to create a template. ➤ Bring draft proposal to HCFCA for approval. ➤ Identify which agencies will create which pages/areas of the county. ➤ Create maps. ➤ Collate maps into a countywide book. ➤ Develop digital version for tablets. ➤ Print and bind hard-copy versions. ➤ Distribute at least one map book to each local agency; with adequate funding, aim for one map book for each local fire engine. ➤ Share results with HCFCA. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	PROVIDE ALL LOCAL FIRE AGENCIES WITH A COUNTY MAP BOOK OF FIRE-PROTECTION RESPONSE AREAS AND RESOURCES.

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PRIORITY ACTION 3.4.8-3 SUPPORT CREATION OF OPERATIONAL AREA PRE-ATTACK MAPS FOR AT LEAST FIVE LOCAL AGENCIES.	
DESCRIPTION	<p>The creation of pre-fire attack maps can facilitate pre-fire strategic planning at a variety of levels. These maps can build on the data in the county map books from the <i>Priority Action 3.4.8-2</i>, to include strategic data such as possible areas for fire breaks, evacuation sites, and more.</p> <p>Data sets would include CWPP priorities, such as:</p> <ul style="list-style-type: none"> ○ Current or recent fuel-hazard reduction treatments and/or fuel breaks—both landscape-level strategic fuel treatments and fuel reduction around communities and in the interface—including treatment date and where possible target maintenance dates, especially for prescribed fire re-entry. ○ Where to use managed wildfire on the landscape, and other landscape-scale actions identified in <i>Chapter 3.5 Restoration of Beneficial Fire</i>. ○ Habitat protection, including salmonids, as per <i>Metric 3.4.7</i> above. ○ Information gathered at community meetings, ideally with cross-checking and/or ground truthing. ○ Current and potential water supply sites. <p>HCFCFA, County OES, and CAL FIRE would collaborate to identify five local areas for creating pre-fire attack plans. More information and examples of this planning effort in other communities include:</p> <ul style="list-style-type: none"> ○ The Western Klamath Restoration Partnership (WKRP) creation of pre-attack map books for the Orleans-Somes Bar area in coordination with SRNF, Orleans/Somes Bar FSC, Karuk Tribe, and Orleans Volunteer Fire Department. ○ CAL FIRE and San Luis Obispo County Fire, http://www.calfireslo.org/PreAttack.html ○ West Metro Fire and Rescue of Lakewood, Colorado’s set of initial maps for their two-county area, available at: http://wildland.westmetrofire.org
RESPONSIBLE PARTY	HCFCFA Fire Protection Work Group with HCFCFA
ADDITIONAL PARTNERS	Fire departments, CAL FIRE, SRNF, County OES, County Planning and Building, BLM.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Review examples from WKRP/SRNF Orleans Ranger District, San Luis Obispo, and West Metro Fire and Rescue. ➤ Meet with collaborators, including HCFCFA, CAL FIRE, County OES, County GIS, and others to identify priority data sets to include. ➤ Meet with HCFCFA to identify five areas in which to start. ➤ Work with HCFCFA to determine the most effective layout and detail level. ➤ Work with collaborators to create a template. ➤ Explore option of using Avenza³ maps for updating information. ➤ Report to HCFCFA. ➤ Share results with HCFCFA at next quarterly meeting. ➤ Share materials on HCFCFA website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	PRE-FIRE ATTACK MAPS CREATED FOR FIVE LOCAL FIRE-PROTECTION ORGANIZATIONS WITH A TEMPLATE FOR COUNTYWIDE IMPLEMENTATION.

³ Avenza Maps: <https://www.avenzamaps.com/index.html>

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APPENDIX O.5: RESTORATION OF BENEFICIAL FIRE

GOAL 5: RESTORE BENEFICIAL FIRE AT THE LANDSCAPE SCALE.

OBJECTIVE 5

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL WILL FOSTER WILDFIRE RESILIENCE THROUGH EDUCATION AND PROMOTION OF ECOSYSTEM-RESTORATION ACTIVITIES, INCLUDING HAZARDOUS-FUEL REDUCTION, PRESCRIBED FIRE, AND MANAGED WILDFIRE WHERE APPROPRIATE.

The following Metrics and Priority Actions have been identified by the Humboldt County Fire Safe Council to be accomplished over the next five years towards meeting the goal of restoring beneficial fire at the landscape scale. *Goal 2: Wildfire Preparedness* addresses resiliency at the community scale, where fuel-reduction projects around homes, neighborhoods, and communities are identified.

For more information on Humboldt County’s wildfire environment, including its fire regime and fire history, see Chapter 5.2, **Wildfire Environment**.

It is the intention of the collaborators of this CWPP that everything recommended in this Action Plan be implemented expeditiously over the next five years. That said, implementation is subject to the availability of funds and other resources, and the willingness and ability of community members and CWPP collaborators to take action.

3.5.1 METRIC: PRESCRIBED-FIRE EDUCATION

INCREASE THE AVAILABILITY OF RESOURCES RELATED TO THE BENEFICIAL USES OF FIRE.

PRIORITY ACTION 3.5.1-1 COORDINATE A SERIES OF EDUCATIONAL EVENTS PROMOTING THE BENEFICIAL USES OF FIRE.	
DESCRIPTION	<p>Public acceptance regarding using fire to prepare communities for wildfire is increasing. In the online survey used in this CWPP process, 59% of respondents strongly agreed, and another 30% agreed that “prescribed fire and/or controlled burning is an important tool in Humboldt County to reduce the risk of larger wildfires.”¹ More educational events, such as those put on by the University of California Cooperative Extension (UCCE) and others, targeting both practitioners and the general public will advance this needed public acceptance for restoring the beneficial uses of fire in Humboldt County.</p> <p>Over the next five years, the Humboldt County Fire Safe Council (HCFSC) Restoration of Beneficial Fire Work Group will collaborate to develop a series of educational events and materials to increase public acceptance and understanding of prescribed fire as a tool for improving community fire safety, forest health, and ecological diversity.</p> <p>Outreach efforts will also target local media and decision makers to increase their understanding of the use of fire as a tool. This will help get the message out to the general public, especially in terms of public acceptance of some smoke in the air now to avoid catastrophic smoke conditions later. In this way, the media and decision makers will be informed about proactive practices that they can share later during wildfire events.</p> <p>The educational events in this action item could include workshops or field tours. An example would be offering classroom trainings on fire behavior and burn planning, followed by a live-fire training event in the field, in conjunction with the Humboldt County Prescribed Burn Association (HCPBA). These training opportunities would target various types of landowners and land managers.</p>

¹ For more information on the Open Humboldt Wildfire Preparedness Survey, see Chapter 1 and Appendix B, or visit https://www.opentownhall.com/portals/131/Issue_5560/survey_responses.

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RESPONSIBLE PARTY	University of California Cooperative Extension (UCCE) with HCFSC Restoration of Beneficial Fire Work Group
ADDITIONAL PARTNERS	HCPBA, Fire Safe Councils (FSCs), Firewise® Communities, watershed organizations, councils, and other community organizations, North Coast Unified Air Quality Management District (NCUAQMD), CAL FIRE, tribes, fire departments, Humboldt County Fire Chiefs’ Association (HCFCA), California Forest Management Task Force (FMTF) Prescribed Fire Work Group.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Survey key players in prescribed fire to identify educational needs, invite tribal participation. ➤ Review existing educational opportunities and offerings. ➤ Identify top three topics for a workshop series, and a topic for the first workshop. ➤ Identify partners to help host workshops. ➤ Identify and confirm presenters and materials for distribution. ➤ Identify location and date, checking scheduling conflicts. ➤ Create a poster/notice to announce the first event. ➤ Share with HCFSC members and partners. ➤ Write and distribute a public service announcement (PSA) to local media. ➤ Share event in all relevant networks, including email lists, social media, traditional media, meeting announcements, etc. ➤ Find partners to provide food and beverages. ➤ Create evaluation form and print to share at event. ➤ Call local media and other key participants to ensure their involvement. ➤ Hold event. ➤ Document event with photos and videos. ➤ Collect and analyze evaluation forms for next event. ➤ Send thank you notes to presenters and other collaborators. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	COMPLETION OF A SERIES OF EDUCATIONAL WORKSHOPS FOCUSING ON THE BENEFICIAL USES OF FIRE.

PRIORITY ACTION 3.5.1-2 CREATE AND/OR DISSEMINATE MATERIALS PROMOTING THE BENEFICIAL USES OF FIRE.	
DESCRIPTION	<p>There is a clear need for more public information regarding the beneficial uses of fire. Such information could be developed for the general public, media, decision makers, landowners, conservation organizations, urban and rural residents, and others.</p> <p>Partners need to be ready to talk about prescribed fire when burning is happening, during wildfire events, and/or when an escaped fire makes the news. Information will be developed in advance to be available to share when these events occur.</p> <p>There are many ways to disseminate this information. As described throughout this chapter, there are several private and public organizations interested in prescribed fire that could use these materials in their work. Handouts could be shared through utility or tax bills; videos could be shared on social media or local cable channels, etc. Some materials could be tailored to specific local communities, taking into consideration such differences as, for example, landowner education and receptivity regarding prescribed fire in the mid-Klamath area, where there is a solid history of local burning, versus Southern Humboldt, where little burning has taken place in decades.</p>

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RESPONSIBLE PARTY	UCCE with HCFSC Restoration of Beneficial Fire Work Group
ADDITIONAL PARTNERS	FSCs, Firewise® Communities, HCPBA, FMTF Prescribed Fire Work Group, watershed organizations, councils, and other community organizations, NCUAQMD, CAL FIRE, local tribes, fire departments, HCFCA.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Find and review existing literature about the beneficial uses of fire. ➤ Brainstorm a list of key points to include in local materials. ➤ Brainstorm a list of different audiences to target with materials. ➤ Decide on an audience to address and key topics to include. ➤ Find funding and other resources to implement. ➤ Draft text and find local graphics. ➤ Share with HCFSC and partners for review and input. ➤ Finalize text and graphics. ➤ Design materials and print. ➤ Share with target audience, HCFSC, and partners. ➤ Identify key points for an information kit for media, elected officials, and decision makers. ➤ Draft information kit text, find local graphics. ➤ Share with HCFSC and partners for review and input. ➤ Finalize information kit text and graphics, design. ➤ Share information kit with media, elected officials, decision makers, HCFSC, and partners. ➤ Develop generic public service announcement (PSA) for use during prescribed burns. ➤ Monitor and collect media stories. ➤ Evaluate success of outreach efforts for designing future materials, potentially for different audiences. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share materials, articles, and success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	CREATION AND/OR DISSEMINATION OF MATERIALS PROMOTING THE BENEFICIAL USES OF FIRE.

PRIORITY ACTION 3.5.1-3 CREATE A RESOURCE GUIDE FOR THE STEPS INVOLVED IN IMPLEMENTING A SUCCESSFUL PRESCRIBED BURN IN HUMBOLDT COUNTY.	
DESCRIPTION	<p>There is a growing interest in applying prescribed fire on private lands, along with valid concerns about how to actually do it. UCCE, HCFSC, HCPBA, and their partners will create a resource guide for people who want to burn. Materials could include information on:</p> <ul style="list-style-type: none"> ○ Agency requirements, regulations, and permits, including the importance of compliance and how to obtain burn permits prior to burning, from: <ul style="list-style-type: none"> ○ North Coast Unified Air Quality Management District (NCUAQMD) ○ CAL FIRE ○ US Forest Service, or ○ Bureau of Land Management. ○ How to develop burn plans and smoke management plans. ○ How to burn safely. ○ The benefits of using prescribed fire as a tool. ○ Where to access resources. ○ A list of contractors that can provide prescribed fire-related services, including burn planning, burn bossing, etc.

