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8. Lake County Community Wildfire Protection Plan, Action Plan

This CWPP is based on the collaboration of the Plan Partners and the many Lake County residents who participated in the process, either through attending a public meeting or commenting on drafts of this document (see Chapter 2 for more information on the collaborative process). Based on this collaboration, and the analysis done in Chapters 3 through 7, the following action plan was developed.

Each topic is introduced, and a set of action steps is identified, including the lead organizations and/or Plan Partners to implement each item. The action items are then ranked in terms of short (1-2 years), medium (2-5 years), long (5-10 years), or ongoing implementation priority, as well as their ease of implementation.

In an ideal world, all of these action items would be implemented expeditiously. However, this Plan is being released in one of the greatest economic downturns in our recent history. Funds for public projects are scarce. Although it is the intention of Plan authors and signers that all the action items in this document be implemented as so designated, implementation will need to be done subject to the availability of funds and other resources.

➤ *Action items are identified with this arrow throughout this chapter. They are followed by an “S” (short, 1-2 years), “M” (medium, 2-5 years), “L” (long, 5-10 years), or “O” (ongoing), for implementation priority. In addition, a “★” indicates those items that will be relatively easy to implement or are already completed.*

8.1. Designation of Wildland-Urban Interface Areas

As described throughout this CWPP, the wildland-urban interface (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.”¹ 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 Forest Restoration Act (HFRA). “The HFRA provides administrative procedures for hazardous-fuel-reduction projects on [USFS] and BLM 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.”² Concurrently, federal agencies are charged with developing WUI designations for the properties they manage.

As per HFRA, this Plan proposes WUI designations for Lake County, California. These designations were developed combining CAL FIRE’s WUI designation, Mendocino National Forest’s Proposed WUI Defense Zones,³ Community-Identified High Risk and Project Areas, Community-Identified Values and Assets, and issues of topography, landscape characteristics, access, fire threat designation, fire weather, etc. Projects in these designated areas should be prioritized for funding and implementation under the National Fire Plan.

¹ *Federal Register*. “Implementation Direction for Identifying and Prioritizing Hazardous Fuel Reduction in Wildland-Urban Interface/Intermix.” Region 5. January 4, 2001. Vol. 66, No. 3. Pp. 751–754.

² Healthy Forests Initiative and Healthy Forests Restoration Act. February 2004. *Interim Field Guild, Title I, Wildland-Urban Interfaces Within or Adjacent to At-Risk Communities*. FS-799. p. 15.

³ “WUI Defense Zones were created off of the WUI boundaries designated by the California Fire Alliance using 1990 Census Block data. The Mendocino National Forest used these boundaries and adjusted the lines topographically (along ridgelines, drainages, roads, etc) while staying close to the original boundaries set by the Fire Alliance. Fire and fuels management often use topographical features for fire suppression as well as for project boundaries. It is generally the most efficient and safest way to suppress fires as well as keep prescribed burns within project boundaries due to how fire behaves to topography.” Caves, Tom. Mendocino National Forest. Personal communication. March 4, 2009. “The forest’s WUI boundaries are meant to be adjustable as needed by collaborating with local Fire Safe Councils and other user groups in meeting their needs and the Forest’s needs to create projects and boundaries that best serve and protect communities and the National Forest. When these WUI boundaries were created, Lake County did not have an official Fire Safe Council that served the Upper Lake Ranger District area. The intent was that when there was one, we could adjust the boundaries if and when there was a need determined by the Fire Safe Council and the Upper Lake District fire/fuels management.” Darner, Hinda. Mendocino National Forest. Personal communication. March 4, 2009.

Map 8-1 at the end of this chapter outlines the Lake County WUI designation developed for this CWPP. Additional WUI areas were added in the Double Eagle, Morgan Valley, High Valley, and Harbin Hot Springs areas, as well as infilling gaps along Highway 29, north of Scotts Valley, and around Spring Valley.

- *Federal agencies accept CWPP WUI designations, including those previously identified by CAL FIRE. S, ★*
- *Federal agencies work with Lake County Fire Safe Council, South Lake Fire Safe Council, and other interested community members to agree on projects proposed within Lake County WUI areas. S, ★*

8.2. Designation of Communities at Risk

As described in Chapter 1, many eligible communities in Lake County have already been designated as a Community at Risk (CAR), either by federal or state designation. Existing Lake County CARs are: Anderson Springs, Blue Lakes, Cobb, Clear Lake, Clear Lake Oaks, Glenhaven, Hidden Valley Lake, Kelseyville, Lakeport, Little Valley, Loch Lomond, Lower Lake, Lucerne, Middletown, Nice, The Geysers, Upper Lake, and Witter Springs. Additional communities were identified in this CWPP to add to this list. The California Fire Alliance has a process to add new communities to this list, which is found on their website: www.cafirealliance.org/communities_at_risk/communities_at_risk_addtolist.

