

## Humboldt County Community Wildfire Protection Plan

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### III.1. Enhancing Fire Protection: Helping Firefighters Protect the Community

Local fire departments in Humboldt County have been created from the desires of local communities to protect themselves. Fire departments have a history of working collaboratively, and have regularly assisted each other to better protect their communities. A good example of such inter-departmental cooperation is the Humboldt County Fire Chiefs' Association (Fire Chiefs). There are, however, significant disparities existing in the levels of fire protection available to Humboldt County communities. These disparities are due to many factors, including: whether or not the community has a fire-related *special district*; when such a district was formed; the value of the local tax base; and the recruitment and availability of volunteers.

Compared to other counties in California of similar size and population, Humboldt County has an exceptionally high number (42) of local organizations providing fire protection. The establishment and operation of multiple fire organizations has occurred in response to the rural, isolated development patterns (geographical separation) over the last century in the unincorporated regions of the county.

As rural communities grow, distances between them are reduced and the opportunity for sharing services increase. This is evident in the number of *mutual-aid agreements* that exist throughout the county.<sup>1</sup> Consolidating resources is one technique that has been used in other localities to more efficiently provide fire-protection capabilities.

*For more information on fire protection in Humboldt County, please see Chapter II.3. Wildfire Protection Capabilities.*

- *Facilitate the consolidation, expansion, or formation of special districts that provide fire protection services to ensure adequate and sustainable community fire protection for all residents in Humboldt County.*  
—Fire Chiefs, Humboldt County Fire Safe Council (HCFSC), Local Agency Formation Commission (LAFCO), Humboldt County Board of Supervisors (BOS) (M, O)
- *Identify strategies to provide a support network for fire service agencies and organizations via improved communication and coordination.* —HCFSC, Fire Chiefs (S)
- *Educate community members regarding how they can support their local fire department, including helping with fundraisers, grant writing, reporting, paperwork, or becoming a volunteer firefighter.*  
—Fire Chiefs, Local Fire Organizations, HCFSC (O)
- *Develop an administrative support structure to assist local fire organizations with incident reporting.*  
—Fire Chiefs, Local Fire Organizations, HCFSC (M)

#### III.1.1. Improving the Level of Service of Fire Protection

There is a significant difference between the Level of Service (LOS) available to residents in urban areas of the county (e.g. Eureka), and residents living in more remote rural areas. Local fire departments use formal and informal mutual-aid and *automatic-aid agreements* to augment provided levels of protection, yet LOS differences between communities persist. The Fire Services Annual Report, produced by the Fire Chiefs and presented to the BOS each year, is a useful tool for identifying where these LOS differences exist and for increasing awareness among elected officials and the public about who provides local community fire protection, what services they are able to provide, and the level of volunteer effort needed to sustain the service.

The LOS standard is important for the following reasons: 1) an established standard will improve the ability of real estate professionals, public safety personnel, and government officials to inform landowners and residents of the available level of fire protection; 2) it will support fire department grant requests to local, state, and federal

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<sup>1</sup> See Chapter II.3. Wildfire Protection Capabilities for more information on local mutual-aid agreements.

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funding sources for purchase of apparatus, equipment, and training in order to meet standards; and 3) it will allow local governments to effectively plan for municipal service delivery and population growth.

However, bringing the LOS up to an established standard may present a challenge for some of the smaller departments. In addition Insurance Services Office (ISO) classifications may be influenced based on changes in service delivery and disclosure. ISO establishes fire insurance ratings for Humboldt County communities that influence how much property owners pay for fire insurance. Improvements in service could result in reduced insurances rates but disclosure about a low LOS could increase rates.

An HCFSC committee continues to work closely with the Fire Chiefs to identify and agree on a minimum LOS standard. The standard will need to be tiered, acknowledging that there are different expectations and capacities in rural, suburban, and urban environments. It has been determined that training level standards are the most critical focus area to begin this effort. The Fire Chiefs liaison to the HCFSC will continue to identify areas of needed collaboration.

- *Develop LOS standards for the provision of all fire protection services (fire, emergency medical service (EMS), Hazardous Materials (HazMat), rescue) in the county, and make such standards public so that landowners and residents understand what is and is not available to them.* —Fire Chiefs, HCFSC LOS Standards Committee (S)
- *Work collaboratively to ensure that the Fire Services Annual Report continues to be produced, presented to the BOS, and made available through the HCFSC and Fire Chiefs websites each year.* —Fire Chiefs, CAL FIRE, HCFSC.
- *Develop LOS standards related to training.* —Fire Chiefs, HCFSC LOS Standards Committee (S)
- *Establish minimum levels of fire protection service for Humboldt County communities.*—Fire Chiefs, Individual Fire Departments (O)

### III.1.2. Securing Resources for Fire Protection

The lack of essential training and equipment, and difficulty in recruiting volunteers are issues throughout the county. The development of fire and emergency services training facilities is critical to the delivery of emergency services. Humboldt County firefighters have varying and sometimes inadequate levels of training. Recognizing that approximately 92% of Humboldt County firefighters are volunteers—many of whom live in outlying areas—multiple and/or mobile training facilities may be required to support countywide training programs. Providing all firefighters with necessary training will result in a more confident, capable, and reliable fire-fighting force prepared to deliver improved service to the citizens of the county. Fire departments report that it is sometimes impossible to attract and retain adequate numbers of qualified volunteers. Addressing these fire protection resource-training issues is essential to local firefighters in meeting an established LOS standard.

Equipment in many, if not most, of the local fire protection organizations is generally antiquated. Much of it is “hand-me-downs” several times over.

- *Establish regional fire-training facilities in appropriate locations. Facilities should include classrooms, a burn tower, and fire and rescue training props.* —Fire Chiefs, HCFSC, California Department of Forestry and Fire Protection (CAL FIRE), Federal Agencies (M)
- *Establish regular fire-training programs/classes at the local level throughout the county to serve different regions: i.e., southern, north-eastern, and northern Humboldt, Eel River Valley, Humboldt Bay, etc.* —Fire Chiefs, HCFSC, CAL FIRE, Federal Agencies (M)
- *Collaboratively identify strategies to provide improved training and equipment to local fire departments and develop formal mutual-aid agreements between departments providing fire protection in Humboldt County.* —Fire Chiefs, CAL FIRE, Federal Agencies, HCFSC (S)

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- *Ensure that all first responders have adequate training and equipment*—Fire Chiefs, CAL FIRE, Federal Agencies, HCFSC (S)

### III.1.3. Developing a Reliable Revenue Source for Fire Protection

Through this Community Wildfire Protection Plan (CWPP) update process, it was emphatically confirmed that a lack of adequate funding is still one of the most critical issues facing local fire service. Some departments indicate that revenue is insufficient to cover even the basic costs of operation and administrative tasks. Personnel-related costs such as workman’s compensation—even in all-volunteer departments and with support from the County—have increased many times faster than the growth of revenue. Proposition 13 and subsequent changes to the State Constitution have made it extremely challenging for local agencies to increase taxes for fire protection, and fundraising by all-volunteer departments is difficult and time-consuming. Moreover, the impact of additional occupational safety requirements mandated by Senate Bill (SB) 1207, no matter how critical to firefighter safety, could be “the straw that breaks the camel’s back” in terms of departmental survivability.

To maintain capable fire protection, it is important to establish adequate and reliable revenue sources for local fire departments as well as innovative cost-sharing programs to increase the efficiency of service provision. The most stable sources of revenue for fire protection are ongoing assessments and recurring agency programs. One-time funding (such as grants) can be effective for establishing a program or service, but must be replaced by an ongoing source for long-term viability. The variety of methods by which local fire departments are organized, and the funding sources that are available to each type of department, makes identifying “one size fits all” funding solutions very difficult.

A special circumstance of fire protection need lies in areas of the county where there is no obligated service provider. Currently, these unprotected areas may receive “goodwill service” from nearby fire departments. However, these departments are not compensated for this goodwill service and it represents an additional strain on their already overburdened resources. A countywide funding strategy could mitigate this type and other types of service delivery problems.

- *Develop reliable sources of ongoing funding for fire protection districts and departments, such as revenue exchange agreements, benefit assessments, mitigation fees, and user fees.* —Local governments, Fire Chiefs, HCFSC Revenue Source for Fire Protection Committee, Local Foundations (M, O)
- *Provide technical support to local organizations that seek to establish (tax) benefit assessment areas as well as alternative funding mechanisms. Coordinate with state/federal government funding programs (e.g., Amador) as sources of funding for community fire protection.* —Fire Chiefs, HCFSC Revenue Source for Fire Protection Committee, LAFCO (S, O)
- *Encourage the provision of fire protection services through a district or local agency that provides a stable source of revenue from property tax, assessments, fees, or other sources.* —HCFSC, County of Humboldt, LAFCO, Fire Chiefs (S, O)
- *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.* —Fire Protection Districts, Fire Chiefs, County Assessor, HCFSC Revenue Source for Fire Protection Committee, Humboldt County Planning and Building (S)
- *Support local fire departments with funding and countywide coordination for training, equipment, and improved communications.* —Fire Chiefs, HCFSC Revenue Source for Fire Protection Committee, Local Foundations (O)
- *Support the continued allocation of a portion of Proposition 172 funds to local fire agencies.* —BOS (O)

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### III.1.4. Ensuring Adequate Water Supplies for Fighting Fire

Water is critical for successful firefighting and is used for suppressing both structural and wildland fires as well as protecting homes from ignition from wildfire. Both the County and California's minimum firefighting water requirement (for developments that are not on a hydrant system) is 2,500 gallons of accessible water. Rural residents ideally would have up to 10,000 gallons of available water for fire protection. (*See Part V. Fire-Safe Communities, for more information on water storage options.*)

Several areas within the county are lacking in sufficient water for fighting fire. Those communities with water system issues for adequate fire protection and suppression are identified in the Planning Unit Action Plans in Part IV of this CWPP.

Most large wildfires occur in Humboldt County in late summer and/or early fall when water levels in local rivers and streams can be very low. Conflicts have arisen in the past over *bucket dipping* and *water drafting* out of rivers for firefighting water during late summer when native salmon and steelhead and their habitat is most vulnerable.

- *Install water tanks that are accessible for fighting fire. Fill the tanks in the winter (use the Sanctuary Forest<sup>2</sup> forbearance program as a model).* —Humboldt County Residents, Fire Safe Councils (FSCs), Neighborhood and Homeowners Associations (S, O)
- *Make sure existing and future water tanks have proper fittings for fire hoses.* —Humboldt County Residents, Fire Prevention Officers, Fire Chiefs, Local FSCs (S, O)
- *Highlight potential for less bucket dipping and water drafting in critical fish habitat during incidents (which often occur at critical times for salmonids).* —Watershed Organizations, Fire Chiefs, Tribes, CAL FIRE, Six Rivers National Forest (SRNF), HCFSC, California Department of Fish and Game (DFG) (O)
- *Work with wildfire managers to increase the use of fish screens on water tenders, water pumps, and other pumping devices during large wildfire events.* —Watershed Organizations, Fire Chiefs, Tribes, CAL FIRE, SRNF, HCFSC, DFG (O)
- *Design a program to educate residents about how to properly set up water tanks/sources for use by firefighters.* —Fire Chiefs, Local Fire Departments, CAL FIRE, Local FSCs (S, O)
- *Secure funding to design and implement a countywide Blue Dot Program<sup>3</sup>; providing information and materials for installing reflective blue dots and signs, identifying the location of water for use by firefighters.* —HCFSC, Local FSCs, Fire Chiefs (S, O)
- *Create a handout similar to Mendocino County FSC “Developing Water Supplies for Fire Protection”<sup>4</sup> and Humboldt #1 Fire Protection District handouts.* —HCFSC, Fire Prevention Officers, County Planning and Building (S, 🗑)
- *Educate rural residents on the needs and benefits of water storage (tanks, ponds, water bladders...).* —HCFSC, Humboldt Resource Conservation District (HRCDD) Watershed Councils, Other Interested Partners (S, O)
- *Encourage RAC<sup>5</sup>-funded program 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*

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<sup>2</sup> Sanctuary Forest. (n.d.). *Sanctuary Forest's Mattole Flow Program: Water Storage and Forbearance*. Retrieved September 9, 2012 from [www.classic.mattole.org/website\\_updates108/FINAL\\_brochure\\_text\\_1207.pdf](http://www.classic.mattole.org/website_updates108/FINAL_brochure_text_1207.pdf)

<sup>3</sup> *See Part V. Fire-Safe Communities for more information on Blue Dot Programs.*

<sup>4</sup> Mendocino County Fire Safe Council. (2012). *Developing Water Supplies for Fire Protection*. Retrieved from <http://firesafemendocino.org/pdf/Water%20Supplies%20for%20Fire%20Protection%204%20pages.pdf>

<sup>5</sup> Six Rivers National Forest, Resource Advisory Committee (RAC).