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	<ul style="list-style-type: none"> ○ Suggestions for working with media to talk about prescribed fire, (<i>see 3.5.1-2 above</i>). ○ California liability myths vs. reality. ○ Health effects of smoke and how to minimize them for burners, neighbors, and the general public. Share information from agencies regarding smoke effects of wildfire vs. prescribed fire, and how they release different kinds of smoke and under different conditions. This could be shared with neighbors and other concerned community members. ○ Local groups and resources such as the HCPBA, Indigenous Peoples Burning Network, Orleans/Somes Bar Fire Safe Council, and UCCE.
RESPONSIBLE PARTY	UCCE with HCFSC Restoration of Beneficial Fire Work Group
ADDITIONAL PARTNERS	HCPBA, NCUAQMD, CAL FIRE, FMTF Prescribed Fire Work Group, watershed organizations, councils, and other community organizations, local tribes, fire departments, FSCs, Firewise® Communities, HCFCA.
POTENTIAL ACTION STEPS	➤ Find and review existing materials.
	➤ Brainstorm a list of key points to include in local resource guide.
	➤ Draft an outline for the resource guide.
	➤ Identify who will write each section.
	➤ Find funding and other resources to implement.
	➤ Draft text, find local graphics.
	➤ Share with HCFSC and partners for review and input.
	➤ Finalize text and graphics.
	➤ Design materials and print.
	➤ Share with target audience, HCFSC, and partners.
	➤ Share results with HCFSC at next quarterly meeting.
	➤ Share materials on HCFSC website, social media, local media outlets, and other avenues, including those identified in Metric 3.4.1.
	➤ Monitor results.
➤ Write up a summary for next CWPP Update.	
DESIRED OUTCOME	RESOURCE GUIDE FOR HOW TO IMPLEMENT A SUCCESSFUL PRESCRIBED BURN IN HUMBOLDT COUNTY.

The following lists of Potential Projects are those supported by this CWPP as having a positive benefit towards meeting this Metric, Objective, and Goal. The Humboldt County Fire Safe Council and its collaborators support and encourage implementation of the potential projects listed throughout this Action Plan.

POTENTIAL PROJECTS

- Database for tracking prescribed-fire projects (*see work of FMTF Prescribed Fire Work Group*).
- Documenting mini-burns (e.g. under 1 acre) and how to use those as examples and inspiration for other landowners.
- Identify areas that have not had any prescribed fire in a long time and research why.
- Stay abreast of statewide efforts to address liability and insurance issues, including with the FMTF Prescribed Fire Work Group.
- Introduce concept of Fire-Dependent Communities.
- Encourage the public to use ncuaqmd.org, call 1-866 BURN DAY, or listen to local radio stations for burn-day status information.
- Research regarding if public perception of wildfire and prescribed fire has changed since the 2017 and 2018 wind-driven wildfires.

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3.5.2. METRIC: SHARED VISION FOR WILDLAND FIRE

SUPPORT AND INCREASE COLLABORATIVE EFFORTS TO CREATE A SHARED VISION FOR MANAGING FIRE ON THE LANDSCAPE.

PRIORITY ACTION 3.5.2-1 INVITE PRESENTERS TO FSC MEETINGS TO SHARE THEIR EXPERIENCES REGARDING SUCCESSES, FAILURES, AND CHALLENGES OF COLLABORATIVE EFFORTS TO MANAGE FIRE AT THE LANDSCAPE SCALE.	
DESCRIPTION	The HCFSC and its partners would benefit from learning in more detail about efforts locally, regionally, and beyond to manage fire on the landscape. Recent publications show the value of learning from failures as well as successes, as in the <i>Fire Adapted Communities Learning Network's Fantastic Failures</i> ² series. Speakers would be invited to provide a short presentation and background materials on their experiences using prescribed fire and managed wildfire, to facilitate discussions about how to apply these experiences in Humboldt County.
RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group
ADDITIONAL PARTNERS	HCFSC members and staff, tribes, UCCE, CAL FIRE, Six Rivers National Forest (SRNF), Bureau of Land Management (BLM), Redwood National Park (RNP), State Parks, HCPBA, FSCs, prescribed-fire practitioners, FMTF Prescribed Fire Work Group, Western Klamath Restoration Partnership (WGRP), Fire Adapted Communities' Learning Network (FAC Net).
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Brainstorm a list of potential invitees and topics, e.g. the Weaverville prescribed fire. ➤ Discuss potential presenters and action items at next HCFSC quarterly meeting. ➤ Prioritize invitees and topics. ➤ Coordinate with HCFSC chair and staff about possible dates for presentations. ➤ Contact potential presenters with an invitation to speak. ➤ Support presentation with any needed supplies, materials, etc. ➤ Promote presentation in local networks. ➤ Have presentation at quarterly meeting. ➤ Review presentation and identify next speaker(s). ➤ Share results on social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	PRESENTATION SERIES AT HCFSC MEETINGS ON THE SUCCESSES, FAILURES, AND CHALLENGES OF MANAGING FIRE ON THE LANDSCAPE.

PRIORITY ACTION 3.5.2-2 SUPPORT AND DEVELOP UNIFIED MESSAGING FOR PRESCRIBED FIRE AND MANAGED WILDFIRE.	
DESCRIPTION	<p>Clear messaging about beneficial fire is lacking from the highest levels of some public agencies, both federal and state. Communication teams can be lagging many years behind the scientific and local-community consensus regarding the need for putting more prescribed fire and managed fire on the landscape.</p> <p>This action would support and advocate for coordinated messaging that aligns with the current understanding of the beneficial role of fire in local ecosystems.</p>
RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group
ADDITIONAL PARTNERS	Northern California Prescribed Fire Council (NCPFC), Public Information Officers (PIOs) and other communication staff from state and federal fire agencies, UCCE, WGRP, Karuk Tribe Department of Natural Resources (Karuk DNR), FMTF Prescribed Fire and Technical

² Fire Adapted Communities Learning Network. Fantastic Failures. [Web log series]. Retrieved from <https://fireadaptednetwork.org/blog-type/fantastic-failure>

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	Education, Outreach, & Workforce Development Committees, Western Regional Strategy Committee, FAC Net, and Fire Learning Network (FLN).
POTENTIAL ACTION STEPS	➤ Identify areas where communications are being generated at the state and federal level, including the FMTF Prescribed Fire and Technical Education, Outreach, & Workforce Development Work Groups and the Western Regional Strategy Committee (WRSC) for Cohesive Strategy Implementation. Contact WRSC leadership and the FMTF Committees to discuss.
	➤ Review existing messaging in both traditional and social media regarding prescribed fire, managed fire, and the beneficial role of fire and share with Work Group and HCFSC members and partners.
	➤ Use media opportunities to share examples of local success stories regarding the beneficial uses of fire with agency partners at all levels of government.
	➤ Participate in FMTF Prescribed Fire Work Group.
	➤ Share materials, messaging, and success stories with state and federal agency partners in the county.
	➤ Share results with HCFSC at quarterly meetings as materials are developed.
	➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i> .
	➤ Continually monitor results.
	➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	PROVIDE GOVERNMENT AGENCIES AND PARTNERS EDUCATED RECOMMENDATIONS TOWARDS A UNIFIED MESSAGE FOR THE NEED FOR BENEFICIAL FIRE ON THE LANDSCAPE.

PRIORITY ACTION 3.5.2-3	
SUPPORT STATE AND NATIONAL POLICY AND LEGISLATIVE PLATFORMS REGARDING INCREASING PRESCRIBED FIRE AND MANAGED WILDFIRE.	
DESCRIPTION	<p>There has been noticeable recent legislative effort and interest regarding prescribed fire and how to make it easier to implement in California. In 2018, there were several bills addressing this issue, including topics such as mandated training, and better support and capacity building for prescribed fire.</p> <p>The FMTF Prescribed Fire Work Group is tasked to:</p> <ul style="list-style-type: none"> ○ Increase the opportunities for prescribed fire projects through coordinating staff and equipment availability, accelerate prescribed fire projects that are permit-ready, identify weather conditions suitable for prescribed fire, and institute a real-time air-quality and smoke-monitoring program for prescribed and wildland fires. ○ Develop a publicly available online clearinghouse for permitting of prescribed fire projects on all non-federal lands, which shall include an automated system for prescribed fire project permit submission and approval. <p>Additionally, the Little Hoover Commission Report,³ Tree Mortality Task Force,⁴ and the Fire MOU⁵ (see <i>Metric 3.5.7 below</i>) are other statewide efforts tackling these issues.</p> <p>This action would include reaching out to state representatives and lending the HCFSC's support to any statewide or regional collaboratives or policy groups forwarding positive policy changes regarding beneficial fire.</p>
RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group

³ Little Hoover Commission. (2018). Report #242: Fire on the Mountain: Rethinking Forest Management in the Sierra Nevada. Retrieved from <http://www.lhc.ca.gov/report/fire-mountain-rethinking-forest-management-sierra-nevada>

⁴ State of California. Tree Mortality Task Force. Retrieved from <http://www.fire.ca.gov/treetaskforce/index>

⁵ Sierra Forest Legacy. [California] Fire MOU Partnership. Retrieved from https://www.sierraforestlegacy.org/CF_ManagingFire/FireMOU.php

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ADDITIONAL PARTNERS	NCPFC, County Board of Supervisors, WKRP, FMTF Prescribed Fire Work Group, Fire Learning Network, legislative partners, Pacific Forest Trust and other conservation organizations, FAC Net, UCCE.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Contact the Northern California Prescribed Fire Council, WKRP, FMTF Prescribed Fire Work Group, Pacific Forest Trust, and others to learn about current and ongoing legislative and policy efforts to promote the beneficial use of fire, and how HCFSC might support these efforts. ➤ Make a presentation to the County Board of Supervisors, asking them to add the promotion of beneficial fire to the county legislative platform. ➤ Review the <i>Fire MOU</i> and identify actions to support it both locally and statewide. ➤ Send letters to state representatives, lending the HCFSC's support to any statewide or regional policy efforts to support beneficial fire. ➤ Participate in FMTF Prescribed Fire Work Group. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	HUMBOLDT COUNTY SUPPORT FOR LEGISLATIVE AND POLICY EFFORTS TOWARDS USING BENEFICIAL FIRE.

3.5.3. METRIC: COLLABORATION TOWARDS LANDSCAPE-SCALE FUEL BREAKS

COLLABORATIVELY DEVELOP LANDSCAPE-SCALE FUEL BREAKS TO FACILITATE THE INCREASED USE OF FIRE.