- *Lake County Community Development Department add the following Lake County communities to the Communities at Risk list. S, ★*

- Buckingham
- Clear Lake Riviera
- Coyote Valley
- Double Eagle
- Harbin Hot Springs
- Kono Tayee
- Lake Pillsbury
- Morgan Valley
- Riviera Heights
- Riviera West
- Soda Bay
- Spring Valley
- Twin Lakes

8.3. Advancing Defensible Space

Defensible space works, hence it is the law in California. Defensible space is also known as the *home ignition zone*.⁴ 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 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).”⁵

The Lake County Natural Hazard Mitigation Plan (HMP) identified the following related actions in 2005:

“Action 1.2.2: The County should develop comprehensive defensive space ordinances to minimize risk throughout the identified urban interface zones. The ordinance is expected to include homeowner's insights, regulatory requirements, and best practices. The ordinance will incorporate the Hazardous Fire Areas Fire Protection Standards.”

“Action 1.2.3: The County should investigate the development and adoption of minimum standards to location, design and construction of buildings and structures or portions thereof for

⁴ See Appendix C for more information on the home ignition zone.

⁵ Cohen, Jack. “The Wildland-Urban Interface Problem—A Consequence of the Fire Exclusion Paradigm.” *Forest History Today*. Fall 2008. p. 23. www.foresthistory.org/Publications/FHT/FHTFall2008/Cohen.pdf.

the protection of life and property, to resist damage from wildland interface fires, and to mitigate building and structure fires from spreading to wildland fuels”⁶

The following statement from the California Attorney General’s office provides the legal framework for local governments to take action to ensure local 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.”⁷

Through this process, several areas in Lake County have been identified as being either especially hazardous, with high wildfire risk, or with both high hazard and risk. It makes sense to focus enforcement of existing regulations in these target areas as well as to place stricter regulations on any new development there.

Furthermore, the Clear Lake Riviera Community Association, in association with the Kelseyville Fire Protection District, has taken positive steps in this direction by identifying priority areas for treatment and reducing fuels there through their Fire Safe Committee (*see Appendix F*). This local initiative can provide a positive example for other Homeowner’s Associations around the county.

Target Areas in Lake County for Defensible Space, Fire Safe Construction, and Alternate Access Programs:

- Rivas: Soda Bay, Riviera West, Riviera Heights, Buckingham, Clear Lake Riviera, Point Lakeview, Jago Bay
 - Hidden Valley and Coyote Valley, especially outlying areas beyond Hidden Valley Lakes
 - Cobb Mountain Area, including Cobb, Loch Lomond, and Anderson Springs
 - Harbin Hot Springs and neighboring resorts
 - Double Eagle Ranch
 - Lake Pillsbury
 - Northshore communities interface, especially around Nice and Lucerne
 - Lakeport interface
- *County, Cities, Federal Agencies, Fire Safe Councils, and other related agencies, focus fire safety and prevention efforts in the Target Areas listed above, including defensible space, fire-resistant building, and providing for alternate access routes. S*
- *County and City Community Development Departments work with the Lake County Fire Safe Council and other Plan Partners to develop a comprehensive defensible-space ordinance. S*
- *Homeowner’s Associations in Target Areas work with Lake County Fire Safe Council and Fire Protection Districts to develop fire safe guidelines for all residents. S*
- *County apply General Plan (GP) Policy HS-7.6, Development Guidelines to these target areas. M*

8.3.1. Residential Fuel-Reduction Ordinance

Efforts are underway within the county to update the current countywide weed-abatement ordinance and make it enforceable. This ordinance is being tied into current defensible space regulations. Successful programs in other communities allow local jurisdictions to undertake fuel-reduction efforts and charge landowners for actual costs. Development of the fuel-reduction ordinance includes the following objectives and action steps:

- *County work with Fire Protection Districts and other interested parties to develop countywide residential fuel-reduction ordinance based on current state law, with county enforcement, that ensures appropriate defensible-space clearance around all structures. S*

⁶ Lake County Natural Hazard Mitigation Plan (HMP). 2005. p. 70.