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*adjacency) and Whitethorn, Shelter Cove, Honeydew, and Prosper Ridge (Bureau of Land Management (BLM) adjacency).*<sup>6</sup> —HCFSC, SRNF, BLM, Local Fire Departments (M)

- *Explore funding for a water-storage program (tanks, ponds, water bladders, 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 areas of High and Very High Fire Hazard Severity zones.* —HCFSC, CAL FIRE, Fire Chiefs, Federal Agencies, Local Foundations (M)
- *Identify and pursue solutions to overcome barriers to installing water tanks, ponds, and water bladders for fire suppression efforts (permit costs, increased taxes, etc.).* —HCFSC, CAL FIRE, Fire Chiefs, County Planning and Building, Watershed Councils, DFG (M)

### **III.1.5. Improving Road and Home Address Signage**

Throughout the county, firefighters and other emergency personnel are faced with the challenge of finding homes quickly and safely during an emergency. The importance of clearly posted address signs for ensuring timely response from emergency personnel cannot be overemphasized to property owners. At a minimum, existing city and county *standards* that require streets and homes to be visibly addressed must be enforced. These standards require the size of lettering on these signs to be three inches high, with a contrasting backing, and in accordance with the California Building Code.

Difficulty locating the site of an emergency can be exacerbated by the use of several different names by members of the public to identify the same road or street. Some specific problem areas include Highway 211/Ferndale Highway, and Wilder Ridge/Mattole Road/Bull Creek Road. Posting only standardized road names and encouraging emergency responders and dispatchers to use these standardized descriptions during emergencies could help curb this problem.

- *Develop a program that promotes and provides resources for installing more road name signs and home address signs with a particular emphasis on educating residents about the importance of posting and maintaining such signage.* —Humboldt County Public Works, Humboldt County Sheriff's Department, Fire Chiefs (M)
- *Officially name roads so all use the same name, beginning with priority roads including: Bull Creek, Mattole Road, and Wilder Ridge.* —County Public Works, County Planning and Building (GIS),<sup>7</sup> County Sheriff's Department, CAL FIRE Dispatch Center, Battalion Chiefs, Local Fire Departments (M)
- *Standardize County mile-markers along rural roads to assist emergency responders' ability to locate incident sites quickly and efficiently.* —Humboldt County Public Works, Road Associations, County Planning and Building (GIS)
- *Create map books with home addresses for fire departments. This "Fire Atlas" could also include water sources, access routes, safety zones, and whatever other resources that can be gathered. Use the Lower Mattole FSC Atlas as an example.* —Fire Chiefs, CAL FIRE, County Planning and Building (GIS), County Public Works (M)
- *Create a handout for residents (with photos) regarding the importance of, and how to effectively post, home-address signs. Distribute with building permits and at community events.* —County Planning and Building, County Public Works (S, O)

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<sup>6</sup> For an example of a successful program, contact the Del Norte Fire Safe Council; telephone: 707-951-1116; email: [dnfsc@charterinternet.com](mailto:dnfsc@charterinternet.com).

<sup>7</sup> Geographic Information Systems (GIS)

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- *Collaborate to enforce existing signage requirements for streets and residences.* —CAL FIRE, Local Fire Departments, County of Humboldt, Cities (M, O)
- *Explore incentives for private road and address signage conformance, including public education.* —HCFSC, Local FSCs, Local Fire Departments, Homeowners Associations (M)
- *Review local information on Google Maps (and other popular internet mapping sites) to facilitate correction of road naming errors.* —County Planning and Building (GIS) (S, O)

### **III.2. Encouraging and Implementing Defensible Space Throughout Humboldt County**

*Defensible space* works; hence it is the law in California. Defensible space is also known as the *Home Ignition Zone*.<sup>8</sup> Others prefer the term *survivable space*, as it's all about surviving, or living with wildfire.

“If homes are sufficiently resistant to ignition and do not ignite during the extreme wildfire exposure, then the homes survive without firefighter protection: we have an extreme wildfire but not a WUI<sup>9</sup> fire disaster. Thus, WUI fire disasters principally depend on home ignition potential.

Research shows that a home's ignition potential during extreme wildfires is determined by the characteristics of its exterior materials and design and their response to burning objects within one hundred feet and firebrands (burning embers).”<sup>10</sup>

In Humboldt County, one of the principal wildfire hazards threatening residents is the abundance of *hazardous fuels* in the Home Ignition Zone—the vegetation and other flammable items found closest to homes. As shown in Part V of this CWPP, the most effective wildfire survival strategy for residents within the *wildland-urban interface* (WUI) is to ensure that homes and the surrounding Home Ignition Zone are adequately prepared to survive wildfire. A well-managed Home Ignition Zone 1) increases home survivability during a wildfire event; 2) protects the wildlands from fire originating in the home; and 3) acts as a safe-anchor point from which firefighters can safely protect the home from an approaching wildfire. Wildfire does not have to be a disaster. It is possible to prepare for wildfire to minimize negative impacts.

“Preventing WUI fire disasters requires that the problem be framed in terms of home *ignition potential*. Because this principally involves the home ignition zone, and the home ignition zone primarily falls within private ownership, the responsibility for preventing home ignitions largely falls within the authority of the property owner. Preventing wildfire disasters thus means fire agencies helping property owners mitigate the vulnerability of their structures.”<sup>11</sup>

The following statement from the California Attorney General's office from 1964 provides the legal framework for local governments to take action to ensure fire safety:

“The Legislature of the State of California hereby finds and declares that the unrestricted use of grass-, grain-, brush-, or forest-covered land within the State is a potential menace to life and property from fire and resulting erosion.... Counties, cities and counties, cities, and districts may adopt ordinances, rules, or regulations to provide fire prevention hazard conditions.”<sup>12</sup>

Furthermore, the *Humboldt Operational Area Hazard Mitigation Plan* (HMP) identified “Create and maintain defensible space around structures” as a Mitigation Alternative for Wildfire.<sup>13</sup>

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<sup>8</sup> See Part V. *Fire-Safe Communities*, for more information on the Home Ignition Zone.

<sup>9</sup> Wildland-Urban Interface (WUI).

<sup>10</sup> Cohen, Jack. (2008). The wildland-urban interface problem—A consequence of the fire exclusion paradigm. *Forest History Today*, Fall 2008. (p. 23.) Retrieved from [www.foresthistory.org/Publications/FHT/FHTFall2008/Cohen.pdf](http://www.foresthistory.org/Publications/FHT/FHTFall2008/Cohen.pdf).

<sup>11</sup> Cohen, Jack. (2008). The wildland-urban interface problem—A consequence of the fire exclusion paradigm. (p.25.)

<sup>12</sup> Stanley Mosk, Attorney General. (2000, April). *Structural Fire Prevention Field Guide, Appendix F*. Office of State Fire Marshal.(pp. F-2--F-3.) Retrieved from <http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fppguidepdf92.pdf>.

<sup>13</sup> County of Humboldt, Natural Resources Planning. (2008). Chapter 21: Mitigation Alternatives. (Table 21.9)

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*For more information on defensible space, please see Part V. Fire-Safe Communities.*

- *Coordinate countywide and community-specific efforts to focus on a defensible-space “from the house out” strategy, empowering Humboldt County residents to take responsibility for maintaining fire-safe Home Ignition Zones. —Plan Partners, Local FSCs, Local Fire Departments, Homeowners Associations, Humboldt County Residents (S)*
- *Implement defensible space around all structures, and on all residential parcels within the county. —Humboldt County Residents, Local FSCs (S, O)*
- *Work together to provide information and resources to help residents create defensible space around their homes and in their neighborhoods. —HCFSC, Local FSCs, Plan Partners (S, ♡)*
- *Explore incentive programs to help residents create defensible space around their homes and in their neighborhoods. —HCFSC, BOS, Plan Partners (M)*
- *Coordinate conservation and fire-safety objectives in educational programs, including promoting options for conserving water, and incentives to replace exotic plants with native species. —Local FSCs, Watershed Councils, California Native Plant Society, Local Conservation Organizations, University of California Cooperative Extension (UCCE), Water Districts (O)*
- *Work with the local insurance industry to provide education on appropriate local fuel-reduction practices, and materials for them to share with policyholders. —HCFSC (S)*

### **III.2.1. Implementing Community Defensible Space and Fuel-Reduction Programs**

Residents have the primary responsibility in ensuring they have defensible space around their homes and properties. As stated above, it’s not only the law—it makes sense. In some cases however, residents are unable to do this themselves, whether for physical, financial, or other reasons. Community-based programs can facilitate creation of defensible space for these vulnerable populations.

The HCFSC was awarded grant funds in 2010 and again in 2012 to conduct a pilot program called the “Firesafe Homes and Forests Cost Share Program,” known locally as the *Fire-Adapted Landscapes and Safe Homes (FLASH) program*. The program is funded by Title III and the USFS, and is being managed by Humboldt’s Natural Resources Planning Division, in conjunction with local FSCs and interested property owners. The FLASH program is targeted to the following communities: Orleans, Willow Creek and Redwood Valley, Southern Humboldt, Van Duzen, and Mattole. These communities have active Fire Safe Councils to manage the program locally, as well being areas of high and very high fire hazard. FLASH provides a cost-share match to landowners working with a local FSC to implement fuel-hazard reduction activities. Through FLASH, hazardous vegetation on slightly over 311 acres of land was treated to date, to reduce the wildfire risk for homesteads and access routes. A total of 114 landowners completed work on their property through this program. The goal of the 2012 program is to treat 200 more acres.

Programs targeted at assisting residents to join together to make their neighborhoods fire-safe can also be very successful. This is especially important where parcels with absentee owners abut residential parcels. In some communities, neighboring residents have contacted these owners to get permission to clear these neighboring properties in order to increase defensible space around their own homes.

Community *chipping programs* are in place throughout California to allow residents to share in the use of a chipper to dispose of cut branches and other materials. FSCs and homeowners associations can organize their neighborhoods to schedule chipping regularly, based on models developed by other FSCs statewide, especially in neighboring North Coast communities.

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*Humboldt Operational Area Hazard Mitigation Plan; Volume 1 – Planning Area-Wide Elements.* Retrieved from <http://www.co.humboldt.ca.us/natural-resources/hazardmitigation/?inc=finaldraft>

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*For more information on hazardous fuels, please see Chapter II.1. Wildfire Environment, and Part V. Fire-Safe Communities.*

- *Seek continued funding for the FLASH program. —HCFSC (S, O)*
- *Work with neighbors, and on neighboring properties (with owners' permission) to create neighborhood-wide defensible space. —Humboldt County Residents (S, O)*
- *Work together to develop programs to create defensible space for elderly and disabled residents who are not able to do this for themselves. —HCFSC, Plan Partners, Social Services, Senior Centers, Schools, Other Community and Social Service Organizations (S, O)*
- *Develop community-chipping programs to assist residents in disposing of thinned materials. —Local FSCs, CAL FIRE, Land Management Agencies, Federal Agencies (M)*

### **III.3. Creating Fire-Safe Communities: Empowering Residents to Take Responsibility**

There are several concepts used today that mean essentially the same thing: fire-safe, fire adapted, and fire wise. All three terms are used to describe communities, neighborhoods, projects, etc. that are designed and prepared to increase the probability of surviving wildfire. We use the term “fire-safe” in this document, with the understanding that all three terms are virtually interchangeable.