PRIORITY ACTION 3.5.3-1 ORGANIZE REGIONAL MEETINGS TO BRING TOGETHER STAKEHOLDERS TO DISCUSS, IDENTIFY, AND COORDINATE POTENTIAL LANDSCAPE-SCALE FUEL BREAKS TO FACILITATE THE INCREASED USE OF FIRE.	
DESCRIPTION	<p>Identifying a network of strategic fuel breaks around communities will facilitate landscape-scale fuel-reduction efforts. Such a network would compartmentalize the landscape into manageable units to enable more effective use of prescribed fire and/or managed wildfire, reducing the risk of spread. Clear lines for stopping fire's spread would also facilitate public buy-in for using fire as a tool around communities. Additionally, it would be valuable for pre-fire attack plans and overall fire-protection efforts. That said, the reality of implementing and maintaining a system of identified fuel breaks requires significant effort and resources, which should not be understated.</p> <p>Natural or existing fuel breaks such as roads, rivers, and ridges, even power-line corridors, are fundamental components of landscape-scale fuel breaks. Therefore, <i>Cal Trans</i>, <i>County Roads</i>, and <i>PG&E</i> would need to be active partners, along with federal and state-agency land managers. The fuel breaks around communities as identified in <i>Metric 3.2.6, Community Fuel Reduction</i> would also be an important component.</p> <p>The <i>Western Klamath Restoration Partnership (WKRP)</i> and <i>Trinity Collaborative</i> are both excellent nearby models for how to approach such an effort in Humboldt County. These models could be explored for setting up similar collaboratives in Southern, Eastern, and Northern Humboldt. Participants would be able to share their own projects and work together to identify potential projects, especially those that cross ownerships.</p> <p>This action could include conducting a series of workshops using the Open Standards process to reach agreement on landscape-scale treatments throughout the county (engaging local, county, state, and federal agencies, tribes, industry, FSCs, and community organizations). It could also include specifically engaging Humboldt County fire-management agencies in this process to plan at the county level where managed wildfire would be appropriate, and where fuels and prescribed-fire work is needed.</p> <p>Finally, it would involve researching where strategic fuel breaks have been previously identified and/or implemented and creating a map showing this at the county scale.</p>

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RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group with Local Fire Safe Councils
ADDITIONAL PARTNERS	SRNF, BLM, RNP, State Parks, CAL FIRE, UCCE, Cal Trans, County Roads, PG&E, tribes, private land managers and timber industry, fire departments, FSCs, Firewise® Communities, Fire Adapted Communities Learning Network, watershed organizations and other community groups, NCPFC, NCUAQMD, US Fish and Wildlife Service, Water Quality, FMTF.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Review processes, results, and challenges of WKRP, Trinity Collaborative, and other collaborative efforts. ➤ Identify budget needs and/or potential staff support. ➤ Contact participants in other collaborative efforts for feedback on their work and suggestions to incorporate in Humboldt County. ➤ Define the regions in the county. ➤ Identify potential collaborators in each region. ➤ Schedule initial meeting for each region and invite participants. ➤ Share meeting announcement with HCFSC, networks, social media, and local media. ➤ Hold first meeting in each region. ➤ Explore agency agreements for participation. ➤ Identify coordinator for each collaborative process. ➤ Identify resources needed to support each collaborative. ➤ Investigate funding options for landscape-level treatments. ➤ Participate in the collaborative. ➤ Initiate discussions to identify one to three landscape-scale fuel breaks in each region. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ESTABLISHMENT OF ONE OR MORE REGIONAL COOPERATIVES AROUND THE COUNTY, WITH INITIAL IDENTIFICATION OF ONE TO THREE LANDSCAPE-SCALE FUEL BREAKS.

POTENTIAL PROJECTS

- Explore the Western Klamath Restoration Partnership (WKRP) model for how to manage fire on 1.2 million acres as a collaborative model for the rest of the county. If desired, seek funding to implement Open Standards planning in other regions of Humboldt County to improve collaborative efforts to manage fire at the landscape scale across diverse ownerships. See WKRP Plan (2014): <https://www.wkrp.network/publications>
- Do a review, assessment, and synthesis of the WKRP model and share this with other rural communities.

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3.5.4. METRIC: PRIVATE LANDS PRESCRIBED FIRE

TREAT 5,000 STRATEGIC ACRES EVERY YEAR ON PRIVATE LANDS BY PRESCRIBED FIRE.

PRIORITY ACTION 3.5.4-1 SUPPORT HUMBOLDT COUNTY PRESCRIBED BURN ASSOCIATION, PRESCRIBED FIRE TRAINING EXCHANGE, INDIGENOUS PEOPLES BURNING NETWORK, AND OTHER COOPERATIVE-BURNING MODELS.	
DESCRIPTION	<p>There are several training opportunities now offered for landowners and members of the general public wanting to learn more about prescribed fire and how to use it. These include:</p> <ul style="list-style-type: none"> ○ Humboldt County Prescribed Burn Association (HCPBA), a group of local landowners and others interested in working together to apply prescribed fire on the ground. ○ Prescribed Fire Training Exchange (TREX) offering intensive, hands-on trainings that incorporate prescribed-fire outreach, implementation, and skill-building. ○ Indigenous Peoples Burning Network (IPBN) working to revitalize the implementation of cultural burns in native communities through the cultivation of an intertribal support system in which traditional ecological knowledge is shared and rights are protected.⁶ <p>The Work Group will support these existing organizations and models to get more people trained in using prescribed fire, in an effort to treat more private lands in Humboldt County.</p>
RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group with UCCE
ADDITIONAL PARTNERS	HCPBA, TREX, IPBN, fire departments, FSCs, Firewise® Communities, local tribes, watershed councils and other community organizations, NCUAQMD, CAL FIRE, HCFCA, NCPFC, California Conservation Corps (CCC).
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify HCFSC role. ➤ Research and learn about other cooperative burning models, including PBA, TREX, IPBN. ➤ Contact HCPBA, TREX, IPBN, and others to see what types of support they need, in order to apply fire to the ground in Humboldt County. ➤ Provide support as needed and able. ➤ Work with above groups and CAL FIRE, NCUAQMD, and others to document how many acres of private land are treated locally with prescribed fire every year. ➤ Regularly share results of treated acres with HCFSC at quarterly meetings. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	TREATMENT OF 5,000 ACRES EVERY YEAR ON PRIVATE LANDS BY PRESCRIBED FIRE.

⁶ For more information on IPBN in Humboldt County, see <http://conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/Pages/PERFACT-Report-Aug-2018.aspx>

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PRIORITY ACTION 3.5.4-2 BUILD CAPACITY FOR PRESCRIBED FIRE ON PRIVATE LANDS.	
DESCRIPTION	As stated in <i>Metric 3.5.1</i> , there is a growing interest in training in prescribed fire. Working with the groups identified in the Priority Action 3.5.4-1, UCCE, HCFSC and their partners will collaborate to ensure that regular prescribed-fire trainings are held throughout Humboldt County. The Work Group will support UCCE to identify the specific training needs for various sectors of the prescribed-fire community, including volunteer fire departments, landowners, conservation organizations, agencies, and others. There is a specific need and request for prescribed-fire trainings in Southern Humboldt.
RESPONSIBLE PARTY	UCCE with HCFSC Restoration of Beneficial Fire Work Group
ADDITIONAL PARTNERS	HCPBA, TREX, IPBN, fire departments, FSCs, Firewise® Communities, tribes, watershed councils and other community organizations, NCUAQMD, CAL FIRE, HCFCA and Humboldt County Fire Instructors Association, NCPFC, timber industry.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Brainstorm about the specific training needs of various sectors. ➤ Contact others providing trainings (e.g. TREX, HCPBA, IBPN) to find out what trainings they are offering and how to participate in and/or support those trainings. ➤ Create an annual award for a dedicated trainee and use it as a local media opportunity to educate the public about the beneficial uses of fire. ➤ Explore establishing scholarship funds for TREX and other trainings. ➤ Outreach to wildland firefighters to participate in local trainings, emphasizing understanding around the basic differences between wildland firefighting and prescribed burning. ➤ Participate in CAL FIRE pre-season meetings to share local goals and objectives for prescribed fire every year. ➤ Help organize a training or series for Southern Humboldt. ➤ Help spread the word about upcoming trainings to networks, media, social media, websites, etc. ➤ Contact local media to do feature stories about these trainings, using the events as an opportunity to educate the public about the benefits of prescribed fire. ➤ Support the formation of an interagency prescribed-fire burn team to implement prescribed burns across ownerships in Humboldt County. ➤ Regularly share results of trainings with HCFSC at quarterly meetings. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	20 TRAINING DAYS AND 150 INDIVIDUALS RECEIVING PRESCRIBED-FIRE TRAINING ANNUALLY.

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3.5.5. METRIC: PUBLIC LANDS PRESCRIBED FIRE

TREAT 6,000 STRATEGIC ACRES EVERY YEAR ON PUBLIC LANDS BY PRESCRIBED FIRE.

PRIORITY ACTION 3.5.5-1 FACILITATE PUBLIC UNDERSTANDING AND SUPPORT OF PUBLIC LAND PRESCRIBED BURNING.	
DESCRIPTION	<p>The HCFSC will work with the media to build public acceptance and support of prescribed burning on public lands. This will include sharing the complexity of the steps that agencies must take and the requirements that must be met before public-land managers are allowed to burn, to help the public understand an agency’s level of preparedness and investment of time and resources. Public acceptance will help with engaging public-land managers to do more collaborative burning. Public land managers are also benefitting from TREX events that allow multi-agency participants to implement public lands burns. Points to emphasize with the media and the public include:</p> <ul style="list-style-type: none"> ○ National Environmental Policy Act (NEPA) complexities and requirements that agencies must observe before burning. ○ Projects on tribal lands through Yurok and Klamath TREX events. ○ Success stories from public-lands prescribed burns. <p>The HCFSC will also strive to:</p> <ul style="list-style-type: none"> ○ Help public agencies with public engagement prior to burns. ○ Work directly with Public Information Officers to support their educational efforts.
RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group
ADDITIONAL PARTNERS	Public Information Officers, SRNF, BLM, RNP, State Parks, CAL FIRE, National Wildlife Refuge, NCUAQMD, IPBN, tribes, WKRP, fire departments, HCFCA, UCCE, NCPFC, CCC, FMTF Prescribed Fire Work Group.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Brainstorm issues and talking points. ➤ Contact agency staff working to implement prescribed fire on public lands in Humboldt County and ask how to support their efforts. ➤ Follow up on requests from agency partners. ➤ Hold a press conference and share the media information kit from <i>Metric 3.5.1</i>. Tie this to a newsworthy event such as a high-profile prescribed fire on public lands or a nearby wildfire. ➤ Use media kit to develop talking points to share on social media. ➤ Increase opportunities for local fire departments to partner with public-lands fire managers to increase local support for these efforts and maximize cross-training opportunities. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	PUBLIC SUPPORT FOR PRESCRIBED-FIRE USE ON PUBLIC LANDS IN HUMBOLDT COUNTY.

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PRIORITY ACTION 3.5.5-2 ENGAGE AND SUPPORT PUBLIC LAND MANAGERS IN USING PRESCRIBED FIRE.	
DESCRIPTION	In addition to the need for public support for using prescribed fire on public lands, public-land managers face a myriad of challenges to burning. These include but are not limited to NEPA, liability, budgets, risk aversion, tight burn windows, and agency culture and attitude. There are several concrete ways HCFSC can support public-land managers in using prescribed fire, including getting funding for projects that have local buy-in, finding attorneys to talk to them about the real vs. perceived risk of burn bosses, and providing funds and incentives for acres treated. There is a need to inspire individuals to take this risk and get fire on the ground in Humboldt County and beyond.
RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group
ADDITIONAL PARTNERS	SRNF, BLM, RNP, State Parks, CAL FIRE, National Wildlife Refuge, US Fish and Wildlife Service, NCUAQMD, tribes, fire departments, UCCE, HCFCA, NCPFC, CCC, Public Information Officers, FMTF Prescribed Fire Work Group, WKRP.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Meet with local public-land managers to identify their concerns about using prescribed fire and potential options for addressing those concerns. ➤ Build on outreach and public education of the previous action item to identify opportunities to bring land managers in front of supportive audiences. ➤ Share positive examples of public-lands prescribed fire with local agency partners. ➤ Organize public outreach events that highlight existing public-lands projects and give agency land managers more confidence and support for the good work they're doing. ➤ Continue to support and engage the efforts of the NCPFC, which fosters a supportive community of prescribed-fire practitioners and works on policy and training efforts that further expand prescribed-fire opportunities. ➤ Check in with public-lands management agencies regularly to find out what projects they are planning and how the HCFSC can further support and elevate their success. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues. ➤ Monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	TREATMENT OF 6,000 ACRES EVERY YEAR ON PUBLIC LANDS BY PRESCRIBED FIRE.

POTENTIAL PROJECTS

- Put up signage in areas where prescribed fire has been used, explaining what was done and why, such as in state or federal park lands. Encourage agencies to do this, perhaps including language such as “supported by the Humboldt County Fire Safe Council” or “Here’s another example of a successful prescribed-fire project in Humboldt County. For more information on prescribed fire and fuel-hazard reduction, visit the Humboldt County Fire Safe Council webpage....”
- Encourage public lands managers to engage multiple organizations in burn implementation and planning to increase public acceptance and ownership.

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3.5.6. METRIC: TRIBAL PRESCRIBED AND CULTURAL FIRE USE

TRIBAL PARTICIPATION IN 25% OF STRATEGIC BURNS EVERY YEAR.

PRIORITY ACTION 3.5.6-1 SUPPORT TRIBAL PARTICIPATION AND LEADERSHIP IN PRESCRIBED FIRE AND RESTORING CULTURAL BURNING PRACTICES.	
DESCRIPTION	<p>Prescribed fire has been used for generations by local tribes as a sophisticated land-management tool. They are now leading efforts to bring fire back to the landscape locally, nationally, and even internationally. Projects of the Karuk, Yurok, and Hoopa tribes, as well as the Cultural Fire Management Council (CFMC) and the Indigenous Peoples Burning Network (IPBN), are resulting in the active use of prescribed fire in their indigenous territories and as a model beyond those areas.</p> <p>Prescribed-fire activities are occurring on lands identified for treatment by means of a tribal equivalent to a CWPP, which is up to each tribe to define. For example, the Karuk are using their <i>Eco-Cultural Resources Management Plan</i>⁷ as a guide for burning in the Orleans/Somes Bar area, and in and adjacent to the Katimiin Cultural Management Area.</p> <p>Participants in the Yurok-Hoopa-Karuk landscape completed a <i>Healthy Country Plan</i> in 2017. The plan outlines their priorities for revitalizing fire culture over the next three to five years. It is an All-Lands plan (regardless of ownership) with its own objectives, acres, and activities identified.</p> <p>All burners need to be cognizant that tribes are not subject to local and state laws; being a sovereign nation means only federal law applies. This distinction needs to be clearly established to ensure that burns outside tribal lands maintain regulatory compliance. It is crucial to support collaboration and communication among all burners and tribal entities to build and strengthen local burn programs.</p>
RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group with Local Tribes
ADDITIONAL PARTNERS	IPBN, CFMC, WKRP, UCCE, HCPBA, TREX, fire departments, FSCs, Firewise® Communities, watershed councils and other community organizations, NCUAQMD, CAL FIRE, HCFCA, SRNF, BLM, RNP, State Parks, National Wildlife Refuge, CCC.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Meet with local tribal prescribed-fire practitioners to identify ways to incorporate their objectives into prescribed-fire activities throughout the county. ➤ Explore developing guidance documents to share with burners around the county regarding how to work with tribes and meet tribal objectives when burning. ➤ Meet with IPBN and CFMC to invite their participation in the HCFSC and identify ways the HCFSC can support their work. ➤ Disseminate the <i>Healthy Country Plan</i> to communities and organizations interested in prescribed burning to increase their understanding of cultural burning and its objectives and applications. ➤ Invite local tribes to participate in HCPBA burns. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ACTIVE TRIBAL PARTICIPATION IN PRESCRIBED-FIRE ACTIVITIES THROUGHOUT HUMBOLDT COUNTY.

⁷ Karuk Tribe, Department of Natural Resources. (2010). Draft Eco-Cultural Resources Management Plan. [PDF]. Retrieved from http://www.karuk.us/images/docs/dnr/ECRMP_6-15-10_doc.pdf

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3.5.7. METRIC: MANAGED WILDFIRE

INCREASE NUMBER OF JURISDICTIONAL AGENCIES AND PRIVATE LANDOWNERS WHO AGREE TO USE MANAGED WILDFIRE AS A FIRE-MANAGEMENT TACTIC.

PRIORITY ACTION 3.5.7-1 FACILITATE CONVERSATIONS TO IDENTIFY OPPORTUNITIES FOR UTILIZING MANAGED WILDFIRE.	
DESCRIPTION	<p>Building on the collaborative processes identified in <i>Metric 3.5.3</i>, discussions can continue regarding where and when to use managed wildfire as a tool.</p> <p>“Our results suggest that, under certain conditions, wildfires could be more extensively used to achieve ecological and management objectives in northwestern California.”⁸</p> <p>The <i>Memorandum of Understanding for the Purpose of Increasing the Use of Fire to Meet Ecological and Other Management Objectives</i> (a.k.a. the “Fire MOU”⁹) between CAL FIRE, federal land managers, conservation organizations, and others “documents the cooperation between the parties to increase the use of fire to meet ecological and other management objectives.”¹⁰ This MOU provides political support and a shared vision and commitment for identifying opportunities for beneficial fire, including utilizing managed wildfire.</p> <p>Some of the points to address in these discussions would include:</p> <ul style="list-style-type: none"> ○ Identifying options for using fire in pre-fire attack plans. ○ Hosting local workshops with neighboring public to ask where, and under what conditions, they would be comfortable letting a fire burn in order to create the social license to burn. ○ Identifying the number of potential acres allowed to burn in a given area for fire to perform its natural dynamics on the landscape. ○ Defining the line for which side to manage wildfire versus suppress it (<i>see WKR</i>P). ○ Identifying the restrictions to utilizing managed wildfire in Humboldt County. ○ Understanding the NEPA process to be able to allow fire to burn, as BLM is currently doing. This has been an approximately five-year effort. ○ Exploring managing wildfire as part of the SRNF Forest Plan update. ○ Evaluating the experience of SRNF Orleans Ranger District and the 2017 Orleans Complex Fire managing wildfire at Blue Creek. ○ Developing guidelines, restrictions, and influences regarding when and where to accept managed wildfire. ○ A wildfire management amendment to federal forest plans so agencies can publicly use this tool. ○ Ensuring the planning work (e.g. NEPA, decision-support strategy) is completed and all relevant management plans are amended over the next five years to allow for managed wildfire implementation. ○ The need for clear communication about burns and wildfire status in the initial stages of a fire, to allow cooperators to get in front of a situation, instead of responding to rumors on social media.
RESPONSIBLE PARTY	HCFSC Restoration Beneficial Fire Work Group
ADDITIONAL PARTNERS	CAL FIRE, SRNF, BLM, RNP, NCUAQMD, NCPFC, fire departments, FSCs and Firewise® Communities, watershed councils, conservation organizations, Resource Conservation Districts (RCDs), UCCE, FMTF.

⁸ Miller, J.D., Skinner, C.N., Safford, H.D., Knapp, E.E., & Ramirez, C.M. (2012). Trends and causes of severity, size, and number of fires in northwestern California, USA. *Ecological Applications* 22(1): 184-203.

⁹ Sierra Forest Legacy. (2018). [California] Fire MOU Partnership. Retrieved from https://www.sierraforestlegacy.org/CF_ManagingFire/FireMOU.php

¹⁰ Memorandum of Understanding between U.S. Forest Service and various entities. (2015). [PDF]. Retrieved from Sierra Forest Legacy website <https://www.sierraforestlegacy.org/Resources/Community/PrescribedFire/FireMOUSigned.pdf>

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POTENTIAL ACTION STEPS	➤ Continue with the collaborative process identified in <i>Metric 3.5.3</i> to identify a landscape network of fuel breaks to facilitate the use of managed wildfire.
	➤ Look for examples locally (e.g. Blue Creek in 2017) or regionally where fire was successfully used as a management tool.
	➤ Review the <i>Fire MOU</i> for supporting language and share with HCFSC members and partners.
	➤ Begin discussions regarding potential areas to treat using managed fire for resource objectives.
	➤ Initiate conversations with educate elected officials and other local leaders and decision makers to garner their support.
	➤ Share proposals with neighbors and other interested public.
	➤ Support agencies in designating areas for managing wildfire.
	➤ Share results with HCFSC at next quarterly meeting.
	➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i> .
	➤ Continually monitor results.
➤ Write up a summary for next CWPP Update.	
DESIRED OUTCOME	COLLABORATIVELY IDENTIFIED AREAS WHERE MANAGING WILDFIRE FOR RESOURCE OBJECTIVES WILL BE CONSIDERED.

PRIORITY ACTION 3.5.7-2 SUPPORT FIRE-PROTECTION AGENCIES' UNDERSTANDING OF WILDFIRE MANAGEMENT STANDARD OPERATING GUIDELINES.	
DESCRIPTION	Based on the opportunities identified above and the <i>Fire MOU</i> , local fire departments in Humboldt County would review guidelines that include how to manage wildland fires under specific conditions. This will provide an opportunity to educate volunteer fire departments in using this as a pre-fire tactic in coordination with state and federal fire agencies.
RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group with Humboldt County Fire Chiefs' Association (HCFCA)
ADDITIONAL PARTNERS	Fire departments, CAL FIRE, SRNF, BLM, RNP.
POTENTIAL ACTION STEPS	➤ Identify HCFSC role, including helping to initiate the action.
	➤ Review CAL FIRE Standard Operating Guidelines and share with local agencies.
	➤ Share results with HCFSC at next quarterly meeting.
	➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i> .
	➤ Continually monitor results.
➤ Write up a summary for next CWPP Update.	
DESIRED OUTCOME	INCREASED UNDERSTANDING OF WILDFIRE MANAGEMENT AS AN OPTION IN STANDARD OPERATING GUIDELINES.

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3.5.8. METRIC: POST-FIRE RECOVERY

CREATE A SHARED VISION FOR WILDLAND POST-FIRE MANAGEMENT.

PRIORITY ACTION 3.5.8-1 FACILITATE A DISCUSSION REGARDING THE TRADEOFFS OF POST-FIRE LAND-MANAGEMENT OPTIONS.	
DESCRIPTION	<p>How to restore and manage landscapes following fire can be controversial. Salvage logging remains a contentious issue throughout the Pacific Northwest. Replanting burned areas with seedlings that require intensive management and the exclusion of fire continues the same destructive cycle that this action plan is addressing. This is especially true on private lands where replanting is mandated to meet stocking requirements.</p> <p>Private landowners can access state and federal funding sources to assist in post-fire recovery, such as the California Forest Improvement Program (CFIP), and funds available through the Natural Resource Conservation Service.</p> <p>This discussion is needed throughout the county to facilitate appropriate, ecologically-based post-fire restoration and recovery.</p>
RESPONSIBLE PARTY	HCFSC Restoration of Beneficial Fire Work Group
ADDITIONAL PARTNERS	SRNF, BLM, RNP, State Parks, CAL FIRE, UCCE, WKRK, tribes, private land managers and timber industry, consulting foresters, fire departments, FSCs, Firewise® Communities, watershed organizations and other community groups, NCPFC, state and federal regulatory agencies including Fish and Wildlife and Water Quality.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Brainstorm a list of discussion points and potential collaborators. ➤ Schedule a time to discuss this at an HCFSC quarterly meeting. ➤ Invite collaborators to participate in HCFSC discussion. ➤ Have discussion(s) at HCFSC quarterly meeting(s). ➤ Use HCFSC discussions to identify next steps, including sharing this subject at the collaborative meetings described in <i>Metric 3.5.3</i> above. ➤ Organize field tours to areas where various post-fire treatments have been utilized, for example, the repeated prescribed burns after the 2013 Orleans Fire. ➤ Share results with HCFSC at next quarterly meeting. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those identified in <i>Metric 3.4.1</i>. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	AGREEMENT ON A SHARED VISION FOR POST-FIRE MANAGEMENT OF WILDLANDS.