*For more information on community fire preparedness in Humboldt County, please see Chapter II.4. Community Preparedness.*

- *Support Humboldt County residents with information, education, and resources to take responsibility for their fire safety. —Plan Partners (S, O)*

#### **III.3.1. Creating and Sustaining Fire Safe Councils**

The effective functioning of FSCs and related community-based organizations in Humboldt County is critical to creating fire-safe communities. These groups play an integral role in implementing many of the measures discussed in this CWPP, including fuel-reduction projects, supporting the efforts of fire departments, and educating community members regarding living safely with fire.

Through the collaborative processes of the HCFSC and the six local FSCs in Humboldt, various partners have come to the table to implement fuel-reduction and fire-safety projects. **It will be members of these FSCs and associated community organizations such as homeowners associations, watershed groups, and community centers that will ultimately determine the effectiveness and success of this countywide CWPP.** Hence, ongoing support for and participation in FSCs is fundamental both for their development and for the success of local fire-safety efforts.

Based on the positive feedback from residents at the CWPP community workshops, there is a committed interest to organize locally to create fire-safe neighborhoods and communities in Humboldt County. The missing piece is often a solid organizational structure and a strategic plan for these groups to be able to effectively function over the long term (*see III.3.3. Creating Local CWPPs below for more information on supporting local FSCs*).

The Community Preparedness chapter of the Risk Assessment introduces existing FSCs that already provide community fire-safety leadership. These existing FSCs can serve as an example and provide support to emerging FSCs and to one another. At the 2012 community workshops the following communities expressed interest in creating a local FSC: Redwood Valley, Westhaven, Orick, and the Hoopa Valley and Yurok Indian Reservations.

- *Form new FSCs (especially in Redwood Valley, Westhaven, Orick, and the Hoopa Valley and Yurok Indian Reservations) to coordinate local community wildfire preparedness efforts. —Neighborhood Groups, Homeowners Associations, HCFSC, CAL FIRE (S, O)*

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- *Form a committee of the HCFSC to conduct outreach to and provide ongoing support for communities that currently do not have a local FSC. —HCFSC (S, O)*
- *Support the continuation of and maintenance of revenue sources for the HCFSC and determine the best organizational structure to further countywide wildfire mitigation efforts. —HCFSC, BOS, CAL FIRE, Federal Agencies, Tribes, Fire Chiefs, Local FSCs, Other Plan Partners (S, O)*
- *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. —Public and Private-Sector Organizations, Local Foundations (including Humboldt Area Foundation and McLean Foundation), County of Humboldt, Humboldt County Residents (S, O)*
- *Encourage and facilitate collaboration on grant proposals. (Maintain current list of funding sources and contact information for interested partners; provide example applications of successful proposals.) —HCFSC, Local FSCs, CAL FIRE, Partner Agencies and Organizations (S, O)*
- *Organize an annual FSC capacity-building workshop to help inspire new FSCs and sustain existing ones. —HCFSC, Local FSCs, County of Humboldt, California FSC, CAL FIRE, Partner Agencies and Organizations (S, O)*

### **III.3.2. Creating and Sustaining Firewise® Communities**

Several Humboldt County communities have gained Firewise Communities/USA® recognition in the past few years for the steps they have taken to address wildfire hazards. Becoming a Firewise Communities/USA® site has helped these communities get organized and find direction for their wildfire safety efforts and potential funding sources. As community members go through the Firewise® process, they learn about existing *wildfire risks* in their community and the simple things they can do to reduce those risks.

The Firewise® Program in Humboldt County pairs nicely with the development and implementation of local CWPPs. Communities are using their Firewise® Assessment to focus on particular subsets of their CWPP planning area. They are identifying short-term, *site-specific* activities for their annual Firewise® Action Plans. This helps them to focus the implementation of their longer term CWPP Action Plans; (CWPPs often have a 5-year update cycle whereas Firewise® action plans are evaluated annually). In areas not covered by a local CWPP, the Firewise® Program is a good tool to inspire action when the development of a local FSC and/or CWPP seems infeasible and or overwhelming. The Firewise® process is significantly less involved than the development of a CWPP and the focus can be predominately on needed actions within the *Home Ignition Zone*<sup>14</sup> rather than the community as a whole. There may also be County Title III<sup>15</sup> funding available for Firewise®-related activities.

At the 2012 community CWPP workshops the following communities expressed interest in the Firewise Communities/USA® Recognition Program: Kneeland, Redwood Valley, and Fieldbrook.

- *Support local FSCs and other community organizations to complete the process of becoming recognized Firewise Communities/USA® sites (especially in Kneeland, Redwood Valley, and Fieldbrook). —Public and Private-Sector Community Organizations, Local FSCs, HCFSC, County of Humboldt, CAL FIRE (S, O)*
- *Support local FSCs and other community organizations to implement actions identified in their local Firewise® Action Plans. —Public and Private-Sector Community Organizations, Local FSCs, HCFSC, County of Humboldt, CAL FIRE (S, O)*

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<sup>14</sup> See Part V. *Fire-Safe Communities* for more information on the Home Ignition Zone.

<sup>15</sup> Secure Rural Schools and Community Self-Determination Act. (2000). *Title III, County Funds*. Retrieved from <http://www.fs.usda.gov/pts>.

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### III.3.3. Creating Local CWPPs

A CWPP is a guiding document designed to inspire action that will reduce the vulnerability of communities to losses from wildfire. This countywide CWPP is a valuable tool to that end. Its focus is at the county scale. More detailed localized planning documents are also needed. The Planning Unit Action Plans (PUAPs) in Part IV of this CWPP are a step in that direction. An action plan has been developed for each of thirteen CWPP planning units (*see Part IV and associated maps*) The PUAPs contain a background description of each area, including the local fire environment, potential evacuation routes and sites, and information gathered from the respective community workshop. **The PUAPs identify a set of actions that community members can take themselves to make their homes and neighborhoods fire safe.** Finally, the PUAPs can function as the basis for an operating plan for local FSCs and related groups, and eventually for a more in-depth local CWPP.

Several local FSCs have already created a local CWPP or are in the process of developing one. The Lower Mattole FSC (through the Mattole Restoration Council) developed the first local CWPP in the county in 2002, and has already gone through one CWPP update process (2012). The Willow Creek CWPP was completed in 2010. The Orleans Somes Bar CWPP has been in development for many years, and was approved in early 2012. The Upper Mattole CWPP (2004) is being incorporated into the Southern Humboldt CWPP, which is in the process of development and is due for completion in 2012. In addition, the Van Duzen Watershed FSC and the Hoopa and Yurok Tribes are in the process of drafting their first local CWPPs.

Mapping wildfire risks, hazards, and potential actions is an integral part of any CWPP. The proficiency of local FSC members with Geographic Information Systems (GIS) and other mapping and planning technologies is highly variable. Local FSC staff and/or volunteers may need individual training and assistance in order to increase their pre-fire planning skills. The County of Humboldt has GIS specialists and a fire planner on staff that can help local FSCs complete and manage their CWPPs and accomplish fire-plan goals for community wildfire preparedness.

- *Encourage communities to use the PUAPs of this CWPP as the basis for the development of local CWPPs.* —HCFSC, County of Humboldt, CAL FIRE (M, O)
- *Use the PUAPs of this CWPP as a source of direction and inspiration for taking action at the neighborhood and community level.* —Local FSCs, Community Organizations, Humboldt County Residents (S, O)
- *Share relevant GIS data with existing and emerging FSCs to aid in their wildfire mitigation planning efforts.* —County Planning and Building (GIS), CAL FIRE (S, O)

### III.3.4. Working Together to Reduce Wildfire Starts

As shown in the Wildfire Environment chapter of this CWPP, well over half of the wildfires in Humboldt County are started by people; usually, but not always, by accident.<sup>16</sup>

Several local fire departments, CAL FIRE, and the SRNF conduct fire prevention outreach. The Fire Prevention Officers Section of the Fire Chiefs brings together the fire prevention officers of fire departments throughout the county to address fire prevention issues and ensure clear understanding of current law. Department prevention officers provide public education in schools, at fairs and other events including during fire prevention week. CAL FIRE and SRNF maintain active fire safety education programs. Their public education-related prevention tasks include the use of fire danger ratings, involvement in FSCs, and involvement in various public events.

Ironically, one source of wildfire is the equipment used during *fuel reduction* activities. For this reason there are guidelines in terms of when and how to clear fuels, such as early in the morning and well before fire season. However, extra care must be taken when reducing fuels in the spring, as this is when ground-nesting birds are in their nests, and many native perennials are blooming. *Please see Part V. Fire-Safe Communities for details*

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<sup>16</sup> See Figure II.1-14. Wildfire Starts Map in Chapter II.1. Wildfire Environment.

## **Humboldt County Community Wildfire Protection Plan**

regarding how to safely reduce fuels and Chapter II.4. Community Preparedness, for information about prevention programs.

“Party spots” are another source of wildfires, places where young people may not be fully aware of the consequences of their actions. Reducing fuel in these areas and encouraging neighborhood education and patrols can help reduce the risk of fire starts in those places.

- *Get GIS coordinates of high-risk areas such as party spots that were identified at community workshops to facilitate fuel reduction and neighborhood monitoring.* —Local FSCs (M, O)
- *Use Work Alternative Program crews of local youth for fuel reduction in high-risk areas.* —Local FSCs, County Sheriff’s Department (M, O)
- *Educate local residents regarding fire-safe fuel reduction techniques to minimize fire starts.* —Fire Prevention Officers, Local FSCs (S, O)

### **III.4. Promoting Fire-Safe Education**

This CWPP recognizes that effective fire-safe education programs are one of the most successful ways to reduce fire risk and to minimize losses due to fire. The Fire Chiefs’ Fire Prevention Officers and local FSCs have both been working diligently for some time to address citizen fire-safe education. There is still a need however for more coordination between fire-prevention and fire-planning organizations in the delivery of fire-safety education throughout the county. Rural landowners especially could benefit from an increased understanding of defensible space, fire-safe construction, home fire prevention, evacuation preparedness, how to most effectively call 911, etc. There are no countywide standards for school- or community-based fire safety education programs—such standards would support overall fire-safe education efforts. Finally, there is a need to improve citizen’s understanding of prescribed fire as a fire prevention tool.

Many people are enthusiastic to create a fire-safe home once they understand why it is to their advantage. To this end, educational programs targeted at local residents can be very successful.

*For more information on fire-safe education, please see Part V. Fire-Safe Communities.*

- *Provide fire-safety education to residents, and the homebuilding, insurance, real estate, landscaping, and building-supply industries. Include information about non-combustible roof coverings, fire-safe construction for high fire risk and/or hazard areas, techniques for reducing flammability in home ignition zones, adequate emergency water supplies, address and road identification and signage, access, road clearances, and emergency evacuation procedures.* —Fire Prevention Officers with FSCs (S, O)
- *Design, publish, and distribute a Humboldt County version of “Living with Fire,” a newspaper insert that provides information about how to safely coexist with wildfire.* —Fire Prevention Officers, HCFSC, Local FSCs (S)
- *Create an educational guide for how to construct an effective shaded fuelbreak (based on information provided in Part V. Fire-Safe Communities of this CWPP).* —HCFSC (S)
- *Create educational guides for how to create effective defensible space around homes in Humboldt County.* —HCFSC, Fire Prevention Officers (S)
- *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.* —HCFSC, Fire Prevention Officers, Local FSCs (S)
- *Ensure that all local fire departments have access to quality educational materials that can be handed out at their fundraising events.* —CAL FIRE, Fire Prevention Officers, HCFSC (S, 🗳️)
- *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.* —HCFSC, UCCE, Local FSCs, Fire Prevention Officers, Watershed Groups, Local Conservation Organizations (M)

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- *Use social networking sites to promote fire safe education.* —HCFSC, Fire Prevention Officers, Local FSCs (S)

### **III.4.1. Incorporating Fire-Safety Education into Local Schools**

Educational programs in the local schools are a great way to get the word out about fire safety and emergency preparedness. Several curricula exist that would need minimal adjustments to be used in Humboldt County. For instance, the Butte County FSC has developed a successful 6<sup>th</sup> grade curriculum titled, “Wildfire in the Foothills.” Persons interested in adapting this curriculum for use in their own community may contact the Butte County FSC through this website: <http://www.thenet411.net/index.php/contact>. More information on the Butte County FSC’s 6<sup>th</sup> Grade Education Program, including an educational brochure can found at <http://www.thenet411.net/index.php/programs/6th-grade-education>. Community projects such as fire-safety education signs created by local schoolchildren can also be very effective. These informative signs can be placed in high fire risk and hazard areas throughout the community to educate residents and visitors regarding the potential fire risks associated with their activities.