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APPENDIX O.6: INTEGRATED PLANNING

GOAL: MAXIMIZE INTEGRATION OF PLANNING EFFORTS TO IMPROVE COMMUNITY AND ECOSYSTEM RESILIENCE TO WILDFIRE.

OBJECTIVE 6

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL AND ITS COLLABORATORS WILL COOPERATE TO IMPROVE COMMUNITY AND ECOSYSTEM RESILIENCE TO WILDFIRE BY COORDINATING PLANNING EFFORTS AMONG LOCAL, STATE, REGIONAL, TRIBAL, AND FEDERAL STAKEHOLDERS, INCLUDING THOSE IDENTIFIED IN THIS CWPP.

The following metrics and priority actions have been identified by the Humboldt County Fire Safe Council towards meeting the goal of maximizing integration of planning efforts to improve community and ecosystem resilience to wildfire. Background information regarding the need for integrated planning related to wildfire preparedness is found throughout the *Risk Assessment* chapters in *Part 5* of this CWPP. Information regarding local planning issues can be found in the various *Planning Unit Action Plans* in *Part 4* of this CWPP.

It is the intention of the collaborators of this CWPP that everything recommended in this Action Plan be implemented expeditiously over the next five years. That said, implementation is subject to the availability of funds and other resources, and the willingness and ability of community members and CWPP collaborators to take action.

3.6.1 METRIC: LOCAL WILDFIRE-PREPAREDNESS CAPACITY

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL AND ITS PARTNERS WILL IDENTIFY AT LEAST ONE COMMUNITY LEADER OR ORGANIZATION IN EACH PLANNING UNIT TO FACILITATE A WORKING FAMILIARITY WITH THEIR PLANNING UNIT ACTION PLAN, PRIORITIZING AREAS WITHOUT A COMMUNITY-LEVEL CWPP OR FIREWISE® COMMUNITY DESIGNATION.

PRIORITY ACTION 3.6.1-1	
OUTREACH TO COMMUNITIES TO GUIDE RESIDENTS REGARDING THEIR EXISTING PLANNING UNIT ACTION PLAN AND HOW TO USE IT TO IMPROVE WILDFIRE PREPAREDNESS IN THEIR COMMUNITY.	
DESCRIPTION	<p>The <i>Planning Unit Action Plans</i> in Part 4 can function as the equivalent of a local CWPP for each of the 14 planning units of this countywide CWPP and their included communities. Residents can use the <i>Planning Unit Action Plans</i> as a source of direction and inspiration for taking action at the neighborhood and community levels.</p> <p>This action would reach out to interested individuals and organizations in each planning unit to identify those who are good candidates to move projects forward (spark plugs) and begin implementing them.</p>
RESPONSIBLE PARTY	Humboldt County Fire Safe Council (HCFSC) Integrated Planning Work Group
ADDITIONAL PARTNERS	Fire Safe Councils (FSCs) and Firewise® Communities, County of Humboldt, CAL FIRE, Six Rivers National Forest (SRNF), Bureau of Land Management (BLM), watershed councils, other conservation organizations, California Conservation Corps (CCC), Humboldt County Resource Conservation District (HCRCD), and other interested community organizations.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify target communities, especially those without an existing local CWPP or Firewise® Community designation. Use wildfire events as organizing opportunities. ➤ Identify community leaders/spark plugs in each community, including those who attended the 2017 CWPP workshops. ➤ Direct communities to their <i>Planning Unit Action Plan</i> in Part 4 of this CWPP. Make copies available to community leaders.

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	<ul style="list-style-type: none"> ➤ Provide guidance to communities regarding how to use their <i>Planning Unit Action Plan</i> to identify priority projects for implementation. ➤ Support community groups in identifying one project to implement, including those identified in <i>Metric 3.2.6</i>. ➤ Work with communities to identify needed resources and action steps to implement their priority project(s). ➤ Connect communities with appropriate agencies or other community organizations that can help walk them through implementation steps. ➤ Connect community organizers with potential FSC/Firewise® mentors. ➤ Be available as an ongoing resource through project development and implementation. ➤ Help communities to celebrate their accomplishments when projects are completed or underway. ➤ Publicize project completion. ➤ Share results and lessons learned with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Help communities write up a project summary for the next CWPP update.
DESIRED OUTCOME	A COMMUNITY LEADER OR COORDINATION POINT IDENTIFIED IN EACH PLANNING UNIT WITH A PROJECT IDENTIFIED IN THEIR PLANNING UNIT ACTION PLAN UNDERWAY.

The following lists of Potential Projects are those supported by this CWPP as having a positive benefit towards meeting this Metric, Objective, and Goal. The Humboldt County Fire Safe Council and its collaborators support and encourage implementation of the potential projects listed throughout this Action Plan.

POTENTIAL PROJECTS

- Facilitate supportive language in the County General Plan and local CWPPs to aid local project implementation fundraising. Identify how to share this information with local practitioners to help their funding competitiveness.
- Support local FSCs, Firewise® Communities, and other community leaders in assuming and developing their role as mentors to support new communities coming into the FSC and/or Firewise processes.

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3.6.2 METRIC: LOCAL WILDFIRE-PREPAREDNESS PLANNING

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL AND ITS PARTNERS WILL SUPPORT LOCAL COMMUNITIES IN THE DEVELOPMENT OF AT LEAST THREE FIREWISE® ASSESSMENTS, CWPPS, OR OTHER LOCAL PLANS.

(For formation of new Fire Safe Councils or Firewise® Communities, see Metric 3.2.4.)

PRIORITY ACTION 3.6.2-1 FACILITATE FIREWISE® COMMUNITY ASSESSMENTS THROUGHOUT HUMBOLDT COUNTY.	
DESCRIPTION	<p>The Firewise® Communities/USA Recognition Program teaches people living within the wildland-urban interface (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. Some preparedness actions include creating and maintaining defensible space around structures by reducing vegetation and removing debris, and hardening homes with fire-resistant construction materials and landscaping techniques.</p> <p>This action will encourage communities to use the <i>Planning Unit Action Plans</i> of this CWPP as the basis for the development of a <i>Firewise Community Wildfire Risk Assessment</i> and direct them to technical support that may be available via the HCFSC and its members.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	National Fire Protection Association (NFPA)/Firewise® USA, CAL FIRE, Local Firewise® Communities, fire departments, tribes, community organizations, watershed groups, neighborhood associations, road associations.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify <i>Firewise® Communities</i> without an existing <i>Community Wildfire Risk Assessment</i>. ➤ Work with CAL FIRE to guide communities in conducting a <i>Community Wildfire Risk Assessment</i>.¹ ➤ Create a <i>Community Wildfire Risk Assessment</i> with assistance from CAL FIRE and/or a local fire department (County Public Works, Environmental Services staff may also assist), based on the following NFPA requirements: <ul style="list-style-type: none"> ○ Form a board or committee and create an Action Plan based on the <i>Community Wildfire Risk Assessment</i>. This can be a duty added to an already existing board or committee. ○ Conduct one wildfire risk-reduction educational outreach event. ○ At a minimum, invest the equivalent of one volunteer hour (valued at \$24.14) per dwelling unit in wildfire risk-reduction actions. ○ Submit an electronic application. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	THREE FIREWISE® COMMUNITY ASSESSMENTS WILL BE COMPLETED.

¹ How to become a Firewise USA® site. National Fire Protection Association. Retrieved from <https://www.nfpa.org/Public-Education/By-topic/Wildfire/Firewise-USA/Become-a-Firewise-USA-site>

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3.6.3 METRIC: CWPP CONSIDERATION BY LOCAL AND TRIBAL GOVERNMENTS

THE HUMBOLDT COUNTY FIRE SAFE COUNCIL WILL ADVOCATE FOR THE CONSIDERATION OF THIS CWPP IN ALL RELEVANT LOCAL COMMUNITY, TRIBAL, OR GOVERNMENT FIRE AND EMERGENCY PLANNING EFFORTS.

PRIORITY ACTION 3.6.3-1	
PROVIDE A COPY OF THIS CWPP TO ALL LOCAL AND TRIBAL GOVERNMENTS WITHIN THE COUNTY.	
DESCRIPTION	Local and tribal governments can benefit from the planning, background information, and identification of priority action items outlined in this CWPP. This action will inform them of the existence and goals of this CWPP and can include an offer to provide presentations about the CWPP. This CWPP can be used as a resource for any related fire-planning efforts within the county.
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	Local cities, tribal governments, relevant County departments, fire departments, Coastal Commission, Humboldt County Association of Governments.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Obtain a list of all local and tribal governments in the county, with contact information for their planning departments and disaster-response planning functions. ➤ Identify other government entities, such as County departments, and the Coastal Commission that might benefit from learning about the CWPP. ➤ Write a cover letter from the HCFSC explaining the CWPP, inviting them to the next quarterly HCFSC meeting, and offering to make a presentation to them about the CWPP. Include letter with their copy of the CWPP. ➤ Make available an electronic or hard copy of the CWPP to each jurisdiction. ➤ Follow up with a phone call and offer to make a presentation. ➤ Share results with HCFSC and project partners. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ALL LOCAL AND TRIBAL GOVERNMENTS WILL RECEIVE A COPY OF THIS CWPP, WITH GUIDANCE ON HOW TO USE IT TO INFORM COMMUNITY WILDFIRE PREPAREDNESS.

3.6.4 METRIC: FIRE-PLANNING DATA MANAGEMENT

THE MAJORITY OF THE DATA COLLECTED THROUGH THIS CWPP AND OTHER RELATED PLANNING PROCESSES WILL BE SHARED AND COOPERATIVELY MANAGED AMONG ALL INTERESTED PARTIES.

PRIORITY ACTION 3.6.4-1	
SET UP A SYSTEM TO MANAGE THE DATA GENERATED THROUGH THIS PLANNING PROCESS AND OTHER RELEVANT PARTNER DATA. ENSURE THE CONTINUED SHARING OF DATA SETS AS PROGRESS IS MADE ON PROJECTS AND NEW PRIORITIES ARE IDENTIFIED.	
DESCRIPTION	<p>Using the community mapping exercise for this planning process (<i>see Appendix B.5 for a description of the exercise</i>), beginning with the 24 meetings in 2004-2005, then the review and updates at the 16 meetings in 2012, and again in 2017 with 14 workshops around the county, the County has collected a significant amount of data on community-identified values, risks, hazards, resources, evacuation, and projects. The data are currently housed on the County WebGIS Portal (https://webgis.co.humboldt.ca.us/HCEGIS2.6_CWPP) where this information is made available to the public. In addition, the County provides GIS data sets for download and use, including some data relevant to fire planning: https://humboldtqov.org/276/GIS-Data-Download.</p> <p>CAL FIRE and other agencies and organizations also develop and maintain data layers for fuel reduction and other projects they implement. The goal of this action is to share data sets, keep data layers updated, and integrate the community-identified information with completed projects and other ground-truthed information, with a constant feedback loop.</p>

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	<p>Finally, data sets from other relevant planning efforts would be integrated or referenced, such as state data sets on habitable structures.</p> <p>Eventually, data-sharing partners would explore the best place to house all this data, whether that be with the County, CAL FIRE, or another entity.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	County Planning and Building, CAL FIRE, County OES, Cal OES, SRNF/Redwood National Park (RNP), BLM, FEMA, FSCs, Firewise® Communities, HCRCD, watershed councils and other community organizations, fire departments, emergency medical service (EMS).
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify current issues regarding data sharing and updating. ➤ Confirm if County Web GIS and data download site are the appropriate data hosts, and if so, how the sites will be managed and updated. ➤ Alternatively, identify if someone other than the County would be the current and/or future keeper of the data, ensuring there is one place to go to find the current information about a project or place in Humboldt County. ➤ Identify a budget and a funding source to support data management. ➤ Identify a process to share data and what the process would be for sensitive data (i.e. determine if access needs to be controlled for some data sets). ➤ Develop a mechanism to update and/or ground-truth data by land managers, FSCs, and other practitioners. ➤ Upload new data from 2017 workshops. ➤ Request and upload data from local FSCs and other community projects. ➤ County OES review community-identified evacuation information for inclusion. ➤ Identify and map road ingress and egress issues that could increase emergency response times. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	A SYSTEM IN PLACE TO MANAGE, SHARE, AND REGULARLY UPDATE FIRE-PLANNING DATA.

PRIORITY ACTION 3.6.4-2

ENSURE THAT THE EXISTENCE OF THE HUMBOLDT COUNTY WEB GIS PORTAL IS WELL KNOWN, AND THAT RESIDENTS AND FIRE DEPARTMENTS UNDERSTAND THE BENEFITS OF THE COMMUNITY FIRE MAPPING PROJECT LAYERS.

DESCRIPTION	As described above, the Humboldt County Web GIS Portal contains the community-identified fire-planning data associated with this and previous planning processes. It's a valuable resource for anyone wanting to implement projects and/or understand local fire-related concerns. This action will share relevant GIS data with existing and emerging FSCs and other local entities to aid in their wildfire-mitigation planning efforts. It can also be a valuable information source for fire departments. Finally, this information can be used to outreach to residents to help them understand their vulnerability to wildfire.
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group with County Planning and Building
ADDITIONAL PARTNERS	Fire departments, Humboldt County Fire Chiefs' Association (HCFCFA), FSCs and Firewise® Communities, other local organizational partners.
	<ul style="list-style-type: none"> ➤ Brainstorm issues and outreach opportunities.

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POTENTIAL ACTION STEPS	➤ Set up a training with County GIS staff for FSC and Firewise representatives to learn how to navigate the portal and provide project progress updates.
	➤ Develop simple outreach materials about the availability of the portal and how it can be used.
	➤ Share materials with target groups.
	➤ Share availability of portal on social media, local media outlets, and with local partners, County departments, and any other avenues, including those detailed in <i>Metric 3.4.1</i> .
	➤ Present portal to County Board of Supervisors to secure continued funding, showing interest and use by public and local FSCs, Firewise Communities, and fire departments.
	➤ Share results with HCFSC and project partners.
	➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i> .
	➤ Continually monitor results.
	➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	INCREASED AWARENESS AND USE OF THE WEBGIS PORTAL BY LOCAL FIRE DEPARTMENTS, FIRE SAFE COUNCILS, FIREWISE® COMMUNITIES, OTHER COMMUNITY ORGANIZATIONS WORKING ON WILDFIRE PREPAREDNESS, AND INTERESTED RESIDENTS.

3.6.5 METRIC: INTEGRATION WITH COUNTY GENERAL PLAN

THIS CWPP WILL SUPPORT AND COMPLEMENT THE HUMBOLDT COUNTY GENERAL PLAN.

PRIORITY ACTION 3.6.5-1	
COLLABORATE WITH COUNTY PLANNERS TO REALIZE ADOPTED GENERAL PLAN POLICIES, STANDARDS, AND IMPLEMENTATION MEASURES AND DEVELOP IMPLEMENTING REGULATIONS RELATING TO THIS CWPP.	
DESCRIPTION	<p>The <i>Humboldt County General Plan (GP)</i> and this CWPP are inexorably linked. Active integration will lead to successful implementation of both plans, which will benefit the entire county. The CWPP is cited and referenced multiple times in the <i>General Plan</i>. The <i>GP Safety Element (S-IM6)</i> directs the County to actively support and pursue the implementation recommendations in, and to periodically update, this CWPP. Coordinated CWPP and GP implementation will be informed by current and evolving science, best practices, and climate adaptation strategies.</p> <p>This Work Group and representatives from the Humboldt County Planning and Building Department will work together, with the support of the additional partners mentioned below, to ensure the deliberate integration of the <i>GP</i> and this CWPP.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group and County Planning and Building
ADDITIONAL PARTNERS	County of Humboldt, FSCs, fire departments, CAL FIRE Pre-Fire Planning Battalion.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Review the <i>GP</i> and identify <i>Policies, Standards, and Implementation Measures</i> relevant to the <i>Goals and Objectives</i> of this CWPP. The scope of the review will include the following: <ul style="list-style-type: none"> ○ Fire-protection service capacity and delivery items in the <i>Land Use, Community Infrastructure and Services, and Safety Elements</i>. ○ Wildfire hazards, fuel management, and prescribed-burning items in the <i>Land Use, Conservation and Open Space, and Safety Elements</i>. ○ Development standards to improve life safety and reduce risks and hazards in wildlands, in the <i>Land Use and Safety Elements</i>. ○ Smoke-management items contained in the <i>Air Quality Element</i>.

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	<ul style="list-style-type: none"> ○ Items throughout the <i>GP</i>, if any, that inform regulators and the public of the implications of climate change on future wildfire risk. ○ Items in the <i>Conservation and Open Space Elements</i> that may promote forest health and inhibit fuel-hazard reduction. ○ Characterization of wildfire hazard in the <i>General Plan Update</i> environmental review and background reports.
	<ul style="list-style-type: none"> ➤ Review the <i>GP Implementation Action Plan, Appendix A</i>, to compare the priorities of this CWPP with the County’s priorities for implementing the <i>GP</i>. <ul style="list-style-type: none"> ○ Identify <i>GP</i> items relevant to this CWPP that are already being implemented on an ongoing basis by Planning and Building as a part of project review and determine if HCFSC involvement would be beneficial. ○ Identify the items that are Priority Actions in both plans and initiate collaborative implementation as appropriate. ○ Determine where CWPP priority actions are not identified as priorities in the <i>GP Action Plan</i> and secure and apply additional resources (funding and staffing) to support coordinated implementation. ➤ Evaluate evolving climate change research and modeling and incorporate findings into integrated <i>GP</i> and CWPP implementation recommendations. ➤ Establish a process to inform and make recommendations to the Board of Supervisors related to the integrated implementation of the <i>GP</i> and this CWPP. ➤ Encourage the County to update the <i>GP</i> as necessary, to reflect changes in this CWPP. <ul style="list-style-type: none"> ○ For example, use the 2019 update of the <i>GP Housing Element</i> to make changes to the <i>GP</i> to reflect recommendations from this CWPP. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	COUNTY GENERAL PLAN IMPLEMENTATION AND ASSOCIATED ORDINANCES WILL REFLECT THE FINDINGS AND RECOMMENDED ACTIONS OF THIS CWPP.

3.6.6 METRIC: INTEGRATION WITH COUNTYWIDE REGULATORY UPDATES AND PLANNING EFFORTS

THIS CWPP WILL SUPPORT AND COMPLEMENT THE DEVELOPMENT AND UPDATE OF RELEVANT COUNTYWIDE REGULATIONS, POLICIES, AND PLANS. THE HUMBOLDT COUNTY FIRE SAFE COUNCIL WILL INFORM AND MAKE RECOMMENDATIONS TO THE BOARD OF SUPERVISORS IN THESE MATTERS.

PRIORITY ACTION 3.6.6-1	
HCFSC WILL SUPPORT COUNTY PLANNERS TO UPDATE THE COUNTY “SRA FIRE SAFE REGULATIONS” AND OTHER REGULATIONS AS APPROPRIATE TO INCORPORATE CURRENT WILDFIRE-MITIGATION SCIENCE AND BEST PRACTICES.	
DESCRIPTION	The County <i>SRA Fire Safe Regulations</i> ² constitute the basic wildland fire-protection standards for new building, construction, and development in State Responsibility Areas (SRA). The <i>County SRA Regulations</i> must meet the intent of or exceed state standards. The County <i>General Plan</i> directs the update of the <i>SRA Fire Safe Regulations</i> to ensure that fire mitigation is proportional to risk as identified in <i>State Fire Hazard Severity Maps</i> . This CWPP further specifies updating the <i>SRA Fire Safe Regulations</i> to identify specific local hazard areas based on past fire history, weather, location on the slope, and other local

² County of Humboldt, Department of Planning & Building. Fire Safe Regulations, Ord. No. 2540. Retrieved from <https://humboldtqov.org/1812/Fire-Safe>

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	<p>characteristics that influence fire behavior. The requirement for specific fire-safe measures for those identified areas should be evaluated to address structural ignitability, road conditions and evacuation considerations, vegetation setbacks, ongoing fuel management, and improved enforcement.</p> <p>It is anticipated that the State will soon revise regulations to reflect recent catastrophic fires, and the County will have a specific period of time in which to bring the local regulations into compliance. This will be an important time to ensure that the most current fire-safe techniques and best practices are incorporated into county regulations, and that the enforcement of these regulations is well coordinated in local jurisdictions throughout the county. This work must be completed to ensure that existing and new development has the best possible chance of surviving wildfire, to allow for effective and safe fire response and community evacuation, and be designed to minimize contribution to wildfire ignition risk and intensity.</p> <p>This Work Group will participate on an advisory basis. The effort would be led by County Planning and Building.</p>
RESPONSIBLE PARTY	County Planning and Building with HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	HCFCFA, CAL FIRE, FSCs, conservation organizations, watershed councils.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify the steps necessary and the process required for updating the <i>SRA Fire Safe Regulations</i> and establish a clear role for the HCFSC. ➤ Identify and develop tools (e.g. maps, criteria, data, models) for County Planners to guide fire-safe development, based on current wildfire-mitigation science and best practices. ➤ Incorporate the findings of local climate-change planning into regulatory updates. For example, reference the climate-change components of the soon-to-be-updated <i>County Local Hazard Mitigation Plan</i> and this CWPP. ➤ Integrate performance measures and development guidance that do not fit within the <i>SRA Regulations</i> into other existing regulations, or create new regulations as needed. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	UPDATED COUNTY SRA FIRE SAFE REGULATIONS AND OTHER REGULATIONS AS APPROPRIATE, INTEGRATING BEST AVAILABLE WILDFIRE-MITIGATION SCIENCE AND PRACTICES, AND THE FINDINGS AND RECOMMENDED ACTIONS OF THIS CWPP.

PRIORITY ACTION 3.6.6-2

HCFSC WILL SUPPORT COUNTY PLANNERS TO INCORPORATE ECOLOGICALLY BASED FUEL-REDUCTION OPTIONS IN THE UPDATE OF THE STREAMSIDE MANAGEMENT AREA ORDINANCE AND APPLICABLE ZONING REGULATIONS.