- *Develop countywide standards for school- or community-based fire safety education programs.* —Fire Prevention Officers, HCFSC, School Districts (M)
- *Implement fire-safety curricula in all grade levels throughout the area, in conjunction with community educational projects.* —School Districts, Federal Agencies, Fire Prevention Officers, Local FSCs (M, O)
- *Work with 4-H chapters to develop local fire-safety educational programs.* —Fire Prevention Officers, Local FSCs (S, O)
- *Fund and develop a service-learning program in local high schools focused on fire safety and defensible space.* —Fire Prevention Officers, HCFSC, Humboldt State University (HSU), Chamber of Commerce, Local Industries (M)

### **III.4.2. Offering Fire-Safety Education to New Residents and Tourists**

Humboldt County experiences large influxes of tourists visiting the county each year, most of these during fire season. Some of these visitors return to relocate to Humboldt County, many from urban areas. These new inhabitants often do not have experience with fire in the WUI. Educational programs are needed targeting the tourism, development, and real estate industries, as well as their clients.

Residents or visitors can find useful information about their local fire protection on the Humboldt County Web GIS Portal at: <http://gis.co.humboldt.ca.us/>. If they click on the “Fire Planning” application, they will be directed to a map showing fire department jurisdictional boundaries and response areas. Map tools on this site allow the user to zoom in on their property or search by parcel number and learn details about the LOS provided by their local fire department.

- *Develop fire-safety educational programs for real estate and development industries.* —Fire Prevention Officers, HCFSC (M)
- *Develop fire-safety educational programs for local tourism industries.* —Fire Prevention Officers, HCFSC, County Visitor Information Center, Chambers of Commerce (S)
- *Support the use of the Local Option Real Estate Transfer Disclosure Statement to inform buyers of local conditions and ordinances that could be relevant to real estate transactions including the availability of fire service.* —Humboldt Association of Realtors, Fire Chiefs, HCFSC (S, 🤝)
- *Ensure that the availability of the Humboldt County Web GIS Portal is well known and that residents and fire departments understand the benefits of the “Fire Planning” Application.* —County Planning and Building, Fire Chiefs, HCFSC (S, 🤝)

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- *Target fire-safety educational efforts to new residents, especially those coming from urban areas and others with little experience with fire in the WUI. —Fire Prevention Officers, HCFSC, County Planning and Building, Humboldt Association of Realtors, Chambers of Commerce (M)*
- *Develop a welcome-neighbor program, offering a welcome basket with fire-safety information for new residents. —Fire Prevention Officers, HCFSC, Local FSCs, Firewise® Community Boards or Committees, Senior Centers (S, ♯)*
- *Develop fire-safety educational programs targeted at educating new residents to be distributed through water districts and other utilities, fire departments, chambers of commerce, insurance industry, and other interested partners. —HCFSC, Local FSCs, Plan Partners, County Planning and Building (M)*

### **III.5. Implementing and Maintaining this CWPP**

Large amounts of data have been developed and collected through the extensive community processes involved in the creation of the 2006 Master Fire Protection Plan, local CWPPs, and this CWPP. That information is now available through the Humboldt County Web GIS Portal.<sup>17</sup> A feasible scenario for managing this data, keeping it current, and make it most useful and accessible to Humboldt County residents is needed.

Finally, no plan is ever permanent. This CWPP update was written in 2012 based on current conditions and best available information. The field of fire safety is rapidly changing. It is likely new developments will occur in the coming years. Therefore, it will be important to review this Plan at least every five years and update it as needed.

- *Set up a system to manage the massive amount of data generated through this planning process and make it available to the public through the Humboldt County Web GIS Portal. Ensure the continued sharing of data sets as progress is made on projects and new priorities are identified. —HCFSC, County Planning and Building (GIS), Local FSCs, CAL FIRE, Federal Land Management Agencies (S, O)*
- *Review the Humboldt County CWPP at least every five years and update it as needed, using a collaborative public process. —HCFSC, Plan Partners (M)*

### **III.6. Reducing Hazardous Fuels Throughout Humboldt County**

Reducing hazardous fuel is a challenge for most communities in the western United States. The amount of accumulated fuel is far greater than most communities can afford to tackle, hence the need to prioritize projects. The research is still unclear regarding the most effective and efficient way to reduce fuel without compromising ecosystem health. To address this uncertainty, this CWPP promotes an approach to fuel reduction that is sensitive to impacts on ecological processes and is in compliance with all applicable environmental laws and regulations.

In terms of prioritizing fuel *treatments* across large landscapes, it is generally agreed that treatments should be focused first around communities in the WUI. Many residential areas in Humboldt County qualify for such treatments. Priority fuels reduction projects were identified for these areas at community workshops and are summarized in the PUAPs in Part IV of this CWPP and included, in more detail, at the Humboldt County Web GIS Portal, “Fire Planning” Application: <http://gis.co.humboldt.ca.us/>.

As stated in section III.4 above, fire safety must begin in the areas immediately surrounding homes. As one moves farther out from structures, fuel reduction treatments begin within the Wildland Fuel Reduction Zone, or that area closest to homes and structures and beyond the defensible space zone. (*See Part V. Fire-Safe Communities for a more detailed explanation of these zones and appropriate treatments in the Wildland Fuel Reduction Zone*). Beyond homes and the defensible space zone, strategic locations around neighborhoods and communities need to be identified and prioritized for creating *fuelbreaks*, and shaded wherever there is a canopy. “Fuelbreaks are never

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<sup>17</sup> <http://gis.co.humboldt.ca.us/>

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designed to stop fires but to allow suppression forces a higher probability of successfully attacking a wildfire.”<sup>18</sup> Strategic, landscape fuelbreaks can have an impact on the progress of a wildfire and have the potential to stop it or slow it down. There are numerous examples of a wildfire burning quickly through the crowns of trees and then dropping to the ground where it burns more slowly and less destructively after it encounters a fuelbreak.

**The combination of home construction modifications (*hardened homes*) with effective defensible space and shaded fuelbreaks around communities is one of the best-known strategies to protect communities from wildfire.**

There is no “one size fits all” prescription for shaded fuelbreaks. The width can vary widely, for example, ranging from 50 to 300 ft. “A shaded fuelbreak is created by altering surface fuel, increasing the height to the base of the live crown, and opening the canopy by removing trees.”<sup>19</sup> *Sample prescriptions are described in Part V of this CWPP.* In addition to initial implementation, maintenance of fuelbreaks is often costly, and needs to be considered with the initial project. Maintaining the canopy cover (hence, the concept of a “shaded” fuelbreak) helps to reduce these costs by slowing regeneration.

“*Manual treatment* is very expensive, and *mechanical treatment* is only feasible on gentle terrain. *Prescribed fire* can be effective but there is potential for fire escape along the edges. Late winter burns, where the previous year’s production is cured, the perennials have not yet greened up, and the adjacent forest is not very flammable, may be a possible cost-effective treatment to avoid risk of escape from maintenance burns and achieve effective maintenance at low cost.”<sup>20</sup>

In Humboldt County, there is mixed support for controlled burning (or prescribed fire), especially on public lands. Facilitating the re-integration of fire into the region through prescribed burning can reduce maintenance costs for fuel reduction projects, greatly improve forest health, and contribute to the aesthetic quality of the forest. With fuel reduction efforts limited by the high costs of implementation, prescribed fire may be the only way to meet fuel reduction goals for the County. However, there are added risks to prescribed burning such as air quality impacts, vegetation mortality, and *escape* liability. At the same time there is much misunderstanding about the integral role of fire in maintaining forest health, including the resiliency of forests to wildfire. Thus, it is necessary to increase public awareness of the beneficial uses and consequences of fire, and of the state and federal programs supporting prescribed burning. Increasing public awareness of safe burning practices, liability issues, and sources of support (e.g., the CAL FIRE Vegetation Management Program) is critical to this end.

To most effectively maintain the various fuelbreaks proposed on non-federal lands throughout the county, an “Adopt a Fuelbreak” program can be developed by local FSCs in cooperation with community and/or neighborhood groups, homeowners associations, road associations, and others. Each group would be responsible for ongoing maintenance of their adopted fuelbreak. This would need to be done in cooperation with experienced fire and resource professionals to ensure participant safety and fuelbreak effectiveness.

A relatively recent and significant development that affects Humboldt County fuels, especially in the southern part of the county, is the incidence of Sudden Oak Death (SOD) within some parts of the county. SOD 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*. This disease can easily spread by wind-driven rain events and the affected area is anticipated to grow substantially. Recent research has helped to characterize the nature of the risk and can help to guide firefighter response.<sup>21</sup> (*For more discussion on Sudden Oak Death in Humboldt County, see “Vegetation and Fuels” in section II.1.3 of Chapter II.1. Wildfire Environment.*)

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<sup>18</sup> Agee, J.K., Bahro, B., Finney, M.A., Omi, P.N., Sapsis, D.B., Skinner, C.N., van Wagtenonk, J.W., & Weatherspoon, C.P. (2000). The use of shaded fuelbreaks in landscape fire management. *Forest Ecology and Management*, 127. (pp. 55–66.) Retrieved from [http://www.fs.fed.us/psw/publications/skinner/psw\\_2000\\_skinner\(agee\)001.pdf](http://www.fs.fed.us/psw/publications/skinner/psw_2000_skinner(agee)001.pdf)

<sup>19</sup> Agee et al. (2000). The use of shaded fuelbreaks in landscape fire management. (p. 56.)

<sup>20</sup> Agee et al. (2000). The use of shaded fuelbreaks in landscape fire management. (p. 60.)

<sup>21</sup> California Fire Science Consortium. (2012, June). *Research Brief for Resource Managers*. Retrieved from [www.cafiresci.org/storage/papers/Valachovic%20et%20al%202011\\_CFSC\\_June%202012.pdf](http://www.cafiresci.org/storage/papers/Valachovic%20et%20al%202011_CFSC_June%202012.pdf)

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The PUAPs in Part IV of this CWPP include the shaded fuelbreaks and other fuel-reduction projects that were prioritized for implementation in Humboldt County. These projects were generally identified at a community workshop, or otherwise resulted from this planning process. Projects were prioritized based local knowledge as well as considerations for Fire Hazard Severity Zone rating, terrain, values at risk, level of community support, and population density, with an emphasis on interface areas.

- *Obtain funding to maintain existing cooperative fuel-reduction projects throughout the county and to initiate new programs in priority areas.* —HCFSC, Appropriate Land Management Agencies (O)
- *Secure funding and implement the strategic fuelbreaks and fuel-reduction efforts identified through this CWPP process and stored in the Humboldt Web GIS Portal.* —HCFSC, Local FSCs, Other Applicable Agency and Plan Partners, (including SRNF, BLM, CAL FIRE, HRCDD, etc.) (O)
- *Work collaboratively to pool resources to create shaded fuelbreaks along key access roads.* —Local FSCs, County Public Works Roads Division, Public Land-Management Agencies, CAL FIRE (M, O)
- *Educate residents on the positive and negative aspects of controlled burning and prescribed fire and other fuel-reduction options.* —Public Land-Management Agencies, Tribal Experts, CAL FIRE, NCUAQMD,<sup>22</sup> Local FSCs (S)
- *Increase public awareness of fire as a tool for improving community fire safety, forest health, and ecological diversity through public education programs and by working with local FSCs.* —Northern California Prescribed Fire Council, Public Land-Management Agencies, Tribal Experts, CAL FIRE, NCUAQMD, Local FSCs (S)
- *Work with local air-quality regulatory agencies to identify and discuss obstacles to prescribed burning.* —HCFSC, Local FSCs, Fire Prevention Officers, NCUAQMD, Northern California Prescribed Fire Council (S)
- *Develop an “Adopt a Fuelbreak” program for maintenance of fuelbreaks, and employ appropriate maintenance practices.* —HCFSC, Land-Management Agencies, CAL FIRE, Tribal Experts, Other Fire and Resource Professionals (M)
- *Maintain community awareness of SOD and associated impacts, and provide education and outreach to help residents prepare for and respond to the impacts associated with SOD.* —HCFSC, Local Fire FSCs, Watershed Groups, State and Federal Agencies (O)
- *Help coordinate a response to SOD that is consistent with hazardous fuel-reduction efforts for impacted communities.* —HCFSC, Local FSCs, Watershed Groups, State and Federal Agencies (O)
- *Identify non-federal matching funding sources for federal grants that support county partnership efforts in monitoring and management of SOD.* —Local Foundations (S)
- *Provide education to residents connecting fire-safe forests, timber production, and ecological restoration efforts.* —UCCE, Public Land-Management Agencies, CAL FIRE, Local FSCs (O)

### **III.6.1. Improving Access: Fuels Management and Maintenance of Roads**

Roads are critical components in the fire equation. They are vital for *evacuation* and for firefighters and other emergency responders to access residences. They are also often strategic places for shaded fuelbreaks for firefighters to be able to fight a fire.

At the community CWPP workshops road access was a consistent and prominent issue. Throughout the county—especially in rural areas—numerous neighborhoods are situated along dead-end roads, which means there is only one-way in and out, both for emergency service vehicles *ingress* (often rapidly) for first response, and also for local residents *egress* to evacuate. Projects to improve access were identified at community workshops and are

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<sup>22</sup> North Coast Unified Air Quality Management District (NCUAQMD).

## Humboldt County Community Wildfire Protection Plan

summarized in the PUAPs in Part IV of this CWPP. They are included in more detail at the Humboldt County Web GIS Portal, “Fire Planning” Application: <http://gis.co.humboldt.ca.us/>.

Much of rural Humboldt County was developed on the network of old logging roads from the 1950s and 60s; well before fire safety or environmental standards were required. Hence, many roads lack adequate *turn-outs* and have heavy fuel loads. This combination creates a greater chance of a wildfire to “jump” across a road. As well, there is usually not enough *set back* or clearance to allow people to get safely in or out during a wildfire, which greatly increases their chance of getting caught in the middle of the fire.

Heavy brush along roads damages fire trucks, scratching them and breaking off mirrors. Vegetation above roads creates an unsafe condition for firefighters, as they are forced to enter through a tunnel of vegetation to fight a fire. Finally, road quality issues such as ruts, gravel, and steep and narrow roads make it more difficult for fire trucks to quickly get into an area and safely get back out.

Where bridges are narrow or unstable, and previous landslides have resulted in limited passage, fire trucks and other emergency response vehicles are slowed in their response. Several areas were identified in the community meetings as needing bridge or road repair work. These are also identified in the PUAPs in Part IV.

Upgrading roads to Humboldt County *Fire Safe Standards* (see Appendix F: *County Fire Safe Standards*) has been especially controversial in the last several years. To subdivide or otherwise develop in many areas of the county, current regulations require upgrading road conditions—especially road widths—to the Fire Safe Standards. In many cases this is not feasible for residents. Therefore, **ensuring that roadways in high and very high fire hazard areas have excellent clearance along both sides, and adequate turn-outs, is essential throughout rural Humboldt County** (see Figure II.1-9. *Fire Hazard Severity in Part II*).

- *Identify road ingress and egress issues that increase emergency response times.* —County Planning and Building (GIS), County Public Works, Cities, Fire Chiefs, Law Enforcement, Caltrans, Humboldt County Association of Governments (HCAOG), California Highway Patrol (S)
- *Secure funding and other resources to repair, maintain, and/or upgrade priority ingress and egress sites.* —Humboldt County and City Public Works Departments, Caltrans, Fire Chiefs, Development and Timber Industries, Other Public Land Managers (where appropriate) (O)
- *Create turn-outs along dead-end roads to facilitate emergency-response ingress and resident egress (evacuation).* —Neighborhood and Homeowners Associations, Humboldt County Residents, Local Fire Departments, Law Enforcement (M, O)
- *Maintain (trim back) vegetation on roads along private properties. Remove all dead and dying vegetation, and mow fuels along driveways and roads to County and City codes. Prune all branches that are hanging over private roads and driveways to a height of 15 ft. or more above the ground.*<sup>23</sup> —Humboldt County Residents, County Public Works (S, O)
- *Implement shaded fuelbreaks on access roads, especially those identified at community workshops<sup>24</sup> to improve safety for evacuation as well as for firefighters responding to a wildfire.* —HCFSC, Local FSCs, Industrial and Public Land Managers, Neighborhood Groups and Homeowners Associations (M, O)
- *Dovetail fuel treatments along roads with fisheries concerns to enhance project efficiency and funding opportunities.* —Local FSCs, Watershed Groups, Public and Private Land Managers (S, O)
- *Institute development conditions on new subdivisions designed to control vegetation alongside roads and in public areas, thus reducing the risk of fire spreading to or from private property.* —County Planning and Building Department, BOS (M)

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<sup>23</sup> See Part V. *Fire-Safe Communities for shaded fuelbreak specifications.*

<sup>24</sup> See *Community Identified Projects Map in each Planning Unit Action Plan within Part IV of this CWPP, as well as the “Fire Planning” Application of the Humboldt County Web GIS Portal at: <http://gis.co.humboldt.ca.us/>.*

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### III.6.2. Reducing Fuels Along Power Line Easements

Landowners repeatedly expressed concerns at the community workshops regarding power line easements traversing their property and the subsequent increase in wildfire risk. In many cases the periodic *brushing* and trimming done below PG&E power lines—meant to keep the easements safe—has contributed to a fuel build-up and an increased fire hazard to private property, as well as to risks of wildfire in the National Forests. The fact that materials cannot be burned under power lines exacerbates the problem. These dead materials accumulate over time, with brush species growing up through them, creating a tangled strip of hazardous fuels. These PG&E easements have, in some cases, become literal fuses that, were a fire to occur, would carry it quickly and dangerously directly to the homes they serve.

To further aggravate the problem, when there are problems with electrical transformers and they spark, they can then ignite the fuel build-up below and send embers or even wildfire along their paths directly to nearby homes, and other structures with electricity.

PG&E's vegetation management policies and schedules cannot meet every individual landowner's needs. However, the problem in Humboldt County—especially in the areas of Orleans, Willow Creek, and Southern Humboldt—is consistent and widespread and must to be addressed.

- *Set up a committee to work closely (meeting at least annually) with PG&E to better understand the problem of increased fuels and ignitions along power lines to collaboratively identify solutions.* —HCFSC, Local FSCs, PG&E (S)
- *Explore the possibility of PG&E using its community-investment program to support a local FSC to undertake supplemental fuel reduction, to occur in between the regular maintenance times of their contracted crews.* —PG&E, HCFSC, Local FSCs (S)

### III.7. Preparing Humboldt Communities for Emergencies

The difference between being prepared for emergencies or not can literally be the difference between life and death. It's to everyone's advantage to be ready for the inevitable natural disasters that face us, as wildfire and other emergencies such as earthquakes and tsunamis will continue to be a reality for Humboldt County residents. Actions can be taken at the neighborhood, community, and countywide level to help ensure that all local residents and properties are as safe as possible.

- *Ensure local jurisdictions have completed Local Hazard Mitigation Plans to be eligible for pre- and post-disaster federal funding.* —Humboldt County Office of Emergency Services (OES), County Public Works, Local Jurisdictions, (S, O)
- *Develop a Wildfire Response Contingency Plan template that can be quickly and appropriately customized during an active wildfire incident*—OES, Fire Chiefs, Local Jurisdictions, CAL FIRE, Federal Agencies (M, O)
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#### III.7.1. Community Emergency Response Teams (CERT)

The *Community Emergency Response Team* (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

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emergency response agencies by taking a more active role in emergency preparedness projects in their community.”<sup>25</sup>

The CERT Program is a national program of FEMA/CitizenCorps. The new Regional Training Institute — Community Disaster Preparedness, a component of Humboldt State University’s Office of Distance and Extended Education, offers the 23-hour complete basic CERT course, as well as other practical disaster preparedness classes that can assist individuals, neighborhoods, and workplaces mitigate hazards, reduce injuries, save lives, and by planning ahead, help them recover more readily after disasters. For further information visit [www.humboldt.edu/rti](http://www.humboldt.edu/rti) or call (707) 499-0754.

Every community or homeowners association in the county would benefit greatly from having at least one functioning CERT team.

*For more information on community preparedness, please see Chapter II.5. Community Preparedness and Part V. Fire-Safe Communities.*

- *Support the efforts of the new HSU Regional Training Institute — Community Disaster Preparedness.* —BOS, Fire Chiefs, CAL FIRE, HCFSC (S, O)
- *Contact HSU Regional Training Institute — Community Disaster Preparedness to learn how to participate in local CERT and other disaster preparedness training programs.* —Homeowners Associations, Local FSCs, Other Neighborhood and Community-Based Organizations (S)
- *Ensure that each community has a functioning CERT team.* —HSU Regional Training Institute — Community Disaster Preparedness, HCFSC (S, O)

### **III.7.2. Improving Residential Emergency Preparedness**

Effective evacuation planning depends on residents being prepared. This is especially important for families with small children, elderly and disabled citizens, and other vulnerable populations. Residents in remote areas of the county must be especially prepared for evacuation. To this end, all residents should create a Family Disaster and Evacuation Plan. Information is available from the American Red Cross at: [www.redcross.org/prepare](http://www.redcross.org/prepare) regarding how to do family disaster planning, and [www.redcross.org/prepare/location/home-family/plan](http://www.redcross.org/prepare/location/home-family/plan) for how to create a family evacuation plan. Additional information is available from the Department of Homeland Security at: [www.ready.gov/america/index.html](http://www.ready.gov/america/index.html). Another resource is the “Living on Shaky Ground: How to Survive Earthquakes and Tsunamis in Northern California” class, presented by HSU’s Regional Training Institute — Community Disaster Preparedness, which includes a practical seven-step plan to learn about hazards, and how to mitigate them, what to do during a disaster, and how to plan to recover more readily afterwards.

In remote rural neighborhoods or communities, phone trees can be an effective local strategy for disseminating information quickly, as long as they are maintained. Homeowners associations, road associations, and local schools are all good venues for setting up a phone tree. Simple steps regarding how to establish a phone tree can be found at: [www.ehow.com/how\\_4325\\_set-emergency-phone.html](http://www.ehow.com/how_4325_set-emergency-phone.html). Commercial options for doing this on a larger scale are available through entities such as One Call Now<sup>26</sup> and Call-Em-All.<sup>27</sup>

As stated above, the HSU Regional Training Institute — Community Disaster Preparedness provides trainings in areas such as creating disaster supply kits, food safety and how to eat nutritiously during disasters, and preparing local businesses for emergencies.

Mobile communications technology can be important during an emergency, especially when power is cut or communication systems are down. Local FM and AM radio stations can be an effective communication tool for

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<sup>25</sup> CERT: Community Emergency Response Team. (n.d.) *Homepage*. Retrieved January 2, 2013 from <https://www.citizen corps.gov/cert/>

<sup>26</sup>One Call Now. (2013). Retrieved from [www.onecallnow.com](http://www.onecallnow.com)

<sup>27</sup> Call-em-all. (2013). Retrieved from [www.callemall.com](http://www.callemall.com)

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keeping the public informed during emergency situations. Car-chargers for cellular phones and 12-volt inverters for automobile lighter/charger sockets can provide a useful back-up source of power in case of emergencies. USB modems (a.k.a. air-cards) and other portable internet devices can also facilitate emergency communications, especially to friends and family outside of the disaster area.