DESCRIPTION	<p>Within two years of the adoption of the County <i>General Plan</i> (adopted on October 23, 2017), the <i>Streamside Management Ordinance of Humboldt County (SMAO)</i> must be updated to ensure consistency with the <i>General Plan</i>. The <i>SMAO</i> provides:</p> <p>“...minimum standards pertaining to the use and development of land located within Streamside Management Areas (SMAs) and other wet areas</p>
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	<p>such as: natural ponds, springs, vernal pools, marshes, and wet meadows (exhibiting standing water year-long or riparian vegetation).”³</p> <p>The California Department of Fish and Wildlife (CDFW) will also likely require a permit (1600 permit) under these conditions. In addition, the clearing of vegetation around a home beyond thirty feet to comply with the California state standard of one-hundred feet for fire safety could trigger the need for a special permit from County Planning and Building in Residential Zones, including the Rural Residential Agriculture Zone. Under current county and state laws, vegetation management to reduce wildfire hazards within SMAs and certain zoning districts could trigger a potentially cost-prohibitive site evaluation and special permit. These regulations could be a disincentive for active wildfire hazard reduction, potentially resulting in unnecessary losses and unintended damage to sensitive riparian ecosystems.</p> <p>The Work Group will collaborate with the partners listed below to encourage the incorporation of wildfire-hazard reduction considerations into the updated SMAO and applicable zoning regulations, seeking solutions to avoid this disincentive.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	County Planning and Building, CDFW, CAL FIRE, University of California Cooperative Extension (UCCE), FSCs, Salmonid Restoration Federation, watershed councils, conservation organizations.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Participate in the scheduled update of the SMAO. ➤ Review the existing SMAO to understand how it has impacted or could impact hazardous fuel-reduction efforts. ➤ Consult with partners to deepen understanding of and identify options for improvements to the regulation. ➤ Work with County Planners to develop and provide recommendations to the SMAO update that will allow fuel treatments in SMAs that are consistent with streamside protections and will support reducing wildfire hazards. ➤ Review county zoning regulations impacting fuel-reduction activities beyond thirty feet from homes and: <ul style="list-style-type: none"> ○ Evaluate options for reducing the impact of this regulation on fuel-reduction activities. ○ Make recommendations to the county for performance standards that, if met, would replace the need for a permit. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in Metric 3.4.1. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	UPDATED SMAO INCORPORATING BEST AVAILABLE SCIENCE AND PRACTICES, AND THE FINDINGS AND RECOMMENDED ACTIONS OF THIS CWPP, FOR ECOLOGICALLY BASED FUEL REDUCTION.

³ Humboldt County Code. Title III Land Use and Development, Division 1 Planning, Chapter 6 Regulations. Section 314-61.1: Streamside Management Area Ordinance. Retrieved from <https://humboldtqov.org/1680/Development-Regulations>

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POTENTIAL PROJECTS

- Integrate wildfire preparedness into new cannabis regulations (*see Metric 3.1.2*).
- Make sure there is reference to this CWPP and associated action items in the *Humboldt Operational Area Hazard Mitigation Plan* and any future updates.
- Continue to improve notifications to local fire departments about property ownership transactions and new building permits.
- Sudden Oak Death (SOD):
 - Support policy development and permit streamlining to facilitate rapid and effective response to protect resources at risk from SOD.
 - Advocate for restrictions on selling SOD-infected plants and soil within the county.

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3.6.7 METRIC: INTEGRATION WITH STATE WILDFIRE-PLANNING EFFORTS

THIS CWPP WILL SUPPORT COMPLIANCE WITH RELEVANT AIR AND WATER QUALITY STANDARDS AND OTHER STATEWIDE REGULATIONS, POLICIES, AND PLANNING EFFORTS.

PRIORITY ACTION 3.6.7-1	
ENCOURAGE AND SUPPORT RESIDENTS AND ORGANIZATIONS CONDUCTING PRESCRIBED BURNS TO DO DUE DILIGENCE REGARDING PERMITTING, SMOKE MANAGEMENT PLANS, AND COMPLIANCE ISSUES TO PROTECT PUBLIC HEALTH FROM SMOKE IMPACTS.	
DESCRIPTION	<p>This action will provide, promote, and explore new technologies, information, and methods to track, treat, and aid in protecting public health from smoke (i.e., modeling, Personal Protective Equipment, personal air sensors, etc.). It will include sharing links on weather conditions, such as the <i>Area Forecast Discussion</i> and <i>Fire Weather Planning Discussion</i>.⁴</p> <p>Outreach to support and implement due diligence is detailed in <i>Metric 3.5.1</i>.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group and North Coast Unified Air Quality Management District (NCUAQMD)
ADDITIONAL PARTNERS	CAL FIRE, UCCE, Humboldt County Prescribed Burn Association, Mid-Klamath Watershed Council, FSCs, fire departments.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Brainstorm to identify issues and opportunities. ➤ Provide online examples of completed and accepted Smoke Management Plans for prescribed burns of different sizes as a reference for practitioners. ➤ Support smoke-modeling trainings as they become available for practitioners seeking to acquire these skills. ➤ Provide online resources for accurately filling out CAL FIRE and Air Quality permits. ➤ Share materials created in <i>Metric 3.5.4</i>. ➤ Explore other options for reducing smoke impacts to the public, especially to vulnerable populations. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ALL PRESCRIBED FIRE PROJECTS WILL BE IN COMPLIANCE WITH ALL AIR QUALITY REGULATORY AND PERMITTING REQUIREMENTS.

⁴ National Weather Service. Fire Weather. Retrieved from <https://www.weather.gov/fire>

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PRIORITY ACTION 3.6.7-2	
SUPPORT AND ENCOURAGE THE DISSEMINATION OF NORTH COAST UNIFIED AIR QUALITY MANAGEMENT DISTRICT INFORMATION DURING WILDFIRES.	
DESCRIPTION	<p>Public health effects from wildfire smoke are a vital concern among affected communities during wildfires. This action would 1) provide schools with the tools to respond to smoke impacts during wildfire events and 2) establish coordinated communication between the <i>County Public Health Officer, County OES, and the NCUAQMD</i> before and during wildfires.</p> <p>The <i>NCUAQMD</i> recently began to distribute a chart titled <i>Recommendations for Schools and Others Responsible for Children during a Wildfire Smoke Event</i>.⁵ This chart provides information regarding actions to be taken during certain air quality conditions. These actions are based on Air Quality Index values provided by the <i>NCUAQMD</i> and type of activity. This chart will be updated each year as needed, with distribution to schools occurring prior to the end of the school year and before the wildfire season.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group and NCUAQMD
ADDITIONAL PARTNERS	County OES, County Public Health, County Office of Education, schools, tribes, FSCs, Firewise® Communities, fire departments, CAL FIRE, HCFCA, Community Emergency Response Teams (CERTs).
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Identify HCFSC role. ➤ Meet with <i>NCUAQMD, County OES, and County Public Health</i> to discuss issues and opportunities and timing of actions. ➤ Meet with <i>NCUAQMD and County Office of Education</i> to discuss issues and opportunities. ➤ Brainstorm outreach avenues and opportunities for disseminating Air Quality information before and during wildfires. ➤ Update <i>NCUAQMD</i> chart and distribute. ➤ Continue to improve the quality of and accessibility to air quality information during wildfires and prescribed fires. ➤ Provide links on <i>HCFSC and HCFCA</i> websites. ➤ Share results with <i>HCFSC</i> and project partners. ➤ Share success stories on <i>HCFSC</i> website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next <i>CWPP</i> Update.
DESIRED OUTCOME	TIMELY DISSEMINATION OF LOCAL AIR QUALITY INFORMATION DURING WILDFIRES.

POTENTIAL PROJECTS

- Participation in the *Smoke Spotter Program*. The *NCUAQMD* continues to implement its ongoing *Spotter Program*. During smoke and wildfire events, interested individuals—known as smoke spotters—report visual information for their respective locations in various remote areas within the county throughout the day. This information is incorporated into the *NCUAQMD* notifications.

⁵ North Coast Air Quality Management District. Wildfire Activity Guide for Schools. Adapted from EPA Air Quality and Outdoor Activity Guidance for Schools. Retrieved from <http://www.ncuaqmd.org/files/Wildfire/EPA%20Wildfire%20air%20quality%20guide%20for%20schools,%20NCUAQMD%20rev%204-18.pdf>

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- Coordinate with State Parks to include HCFSC, local FSCs, and local fire departments in their planning and project development efforts.
- Explore the possible use of personal air sensors and other new technology.
- Stay informed regarding the California Carbon Plan implementation, specifically item D: “Explore opportunities for regulatory and policy changes and streamlining to advance the activities described in this Plan and implemented at the regional level.”⁶

3.6.8 METRIC: INTEGRATION WITH CAL FIRE HUMBOLDT–DEL NORTE UNIT FIRE PLAN

THIS CWPP WILL SUPPORT AND COMPLEMENT CAL FIRE’S HUMBOLDT–DEL NORTE UNIT FIRE PLAN.

PRIORITY ACTION 3.6.8-1	
CAL FIRE ANNUALLY REVIEW THIS CWPP FOR GUIDANCE AND COMMUNITY INPUT ON PRIORITY PROJECTS AND VALUES AND ASSETS AT RISK.	
DESCRIPTION	CAL FIRE Humboldt–Del Norte Unit (HUU) updates its strategic <i>Unit Plan</i> ⁷ every year, submitting it to Sacramento annually in the late spring. This action would systematize integration of the planning efforts. CAL FIRE will annually review this CWPP for inclusion in the <i>HUU Unit Plan</i> . They will follow this review by presenting the draft <i>Unit Plan</i> at the HCFSC quarterly winter or spring meeting for input, including reviewing proposed priority projects for the next year in the HUU plan update process.
RESPONSIBLE PARTY	CAL FIRE, HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	FSCs, Firewise® Communities, others implementing fuel hazard reduction and community wildfire-preparedness projects.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Schedule CAL FIRE presentation at the winter or spring HCFSC meeting for the annual update. ➤ Work Group review CAL FIRE proposed priority projects and the <i>Planning Unit Action Plans</i> in Part 4 of this CWPP to ensure integration. ➤ CAL FIRE present <i>HUU Unit Plan</i> update to HCFSC spring meeting. ➤ Monitor integration and recommendations. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	PROJECT INTEGRATION BETWEEN THIS CWPP AND THE CAL FIRE HUMBOLDT–DEL NORTE UNIT FIRE PLAN.

⁶ Forest Climate Action Team. 2018. California Forest Carbon Plan: Managing Our Forest Landscapes in a Changing Climate. Sacramento, CA. (p. 6)

⁷ CAL FIRE: Humboldt – Del Norte Unit (HUU). (2017). Strategic Fire Plan Humboldt – Del Norte Unit 2017. Retrieved from http://cdfdata.fire.ca.gov/fire_er/fpp_planning_plans_details?plan_id=270

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3.6.9 METRIC: INTEGRATION WITH FEDERAL WILDFIRE EFFORTS

THIS CWPP WILL SUPPORT COORDINATION WITH ALL RELEVANT FEDERAL REGULATIONS, POLICIES, AND PLANNING EFFORTS, INCLUDING THE IDENTIFICATION OF COMMUNITIES AT RISK AND THE WILDLAND-URBAN INTERFACE.