*For more information on residential emergency preparedness, please see Chapter V.2. Ready, Set, Go in Part V of this CWPP.*

- *Prepare for wildfire and other emergencies by creating family disaster and evacuation plans.*  
—Humboldt County Residents **(S, O, ♯)**
- *Consider storing valuable items in a fire-safe urban area during extreme fire weather conditions.*  
—Humboldt County Residents in Very High Hazard, Remote Rural Areas **(S, O)**
- *Organize emergency phone trees in each neighborhood and keep them up to date. Make sure everyone in the neighborhood is on someone's call list, and that deaf residents (and others with disabilities that may affect their communication abilities) get contacted in person.* —Local FSCs, Homeowners Associations **(S)**
- *Conduct disaster-preparedness and emergency-response drills, throughout Humboldt County.*  
—Humboldt County OES, Identified Emergency Management Staff Members of the County and Cities, Law Enforcement, Local Fire Departments, Local FSCs, Red Cross, Senior Centers. **(S, O)**
- *Outreach to local businesses to create disaster preparedness plans through the HSU Regional Training Institute -- Community Disaster Preparedness.* —Chambers of Commerce, Business Associations **(S, O)**

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### **III.8. Ensuring Safe and Effective Evacuation**

There are myriad issues regarding evacuation in Humboldt County. Chapter V.2. Ready, Set, Go explains how residents can safely and effectively evacuate—or get out—during an emergency situation such as wildfire.

Many neighborhoods in Humboldt County have limited evacuation options, especially due to *one-way-in and one-way-out roads*. Being prepared in the event of evacuation can literally make the difference between life and death. When a wildfire is moving especially fast, such as during crown-fire<sup>28</sup> events, firefighters need to be able to move quickly in their protection efforts. In those cases, it is critical that roads are kept clear of all traffic, another reason to evacuate early and efficiently.

In an example of a worst-case scenario for Humboldt County, a large earthquake could occur during fire season with multiple fire events. In this case there will be many isolated communities and neighborhoods because of blocked access routes. Evacuation planning needs to consider such scenarios.

If residents are trapped because their escape is cut off and the fire is already at their location, such as in the scenario above, there are steps to take to increase the chance of survival. In such cases, residents may need to make decisions on their own about seeking shelter where they can survive the passage of the wildfire until they can reach an evacuation site. It can be very difficult to determine the right thing to do as the fire approaches. Before a wildfire threatens, community members should talk to their local fire department about evacuation procedures in their neighborhood.

*For more information on evacuation, please see the Planning Unit Action Plans in Part IV and Chapter V.2. Ready, Set, Go!; adapted from CAL FIRE's publication "Ready, Set, Go!"<sup>29</sup>*

- *Provide information about evacuation during a wildfire event. Make sure residents know multiple escape routes for a variety of different wildfire scenarios. —Humboldt County OES, Cities, Law Enforcement, Red Cross, CAL FIRE, Local Fire Departments, Local FSCs (S, O)*
- *Develop and distribute local shelter-in-place information in the event that citizens are unable to evacuate. —Fire Agencies, Law Enforcement (S, O)*
- *Develop and distribute "Ready, Set, Go" evacuation-planning materials to educate residents on evacuation in their community. —Humboldt County OES, Cities, Law Enforcement, Red Cross, CAL FIRE, Local Fire Departments, Local FSCs (S, O)*

#### **III.8.1. Developing Evacuation Routes and Sites**

Potential evacuation options are identified in each Planning Unit Action Plan (*see Part IV*). These routes may change depending on fire behavior, wind pattern, and other factors. They generally consist of a primary way in and out of a community (a highway or main county road in many cases) and several smaller connecting roads that could be used as ingress and egress to and from the main road.

Community members used their local knowledge to identify potential evacuation routes and sites on the maps at the 2012 community CWPP workshops. This information is being passed on to local law enforcement and fire agencies to review for potential use, as well as being incorporated into the Humboldt County Web GIS database.<sup>30</sup> It will be helpful as potential evacuation routes, evacuation sites, and temporary survival areas are evaluated and, if appropriate, shared with community members.

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<sup>28</sup> See Chapter II.1. Wildfire Environment for more information on crown fires.

<sup>29</sup> CAL FIRE (California Department of Forestry and Fire Protection), Ready for Wildfire. (2012). *Go! Evacuation Guide*. Retrieved from [www.readyforwildfire.org/go](http://www.readyforwildfire.org/go)

<sup>30</sup> <http://gis.co.humboldt.ca.us/>

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It is important to emphasize that the safest evacuation route and sites will depend on the location of the wildfire. Evacuation plans for wildfire that identify specific evacuation routes are challenging to develop and could be misleading. Humboldt County relies on adaptable procedures that will guide the development of evacuation plans for specific events. It is, however, important to inform residents about evacuation preparedness and procedures and make sure that they are aware of multiple possible evacuation routes in and out of their communities. *Information about evacuation routes and sites can be found in Chapter V.2. Ready, Set, Go!*

- *Collaborate to develop local evacuation preparedness materials and planning processes, with input from local FSCs and other community groups.* —Local Fire Departments, Humboldt County OES, Law Enforcement, Local FSCs, Homeowners Associations, Neighborhood Groups **(S, O)**
- *Identify local evacuation sites and temporary survival areas and ensure neighborhood residents know where they are.* —Local Fire Departments, Humboldt County OES, Law Enforcement, Local FSCs, Homeowners Associations, Neighborhood Groups **(S, O)**
- *Develop and/or upgrade appropriate sites (including those identified at community meetings) to function as evacuation sites and/or disaster centers during emergency situations.* —Local Fire Departments, Red Cross **(M)**
- *Survey gathering places in each neighborhood and include in local evacuation planning.* —Local FSCs, Homeowners Associations, Local Fire Departments, Law Enforcement **(S)**
- *Review the community-identified evacuation information generated through this planning process for development as incident-specific evacuation areas and routes.* —Local Fire Departments, Humboldt County OES, Law Enforcement **(S)**
- *Review feasibility of alternate evacuation routes.* —Local Fire Departments, Humboldt County OES, Law Enforcement, Neighborhood and Homeowners Associations, Local FSCs **(M)**
- *Review and incorporate the community-identified evacuation information generated through this planning process into Humboldt County GIS database.* —Local Fire Departments, Humboldt County OES, Law Enforcement, County Planning and Building (GIS) **(S, ♯)**
- *Identify leadership and resources to develop evacuation procedures and information for vulnerable populations.* —County of Humboldt, Cities, Social Services Agencies, Senior Centers, Law Enforcement, Local Fire Departments, Red Cross, Local FSCs, Humboldt County OES, Other Interested Local, State, And Federal Agencies **(M)**

### **III.8.2. Evacuating Pets and Large Animals**

Many Humboldt residents have pets, large animals (especially horses), or both. Large animals require pre-planning for safe and effective evacuation. A system of *evacuation sites* for both pets and livestock needs to be developed at both the local and county scale. Many community shelters will not allow animals other than assistance or service dogs into their facilities during an emergency. Humboldt County OES is in the process of developing an animal control plan that will assist in the safe evacuation of animals during a disaster. *See section V.2.3 in Part V. Fire-Safe Communities for more information on preparing for the safety of pets and livestock during emergencies.*

- *Work with Plan Partners, Red Cross, Humane Society, County of Humboldt, and local veterinarians to identify existing options for local pet and livestock emergency evacuation. Work through local feed stores, veterinarians, boarding facilities, and animal associations to educate residents on options.* —Local FSCs, Humboldt County OES **(M, O)**

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- *Collaborate to develop local horse<sup>31</sup> evacuation plans.* —Horse Owners, Local Fire Departments, Humboldt County OES, Law Enforcement (S, O)
- *Trailer-train horses to safely evacuate.* —Horse Owners (S, O)
- *Distribute existing pet and large-animal evacuation literature to Humboldt County residents.* —Local FSCs, Veterinarians (S, O)

### **III.8.3. Ensuring Gates Function During Emergencies**

Gates can pose a serious obstacle to safe and effective evacuation. Automatic gates that do not open during power outages are especially dangerous, and may be illegal.

- *Initiate informational programs to educate residents about the importance of easily passable gates during emergencies.* —Law Enforcement, Local Fire Departments, Local FSCs, Homeowners Associations (S, O)
- *Educate residents regarding the need to unlock gates during wildfire and other emergencies.* —Local Fire Departments, Local FSCs, Homeowners Associations (S, O)
- *Explore incentives and options for fire-safe gates.* —Law Enforcement, Fire Chiefs, CAL FIRE, Local FSCs, Homeowners Associations (M)
- *Encourages residents and neighborhoods to use Knox Boxes<sup>32</sup> and provide gate codes to local Fire Departments.* —Humboldt County Residents, Local Fire Departments (S, O)

### **III.9. Hardening Homes to Survive Wildfire: Reducing Structural Ignitability**

As detailed throughout this CWPP, effective fire-safe communities begin by making homes and other structures ready for wildfire. Reducing the chance that structures (our homes, businesses, etc.) will burn is a fundamental component of any CWPP.

“Research shows that a home’s ignition potential during extreme wildfires is determined by the characteristics of its exterior materials and design and their response to burning objects within one hundred feet and firebrands (burning embers).”<sup>33</sup>

The California State Fire Marshal’s Office has developed state-of-the-art building standards<sup>34</sup> for use within the WUI zone. The current standards became effective in 2011. Humboldt County homeowners need to become familiar with these standards so they can upgrade their homes to improve wildfire survivability. Part V. Fire-Safe Communities, of this CWPP, summarizes these standards.

Local FSCs and homeowner associations could explore the options of neighborhood-wide, wholesale purchase and installation of WUI-building materials such as fire-safe vents. This is an effective and efficient way to reduce costs and wildfire risk; it can reduce the chances of *home-to-home ignition*. Other creative financing options should be explored. For instance, financial incentives are sometimes given for improving home energy efficiency; such as upgrading to double-pane windows, which would also increase a house’s structural integrity against wildfire.<sup>35</sup> For

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<sup>31</sup>Staples, M. (2012). *How Do You Spell Rescue? If You Have Horses, the Answer is L-A-R*. Mendocino Fire Safe Council, Horse Owner Preparedness [pdf]. Retrieved from <http://firesafemendocino.org/pdf/horseall.pdf>.

<sup>32</sup> See Part V. *Fire-Safe Communities* for more information on Knox Boxes.

<sup>33</sup> Cohen, Jack. (2008). The wildland-urban interface problem—A consequence of the fire exclusion paradigm. (p. 23.)

<sup>34</sup>CAL FIRE. (2012). *Wildland Hazard/Building Codes*. Retrieved from [www.fire.ca.gov/fire\\_prevention/fire\\_prevention\\_wildland.php](http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland.php).

<sup>35</sup> For more information on energy retrofits contact the Redwood Coast Energy Authority at: <http://www.redwoodenergy.org/>.

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*more information on hardened homes and structural ignitability, please see Chapter II.2. Values and Assets at Risk, and Part V. Fire-Safe Communities.*

- *Continue to educate residents on the importance of replacing unrated, untreated wood-shake roofs with rated roofs, kept in good condition and free of combustible debris. —Fire Agencies, County Planning and Building, Federal Partners, Local FSCs (S)*
- *Develop incentive-based programs for residents to replace untreated wood-shake roofs. —County of Humboldt, Cities (M)*
- *Educate residents on the need to have double-paned windows throughout their homes, with recommendations to upgrade to tempered glass for fire safety where possible. —Local FSCs, Utilities, Interested Partners (O)*
- *Explore incentive programs to upgrade windows to double pane or higher standards. —Local FSCs, Utilities, Energy-Conservation Organizations, Interested Partners (M)*
- *Educate residents on need for separation of heat loads from residences. —Local FSCs, Fire Prevention Officers, Other Interested Partners (O)*
- *Work together to enforce clearing 100 ft. (or to the property line) around structures, as per State law. —Fire Protection Districts, CAL FIRE, Humboldt County Code Enforcement (M)*
- *Educate residents on the need to have vegetative and flammable-material clearance around propane tanks and other fuel storage areas near residences, and keep these at least thirty feet from homes and outbuildings. —Local FSCs, Other Plan Partners (O)*
- *Educate residents on the risks of having wood fences attached to homes. —Local FSCs, Other Plan Partners (O)*
- *Educate Humboldt County residents on current California WUI (Chapter 7A) building standards and the products approved by the State Fire Marshal's office. —County Planning and Building, HCFSC, Local FSCs, Homeowners Associations (S, O)*
- *Create a handout to distribute to residents graphically depicting current WUI building standards in a user-friendly format.<sup>36</sup> —County Planning and Building (S, ♡)*
- *Stay current on applicable WUI standards and new legislation through the California Fire Marshal's Office. —County of Humboldt, Cities (O, ♡)*
- *Create and implement educational programs on hardening homes, including the possibility of a WUI-building products fair. —Local FSCs, Plan Partners (M)*
- *Work with State Fire Marshal-approved WUI building product vendors<sup>37</sup> to create discounted wholesale purchases and installation of products to harden homes at the neighborhood scale. —Local FSCs, Homeowners Associations. (S, O)*
- *Explore parallel incentive programs that can finance upgrading homes to current WUI-building standards. —HCFSC, County Planning and Building, Cities (M)*

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<sup>36</sup> Look to other California counties for examples, particularly Ventura County: County of Ventura, Resource Management Agency. (2011, November). *High Fire Hazards/Fire Hazards Severity Zone Requirements*. Building and Safety Division. Retrieved from [www.ventura.org/rma/build\\_safe/pdf/handouts/b-60.pdf](http://www.ventura.org/rma/build_safe/pdf/handouts/b-60.pdf).

<sup>37</sup> CAL FIRE, Office of the State Fire Marshal. (2007). *Building Materials Listing—Search Listing Services*. Retrieved from [http://osfm.fire.ca.gov/licensinglistings/licenselisting\\_bml\\_searchcotest.php](http://osfm.fire.ca.gov/licensinglistings/licenselisting_bml_searchcotest.php).

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### III.10. Enhancing Emergency Notification and Communications

Effective communication between all fire agencies, emergency medical service, and allied agencies, is critical to the health and safety of local residents and emergency services personnel. Communication includes information sharing, dispatch, and inter- and intra-departmental radio communication.

The Humboldt Operational Area Communications Committee (HOACC) was recently formed,<sup>38</sup> composed of representatives of local, state, and federal agencies and other area organizations operating radio communications systems in the county. This group can help provide leadership on this issue.

*For more information on emergency communications, please see Chapter II.3. Wildfire Protection Capabilities.*

- *Improve communication and coordination between local fire departments, CAL FIRE, and federal agencies during fires and other emergencies. —HOACC, HCFSC Improve Emergency Dispatch Services Committee, Fire Chiefs, CAL FIRE, Federal Agencies (M)*
- *Support communication and collaboration between fire and public safety agencies while maintaining the integrity of their distinct public service roles. —HOACC, HCFSC Improve Emergency Dispatch Services Committee (S, O)*
- *Encourage radio users to install all state and federally authorized standard inter-operability frequencies in all radios—All Emergency Responders (including Local Fire Departments and Law Enforcement) (S, O)*

#### III.10.1. Improving Emergency Dispatch Services

Dispatch services throughout Humboldt County are provided by a variety of entities. The majority of local fire departments are dispatched through the Fortuna Interagency Command Center (FICC), also known as the dispatch center. Countywide dispatch is dependent upon communications equipment that is in some cases unreliable. Personnel cost increases for dispatch services are not being matched with the necessary revenue increase to maintain the status quo. Excellent coordination between dispatch centers, adequate personnel, and reliable equipment are crucial to the provision of quality emergency services. The FICC dispatch console and the CAL FIRE Humboldt—Del-Norte (HUU) repeater systems are in the process of a full-system upgrade. The upgrade is projected to address unreliability and dead zone issues, and is scheduled to be completed by the end of 2013.

Community input provided through this CWPP process indicates that there are still problems with how fire departments are being dispatched and confusion about how road names and home addresses are organized in some areas. It has been identified that coordination between CAL FIRE, County Sheriff, local fire departments, County Public Works, and County Planning could address some of the dispatch, addressing, and road name issues. Further consolidation of dispatch services could eliminate duplication of efforts and confusion over different data sources and procedures, reduce cost, and improve efficiency.

There are many areas in the county where several different names are used to identify the same road or street, which can cause unneeded confusion during *dispatch* and emergency situations. When members of the public report emergencies, they will sometimes refer to the incident location as they know it from an historical perspective or a general location reference. If this location does not match information in the FICC Computer-Aided Dispatch (CAD) system, uncertainty about where responders should go can result. Several specific areas continue to create the most problems, including Highway 211/Ferndale Highway, and Wilder Ridge/Mattole Road/Bull Creek Road. Local dispatch and first responders need to agree on standardized naming usage for these areas, and educate other affected parties (e.g. other first responders) as to the protocol. Programming the CAD system to automatically pull up “also known as” (a.k.a.) road names could also help reduce confusion.

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<sup>38</sup> *For more information, see Section I.3.4. Plan Implementation Progress Review.*

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- *Encourage more effective communication between fire departments and dispatch centers (including a semi-annual feedback survey, dispatch center staff field trips, and fire department visits to the dispatch center.).* —HOACC, HCFSC Improve Emergency Dispatch Services Committee (S, O)
- *Share datasets, to keep data current, and to integrate community-identified information received by the County.* —FICC, County Sheriff's Department, County Planning and Building (GIS) (S, O, 🗳️)
- *Consolidate dispatch services where it can be accomplished, both within and across agencies.* —All Emergency Responders (including Local Fire Departments and Law Enforcement) (S, O)
- *Program unofficial, "a.k.a." road names into the FICC CAD and enable the system to automatically recognize and pull up the correct location.* —CAL FIRE Dispatch Center, Battalion Chiefs, Local Fire Departments (M)
- *Augment staffing levels during peak fire season at the FICC.* —CAL FIRE, Fire Chiefs (M)
- *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.* —Fire Chiefs, Humboldt County OES (M)
- *Add Repeaters/Tones in dead zones/holes to help communications between firefighters and the FICC (i.e. Miranda, Myers Flat, Weott, Whale Gulch, Whitethorn, Ettersburg, Honeydew).* —Fire Chiefs, Humboldt County OES, CAL FIRE (M, L)

### **III.10.2. Facilitating Effective Notification and Communications to Residents**

Difficulties exist regarding how to effectively and rapidly alert residents, especially in the rural areas of the county. Options need to be explored to improve emergency communication in these areas. Social networking alternatives such as Facebook and Twitter, while not infallible, are proving their usefulness in rapid and effective communication when normal networks may not be functioning. Using these communication tools should be fully explored.

Local radio stations are able to disseminate emergency information to Humboldt County residents. Large numbers of residents have ready access to FM and AM radios and are encouraged by emergency preparedness organizations, such as the Humboldt County OES, CalTrans, and the Red Cross, to tune in for information and updates in emergency situations. Currently, KMUD FM radio utilizes information from CAL FIRE, California Highway Patrol, the County Sheriff's Department, and the Southern Humboldt Fire Chiefs Association Public Information Team to provide live emergency updates on-air, through Facebook and Twitter, and to answer questions via phone calls from concerned residents.

The County of Humboldt has an operable reverse calling notification system available for use during emergency events. The system does not however, include access to all area telephone numbers throughout the county. It only includes listed numbers by AT&T and Frontier; these numbers are updated monthly. There is currently no process whereby individual telephone numbers can be input into the system by the public, as currently occurs elsewhere in the state.

Finally, some areas of the county have unreliable cellular phone coverage. Some such areas were identified during the community workshops. This lack of coverage can increase emergency communication challenges, especially in more remote areas of the county where communication issues already tend to already be greater.

- *Upgrade County's mass notification system to include all local phone numbers, and ability for residents to register their home and cellular numbers into the system.* —Humboldt County OES, County Sheriff's Department, HOACC, Fire Chiefs (M)
- *Elevate awareness and use of existing notification systems such as KMUD FM & KHUM FM radio and other local FM and AM radio stations.* — Fire Chiefs, Humboldt County OES, HCFSC (S, O, 🗳️)

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- *Collaborate to explore additional measures for alerting residents to pending emergencies, including social networks, local radio broadcasts (using what KMUD has developed as a model).* —HCFSC, Humboldt County OES, Law Enforcement, Fire Agencies, Local FSCs, Homeowners Associations (S, O)
- *Contact cellular providers to explore additional cellular tower locations.* —Homeowners Associations, Local FSCs, Neighborhood Organizations (S)

### **III.11. Designating Wildland-Urban Interface Areas**

Referred to throughout this CWPP, the WUI is a general term describing the area where homes and wildland meet. It also has a federal definition as the “line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel as defined in the Federal Register.”<sup>39</sup> It is within the WUI that specific federal management actions take place in order to reduce fuel risks, based on guidelines established by the Healthy Forests Restoration Act (HFRA).

“The HFRA provides administrative procedures for hazardous-fuel-reduction projects on [federal] lands in the WUIs of at-risk communities. The act encourages the development of Community Wildfire Protection Plans under which communities will designate their WUIs, where HFRA projects may take place.”<sup>40</sup>

Concurrently, federal agencies are charged with developing WUI designations for the properties they manage. WUI designations have been made in all the existing, local CWPPs in the county; this CWPP supports those designations. Those areas without a local CWPP still need to have WUI defined, on a case-by-case basis.

- *Accept those areas of the county already designated as WUI in local CWPPs.* —Federal Agencies (S, ♻️)
- *Gather all locally identified WUI information and create a map of existing WUIs in Humboldt County.* —HCFSC, County Planning and Building (GIS) (S, ♻️)
- *Create a map to identify potential WUI areas for those areas without local designation, and share with local residents.* —HCFSC, County Planning and Building GIS (M)

### **III.12. Utilizing Excess Fuels**

Under preferable conditions, fuels removed from hazardous areas can be utilized in some way to help defray fuel-reduction costs. Humboldt County is fortunate in that it still has an intact timber industry; hence there is capacity for utilization of *small-diameter wood products* (e.g. creating finished products such as furniture).

*Woody biomass* is organic material from living matter and in this case refers to the materials produced from fuel-reduction projects. Biomass and its by-products can be used as sources of energy and in a variety of other value-added products. Care must be taken to ensure biomass efforts do not further damage impaired forest ecosystems.

There are also several biomass facilities in the county and significant research into biomass is happening here, especially through the Schatz Energy Center at HSU. Biomass information, such as studies and periodic workshops and conferences, is shared among and between UCCE, Schatz Energy Center, the Redwood Coast Energy Authority (RCEA), the HCFSC, and local FSCs. RCEA hosts the Humboldt Biomass list-serve to facilitate

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<sup>39</sup> Office of the Federal Register, National Archives and Records Administration. (2001, January 4). Implementation direction for identifying and prioritizing hazardous fuel reduction in wildland-urban interface/intermix. *Federal Register*, Vol. 66(3), (pp. 751-754.) Retrieved from <http://www.gpo.gov/fdsys/pkg/FR-2001-01-04/content-detail.html>

<sup>40</sup> Healthy Forests Initiative and Healthy Forests Restoration Act. (2004, February). *Interim Field Guide, Title I, Wildland-Urban Interfaces Within or Adjacent to At-Risk Communities*. FS-799. (p. 15.) Retrieved from [www.fs.fed.us/projects/hfi/field-guide/web/page15.php](http://www.fs.fed.us/projects/hfi/field-guide/web/page15.php).

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communication and coordination. However, this list-serve and its hosting is only feasible if there is active participation, which has been lacking in the past.

Successful implementation of a self-sustaining biomass utilization program will require the following steps: 1) establishment of an industry and agency working group (including resource and air quality management agencies as well as environmental interests); 2) compilation of all local and regional biomass utilization studies; 3) identification of additional local biomass utilization resources and assets; 4) identification of potential local, state, and federal funding sources and programs; and 5) development of recommendations by the industry and agency working group mentioned above to stimulate biomass utilization and fire hazard and risk reduction.

The combination of increased coordination between hazardous-fuel reduction projects and woody biomass utilization will lead to a more strategic and sustainable approach to reducing the buildup of hazardous fuels in Humboldt County.