PRIORITY ACTION 3.6.9-1	
FACILITATE HCFSC PARTICIPATION IN THE CREATION OF ANY FEDERAL FIRE OR LAND-MANAGEMENT PUBLIC PLANNING PROCESSES TO ENCOURAGE COORDINATION WITH THIS CWPP.	
DESCRIPTION	<p>Most activities that occur on public lands, especially in terms of ground-disturbing activities, have their basis in a federal planning document or process. These can include a <i>Fire Management Plan</i>, <i>Land and Resource Management Plan</i>, and <i>Forest Management Plan</i> for the US Forest Service, and an <i>Integrated Area Management Plan</i> for the BLM. It is most effective to plan with federal partners up front to include community priorities such as fuel reduction and prescribed fire in locally relevant planning documents. HCFSC participation in related federal fire or land-management processes can facilitate this at the county scale.</p> <p>Additionally, HCFSC and its partners can work closely with federal partners to understand and help disseminate information about regulations and policies relevant to community wildfire preparedness and protection.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	US Forest Service, National Park Service, BLM, Bureau of Indian Affairs, tribes, US Fish and Wildlife Service.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Meet with federal land managers in Humboldt County. ➤ Review existing federal planning efforts in Humboldt County. ➤ Identify possible participatory roles for the HCFSC and/or its representatives in current and future federal planning efforts. ➤ HCFSC actively participate in current and future federal planning efforts. ➤ HCFSC help disseminate relevant wildfire-related information to its networks. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	HUMBOLDT COUNTY FIRE SAFE COUNCIL WILL PARTICIPATE IN AN ADVISORY ROLE IN RELEVANT FEDERAL PUBLIC PLANNING PROCESSES TO ENSURE CONSISTENCY WITH THIS CWPP.

POTENTIAL PROJECTS

- Accept those areas of the county already designated as WUI in local CWPPs and previous versions of this CWPP.
- Evaluate adding Redwood Valley and Titlow Hill to the federal Communities at Risk list.
- Explore Good Neighbor Authority opportunities.

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3.6.10 METRIC: CWPP UPDATE

THIS CWPP WILL BE UPDATED AND MAINTAINED BY THE HUMBOLDT COUNTY FIRE SAFE COUNCIL, WITH ITS NEXT UPDATE PLANNED FOR 2024, IN ACCORDANCE WITH ALL RELEVANT GUIDELINES.

PRIORITY ACTION 3.6.10-1 REGULARLY TRACK AND CELEBRATE ACCOMPLISHMENTS OF THE HUMBOLDT COUNTY FIRE SAFE COUNCIL AND ITS PARTNERS.	
DESCRIPTION	This CWPP is updated every five years. This current version is the second update or third iteration of the Humboldt County fire plan. This CWPP has been written as a strategic plan for the HCFSC. Therefore, it is the intention of the HCFSC to actively use and update information in this plan over the next five years. Each priority action identified in these <i>Action Plans</i> has a final implementation step of writing a summary of the action to be included in the next CWPP Update. Additionally, <i>Work Groups</i> will report on their activities and accomplishments at every quarterly meeting, rotating between groups. As part of this updating process, HCFSC and partners will regularly celebrate and publicize accomplishments.
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	All CWPP collaborators.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Create a simple reporting form for <i>Work Groups</i> to use in tracking completed projects to facilitate reporting accomplishments in the next CWPP Update. ➤ Create a spreadsheet for <i>Work Groups</i> to use in implementing these Action Plans. ➤ Collect summaries at HCFSC quarterly meetings of completed projects in this action plan to include in the next CWPP Update. ➤ Celebrate and share accomplishments. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>.
DESIRED OUTCOME	THE ACCOMPLISHMENTS OF THE HCFSC AND ITS PARTNERS WILL BE TRACKED OVER THE COURSE OF THIS CWPP IMPLEMENTATION, TO BE INCLUDED IN THE 2024 SCHEDULED UPDATE.

PRIORITY ACTION 3.6.10-2 SET UP A PROCESS TO REVIEW NEW AND EXISTING LOCAL CWPPS AND IDENTIFY WHERE INTEGRATION IS NECESSARY.	
DESCRIPTION	<p>The intention of this action is to increase HCFSC awareness of relevant, local fire-planning efforts and completed local plans to ensure their effective integration into countywide planning efforts. There are currently four local CWPPs in Humboldt County: Hoopa, Mattole, Orleans, and Willow Creek. The <i>Planning Unit Action Plans</i> in <i>Part 4</i> of this CWPP are integrally tied to these more formalized plans, referring readers to these localized CWPPs for more detail on local issues and priority actions.</p> <p>Any new information from newly developed CWPPs will be incorporated into future updates of this countywide CWPP and the <i>Planning Unit Action Plans</i>.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	Local CWPP authors, CAL FIRE, FSCs.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Brainstorm to identify any potential integration issues, e.g different planning areas. ➤ Stay informed about local fire-planning processes happening around the county. ➤ Invite anyone working on local fire-planning issues to attend HCFSC quarterly meetings and make a presentation about their planning effort(s).

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	<ul style="list-style-type: none"> ➤ Regularly review new fire-planning efforts in the county to ensure integration and consistency with this CWPP, and to amplify impact through cooperation and mutual assistance. ➤ Share results with HCFSC and project partners. ➤ Share success stories and lessons learned on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Monitor integration. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ALL LOCAL CWPPS IN HUMBOLDT COUNTY WILL BE REVIEWED FOR INTEGRATION INTO THE PLANNING UNIT ACTION PLANS AND THE NEXT UPDATE OF THIS CWPP.

3.6.11 METRIC: CWPP IMPLEMENTATION AND FUNDING

SECURE FUNDING FOR IMPLEMENTING THE PRIORITY ACTIONS IDENTIFIED IN THIS CWPP OVER THE NEXT FIVE YEARS.

PRIORITY ACTION 3.6.11-1	
REACH OUT TO FEDERAL, STATE, AND COUNTY PARTNERS AND FOUNDATIONS TO IDENTIFY POTENTIAL FUNDING SOURCES TO FACILITATE IMPLEMENTATION OF THIS PLAN.	
DESCRIPTION	<p>As stated throughout these <i>Action Plans</i>, the priority actions will be implemented as resources are available. Successfully achieving the goals of this entire CWPP would require a significant level of money and humanpower. To implement this plan funds are needed for both the HCFSC and its partners, especially local <i>Fire Safe Councils</i>, <i>Firewise® Communities</i>, and <i>fire departments</i>. There is also a clear need for support for local <i>FSC</i> administration, coordination, and active participation in the HCFSC.</p> <p>This action includes reaching out to all possible funding sources for CWPP implementation. <i>Metric 3.4.2</i> details specific actions for fire department funding.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	SRNF, BLM, CAL FIRE, state legislators, County Board of Supervisors, local and other foundations, FSCs and Firewise® Communities.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Maintain the <i>Funding Strategy Work Group</i>. ➤ Brainstorm possible funding sources available to support CWPP implementation. ➤ Develop a local database for the <i>Work Group</i>, or a funding committee, to track information regarding all possible funding sources, application requirements, how to apply, deadlines, and other relevant information. ➤ Discuss priority annual funding needs at HCFSC quarterly meeting; review and update these priorities annually. ➤ Coordinate funding strategies with local FSCs, Firewise Communities, fire departments, and others. ➤ Explore possibility of state legislative funding sources that may offer funding for community wildfire preparedness, fuel reduction, etc. ➤ Meet with <i>Humboldt Area Foundation</i> to research new foundation-based funding options. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, potentially including those detailed in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	ADEQUATE FUNDING TO IMPLEMENT THE PRIORITY ACTIONS IDENTIFIED IN THIS CWPP.

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PRIORITY ACTION 3.6.11-2	
SET UP A REGIONAL FUND AT THE HUMBOLDT AREA FOUNDATION TO COLLECT DONATIONS LOCALLY TO SUPPORT IMPLEMENTATION OF THIS CWPP.	
DESCRIPTION	The Eureka-based Humboldt Area Foundation (HAF) ⁸ can host funds for specific purposes or local organizations. HCFSC will work with HAF to set up a fund to receive donations to support the HCFSC in a variety of ways, including providing matching funds for grants. This fund could also facilitate local fundraising drives, as there would be a credible, tax-deductible entity to receive and disburse any funds raised.
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group and Humboldt Area Foundation
ADDITIONAL PARTNERS	Local partners, including: FSCs, Firewise® Communities, fire departments, watershed organizations, media outlets, elected officials.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Look for other foundations to set up similar funds. ➤ Meet with HAF to discuss establishing the fund.⁹ ➤ Draft goals and priorities of new fund and share with HCFSC for review and approval. ➤ Set up a committee to oversee the fund management. ➤ Draft a short funding “pitch” with photos. ➤ Find initial donors to finance the fund. ➤ Publicize the fund. ➤ Receive donations. ➤ Develop criteria for spending funds. ➤ Disburse funds as needed and as approved by Fund Committee and HCFSC. ➤ Report regularly to HCFSC at quarterly meetings. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	A HUMBOLDT COUNTY COMMUNITY WILDFIRE FUND ESTABLISHED WITH FUNDING AT THE HUMBOLDT AREA FOUNDATION.

POTENTIAL PROJECTS

- Support local community fundraising efforts for Firewise®.
- Identify an online workspace or other process for the HCFSC Work Groups to collaborate to implement this CWPP.

⁸ Humboldt Area Foundation: www.hafoundation.org

⁹ Humboldt Area Foundation. Start a Fund. Retrieved from <http://www.hafoundation.org/Giving/Start-a-Fund>

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3.6.12 METRIC: HUMBOLDT COUNTY FIRE SAFE COUNCIL FUNDING

SECURE \$100,000 ANNUALLY AS AN ONGOING AND SUSTAINABLE FUNDING SOURCE FOR HUMBOLDT COUNTY FIRE SAFE COUNCIL COORDINATION AND ADMINISTRATION.

PRIORITY ACTION 3.6.12-1	
CREATE ONGOING FUNDING FOR BASIC HUMBOLDT COUNTY FIRE SAFE COUNCIL OPERATIONS AND COORDINATION.	
DESCRIPTION	<p>Securing funding for community wildfire-preparedness planning, implementation, and organizing is an ongoing challenge, often overwhelming local organizations. The HCFSC is no exception. Regular and stable funding is needed to facilitate and oversee project implementation, administration, and steady community outreach. Funded tasks could include organizing the HCFSC and its quarterly meetings, grant writing, lobbying to seek funds or comment on relevant legislation, and participating in national, state, and regional efforts, such as the <i>Fire Adapted Communities Learning Network</i>. Funding is also needed to support maintenance of the community fire-planning data in the <i>Web GIS</i> portal, as discussed in <i>Metric 3.6.4</i> above. Finally, discretionary funding is needed for materials, supplies, community outreach, emergency funding, equipment maintenance and/or replacement, and matching funds.</p>
RESPONSIBLE PARTY	HCFSC Integrated Planning Work Group
ADDITIONAL PARTNERS	SRNF, BLM, CAL FIRE, County Board of Supervisors, foundations, FSCs, and Firewise® Communities.
POTENTIAL ACTION STEPS	<ul style="list-style-type: none"> ➤ Draft a budget for annual HCFSC operations and other needs as identified above. ➤ Brainstorm potential funding sources, both public and private. ➤ Write supportive text to document funding needs. ➤ Prepare presentations for various funders. ➤ Take necessary steps to request general fund allocation from County Board of Supervisors. ➤ Share results with HCFSC and project partners. ➤ Share success stories on HCFSC website, social media, local media outlets, and other avenues, including those detailed in <i>Metric 3.4.1</i>. ➤ Continually monitor results. ➤ Write up a summary for next CWPP Update.
DESIRED OUTCOME	A STABLE SOURCE OF FUNDING TO SUPPORT THE HUMBOLDT COUNTY FIRE SAFE COUNCIL.