*For more information on biomass, please see Part V. Fire-Safe Communities.*

- *Develop a biomass utilization program to develop commercially viable markets for fuel-reduction project wood byproducts and residues such as slash, small diameter logs, foliage, wood chips, etc. —RCEA, Schatz Energy Center, Public and Private Land Managers, UCCE, HCFSC (L)*
- *Continue to share latest information related to biomass utilization. Revitalize communication tools, such as the Humboldt Biomass list-serve. —RCEA, HCFSC (S, O)*
- *Create information sources that support woody biomass utilization feasibility studies. Document where biomass sources are located, how much is available, and their locations relative to other sources and utilization industries. Characteristics of the sources, such as species, size and moisture content should be included in this documentation. —RCEA, HCFSC, UCCE, California Fire Science Consortium, Conservation Organizations (M)*
- *Promote local use of biomass for energy, particularly in areas with high fuel costs and low proximity to industrial utilization. Develop and publish maps of firewood and chip piles available for public use. Investigate wood stove promotion and available rebates such as the North Coast Unified Air Quality Management District's (NCUAQMD) Wood Stove Exchange Program. --RCEA, HCFSC, NCUAQMD, Conservation Organizations (M)*
- *Investigate distributed generation biomass-to-energy technology. --RCEA, Schatz Energy Research Center (L)*

### **III.13. Maintaining Air Quality**

Community protection from wildfire includes efforts to limit the negative health impacts that may result from wildfire incidences. Smoke produced during wildfires and structure fires contains chemicals and fine-particulate matter that can be harmful to human health. Concentrations of smoke vary depending on location, weather, and distance to the fire. Young children, pregnant women, elderly people, and individuals with respiratory disease, such as asthma, are at the greatest risk of experiencing symptoms from smoke inhalation; even healthy adults can suffer the impacts. Air pollution from smoke can also cause damage to agricultural crops, animals, and property values.<sup>41</sup>

The North Coast Unified Air Quality Management District (NCUAQMD) is the regional environmental regulatory agency which has jurisdiction over the air quality in Humboldt County, including the neighboring counties of Del Norte and Trinity. The NCUAQMD regulates opening burning throughout the year by issuing burn permits and allows burning only on designated “Permissive Burn Days” when meteorological conditions are conducive to good smoke management. The NCUAQMD goal is to best mitigate any affects from open burning through the issuance of burn permits, allowable burn days, and by coordinating burn projects. The public must call the NCUAQMD's Burn Day Status line each day at (866) BURNDAY or (866) 287-6329 to determine whether

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<sup>41</sup> North Coast Unified Air Quality Management District. (n.d.). *North Coast Air Quality Information*. Retrieved November 6, 2012, from <http://www.ncuaqmd.org/index.php?page=air.quality>

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burning is allowed. The NCUAQMD's opening burning regulations allows residents to dispose of vegetation on their property, and allows for burning by commercial (e.g. timber companies, etc.), government (CalTrans, State Parks, etc.) and even FSC projects.

The NCUAQMD issues daily Air Quality Alerts through Public Service Announcements during any wildfires to keep the public advised if air quality is considered Unhealthy or Hazardous so that appropriate action can be taken.

*For more information on air quality, please see Chapter II.2. Values and Assets at Risk and section V.4.2 in Fire-Safe Communities.*

- *Distribute kraft paper coverings for burn piles on an “as-needed” basis in order to maintain low moisture levels within vegetation piles prior to burning. —NCUAQMD, Local FSCs, Local Fire Departments, CAL FIRE (M, O)*
- *Educate public on the importance of complying with regulations and obtaining burn permits prior to burning vegetation piles. —NCUAQMD, Local FSCs, HCFSC, Local Fire Departments, CAL FIRE (S, O)*
- *Encourage the public to use [ncuaqmd.org](http://ncuaqmd.org), call 1-866 BURN DAY, or listen to local radio stations for burn-day status information. —NCUAQMD, Local FSCs, HCFSC (S, O)*
- *Encourage community members to explore alternatives to burning, such as composting and biomass utilization, when disposing of vegetation piles.<sup>42</sup> —NCUAQMD, Local FSCs, HCFSC (S, O)*

### **III.13.1. Managing Air Quality Information During Wildfires**

The North Coast Unified Air Quality Management District (NCUAQMD), the Public Health Branch of the Humboldt County Department of Health and Human Services, and the National Weather Service (NWS) in Eureka, work together to distribute information to the public regarding smoke from wildfires. During wildfire events, NCUAQMD's goal is to keep the public informed and educated about the concentration of harmful smoke in their areas. Concentrations of smoke will vary depending upon location, weather, and distance to the fire(s).

Air Quality Alerts are officially issued by the NCUAQMD as Public Service Announcements (PSA) when the concentration of smoke in an affected area meets the criteria of “Unhealthy” or “Hazardous”. The PSAs are distributed to the County's Health Department, NOAA, and other public agencies. In addition, the PSAs are sent via email distribution lists to the media, school districts, and interested parties. Based upon this information, the County's Public Health Officer may take official action in regards to public events and schools. School Districts upon receiving the PSA, may take action to limit school activities. The PSAs can also be heard by calling 1-866-Burn-Day or 1-866-287-6329 and can also be found at the NCUAQMD's website, [www.ncuaqmd.org](http://www.ncuaqmd.org). The National Weather Service (NWS) office in Eureka collaborates with the NCUAQMD to distribute the PSA information to the public using their NOAA Weather Radio transmitter scripts.

In some cases, the NCUAQMD may deploy additional portable air quality monitors (EBAMs) during wildfire events to better determine the smoke concentration in the region. The NCUAQMD currently has several portable monitors for such use, and the data from these and other monitors is utilized in determining Air Quality Alerts. Other monitors can be obtained as needed from neighboring air districts, the California Air Resources Board (CARB), and the U.S. Forest Service (USFS).

- *Expand the practice of running smoke plume models to more accurately pin point where and when smoke issues are going to be most significant, and communicate the resulting information to AQMD for inclusion in their message development for the public. — NWS Eureka, AQMD, USDA-FS Northern Region (S)*
- *Increase access to critical smoke information for community members in rural areas without such access through the purchase of NOAA Weather Radios for public buildings. —Local, State, and Federal Agencies (S)*

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<sup>42</sup> See Section III.1.14. Utilizing Excess Fuels below for more information.

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- *Improve coordination and communications between wildfire managers, NCUAQMD, and local radio and news organizations.* —NCUAQMD, Wildfire Managers, Local Radio and News Organizations (S, O)
- *Increase availability of mobile air-quality monitors to better protect and inform local communities.* —NCUAQMD, Humboldt County OES (M)

### **III.14. Integrating Fire-Safety Actions with Local Regulations and Policy**

An effective CWPP recognizes and addresses the many levels of land-use planning that go into community making. Throughout California, as people build homes, businesses, and public places, there are many local, state, and federal requirements designed to address fire, public safety, community design, and environmental safeguards. A successful CWPP recognizes these requirements and incorporates their positive benefits into its recommended actions.

Ongoing residential development in unincorporated rural areas of the county, and multi-agency involvement in the implementation of fire-safe standards, both present a challenge to building and maintaining fire-safe communities here. The topic of community protection from wildfire has received much attention in recent years and many new strategies and techniques have been developed. It is crucial at this time to determine whether and how new community protection findings should be incorporated into current fire-safe standards. The implementation of uniform fire-safe standards can reduce future losses of life and property. The Humboldt County Fire Safe Standards were last updated in 1991, long before the current WUI building codes and knowledge regarding *structural ignitability* and effective fuel-reduction practices were known. Updating these standards will ensure that the most current fire-safe techniques are incorporated into the planning regulations, and that the enforcement of these regulations is well coordinated in local jurisdictions throughout the county.

Compliance must be ensured throughout the county with both the WUI building standards (Chapter 7A of the California Building Code) and the County Fire Code 1952. The associated requirements of these standards must be clearly communicated to builders and home and business owners. This will be an important avenue to reduce structural ignitability throughout Humboldt County.

Humboldt County has been in an extensive process of updating its General Plan (GPU), since before the publication of the 2006 Master Fire Protection Plan (MFPP). Because of the planning process and outcomes of the MFPP, the HCFSC has had the opportunity to actively and effectively participate in the GPU. HCFSC reviewed policy recommendations and provided input to the County Planning Commission that was incorporated into the most recent draft of the General Plan (as of late 2012).

Integrating wildfire prevention and planning into other planning efforts and policies is a cost-effective, long-term fire prevention strategy for Humboldt County. In addition to those integrated planning actions already described in this document, the following list of policy actions will further the goals of this CWPP and fire prevention in Humboldt County.

*For more information on existing fire-safe regulations, please see Chapter V.4. Legal Requirements.*

- *Update Humboldt County Fire Safe Standards to identify specific hazard zones, improve fire-safe measures for community planning areas and/or other unincorporated rural residential areas in the county, and address structural ignitability, roads, vegetation setbacks, and enforcement.* —County Planning and Building, Fire Chiefs, HCFSC, CAL FIRE (S)
- *Ensure that the most current fire-safe techniques are incorporated into County regulations, and that the enforcement of these regulations is well coordinated in local jurisdictions throughout the county.* —County Planning and Building, County Public Works, Fire Chiefs, CAL FIRE (S, O)
- *Ensure fire-safe development and effective fire-protection service by approving and supporting the relevant policies, standards, and implementation measures of the Community Infrastructure and Services Element in the General Plan—including procedures to address subdivisions and other development outside of Fire District*

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*Boundaries—and by encouraging new development in areas with existing, adequate fire protection.*  
—BOS (S, O)

- *Ensure effective emergency management and pre-wildfire planning by approving and supporting the relevant policies, standards, and implementation measures of the Safety Element in the General Plan.* —BOS (S, O)
- *Continue to provide guidance to County Planners towards completion and implementation of the General Plan Update* —HCFSC (S)
- *Assist in the implementation of relevant policy and implementation measures from the current General Plan Safety Element, Community Infrastructure and Service Element, and any other relevant Elements.*  
—HCFSC (O)
- *Continue to improve property ownership transactions/new building permit notifications to local fire departments.* —County Planning and Building (S, O)
- *Create user-friendly information regarding applicable local and state environmental laws and regulations that property owners might need to know to implement vegetation management actions to reduce wildfire hazard.*  
—HCFSC, Local FSCs, UCCE, Foresters, Conservation Organizations (M)
- *Prepare outreach materials designed to increase understanding of the WUI building standards and County Fire Code 1952.* —County Planning and Building (S)
- *Explore options for ecologically based fuel reduction in Streamside Management Zones, through modification of the County permitting process and ordinance, in order to minimize permitting bureaucracy and costs.*  
—HCFSC, Local FSCs, County Planning and Building, Foresters, Restoration Practitioners (M)
- *Prioritize the actions in this CWPP and include by reference in the Humboldt Operational Area Hazard Mitigation Plan, and any subsequent updates of the Local Hazard Mitigation Plan.* —Humboldt Operational Area Agencies (S, O)
- *Draft standardized procedures and roles for performing building-permit inspections and implementation of County Fire Code 1952. Towards that end, County Planning and Building, CAL FIRE, and Fire Departments reach agreement on their roles in the process and implementation of procedures.* —County Planning and Building, Fire Prevention Officers, CAL FIRE, (S)
- *Coordinate the adoption of the California Fire Code amongst County Agencies.*  
—Fire Chiefs, Larger Fire Departments (S, O)
- *Support policy development that can facilitate rapid and effective response to protect resources at risk from SOD.* —County Planning and Building, BOS (S)
- *Advocate for permit streamlining to help facilitate rapid and effective response to protect resources at risk from SOD.* —HCFSC, Fire Chiefs, Conservation Organizations (S)
- *Advocate for restrictions on selling SOD-infected plants in nurseries within the county.* —HCFSC, Local FSCs, Conservation Organizations (S)

### **III.15. Designating Communities at Risk**

As described in the Values and Assets at Risk chapter of the Risk Assessment, most eligible communities in Humboldt County have already been designated as a *Community at Risk* (CAR), either by federal or state designation. The two remaining communities that need to be added to this CAR list are Redwood Valley and Titlow Hill. The California Fire Alliance has a process to add new communities to this list, which is found on its website: [www.cafirealliance.org/communities\\_at\\_risk/communities\\_at\\_risk\\_addtolist](http://www.cafirealliance.org/communities_at_risk/communities_at_risk_addtolist).

*For more information on communities at risk, please see Chapter II.2. Values and Assets at Risk.*

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- *Add Redwood Valley and Titlow Hill communities to the Communities at Risk list. —HCFSC (S, 🗳)*