⁷ Office of State Fire Marshal. *Structural Fire Prevention Field Guide, Appendix F*. p. F-2 and F-3. <http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fppguidepdf92.pdf>.

- *County Code Enforcement work with Fire Protection Districts and other interested partners to ensure abatement ordinance applies to clearance on abandoned lots and absentee-owned parcels that threaten neighboring parcels. S*
- *County develop provisions in ordinance language to place liens against properties to cover incurred costs. S*
- *County provide a funded, countywide enforcement officer to enforce ordinance, in cooperation with Fire Protection Districts. M*
- *Lake County Fire Safe Council develop a list of known, local fee-for-service contractors to implement residential fuel-reduction ordinance. S*
- *Cities work with same partners to implement similar fuel-reduction ordinance programs within their jurisdictions. M*

8.3.2. Defensible Space and New Development

Development pressures are increasing in most of the counties surrounding Lake County. Surprisingly, the Lake County population has remained fairly stable. However, the 2008 Lake County General Plan projects a two-percent growth over the short term that would double the population by 2030. As is typical elsewhere in the region, those areas that are experiencing the most development are generally within the WUI.

The General Plan identifies Community Growth Boundaries for the following communities: Clearlake Oaks, Clear Lake Riviera, Coyote Valley, Kelseyville, Lower Lake, Lucerne, Middletown, Nice, North Lakeport, Soda Bay, and Upper Lake. As shown in Chapters 3 and 7 of this document, several of these communities have high wildfire risk and hazard.

The 2005 Lake County Hazard Mitigation Plan (HMP) identifies:

“Action 1.2.1: The County should continue to review new development in high fire hazard areas to assure that adequate access roads, onsite fire protection systems, signage, flame-retardant building materials, defensible space, and firebreaks are provided as required by state regulations and county ordinances.”⁸

Finally, the General Plan includes Policy HS-1.1 Development Constraints, “The County shall permit development only in areas where the potential danger to the health and safety of people can be mitigated to an acceptable level.”⁹

- *In addition to the policies set forth in GP Policy HS-7.6, Development Guidelines, and in accordance with GP Policy HS-7.5, Fuel Breaks, the County will require new developments in high risk and hazard areas as defined in this CWPP¹⁰ to create fire-safe landscaping within the 100-foot¹¹ defensible space zone of all structures. M*
- *County Community Development will work with the Lake County Fire Safe Council, Fire Protection Districts, and other Plan Partners to identify the requirements for Wildland Fire Management Plans for new developments as required by GP Policy HS-7.4. In addition to those outlined in the General Plan, these plans will be required for all new developments within the Target Areas as identified in this CWPP. Plans will include the following minimum components. Description of:*
 - *Ingress, egress, and primary and alternate evacuation routes, and safety zones/evacuation sites.*
 - *Adequate water storage and pressure to meet fire flows during drought conditions.*
 - *Fire-safe building to minimize structural ignitability.*

⁸ HMP. 2005. p. 70.

⁹ Lake County General Plan. 2008. p. 7–4.

¹⁰ High risk and hazard areas are identified in Chapters 3 and 7 of this plan.

¹¹ 100 feet—or to the property line if less than 100 feet. See Senate Bill 1595 for current state regulations regarding this distance: www.leginfo.ca.gov/pub/07-08/bill/sen/sb_1551-1600/sb_1595_bill_20080927_chaptered.pdf.

- *Fire-free zone within first 5 feet surrounding structures.*
 - *Fire-resistant landscaping, including easy-to-maintain defensible space in the first 30 feet.*
 - *Fire protection coordination, including access through gates, to water, fuels shut-off, landing zones, safe zones, etc.*
 - *Strategic landscape fuel treatments to reduce wildfire ingress or egress, based on Conservation Principles. M*
- *General Plan Policy LU-3.2 Rural Development, Policy LU-3.3 Clustering of Rural Development, and Policy HS-7.2 Encourage Cluster Development shall focus development in areas of highest potential fire safety within parcels or clusters, while maximizing efficient use of fire protection resource (e.g. access and water). Road standards should include adequate evacuation capability, unhindered access for emergency vehicles, and wherever possible shaded fuelbreaks along roadways, perimeters, and around development clusters, planned with respect to conservation-based principles and local aesthetics. M*
- *County ensure Policy OSC-2.1 Design Guidelines for Structures in Rural Areas and Policy OSC-2.7 Landscaping Techniques are done in conjunction with creating adequate defensible space around all new structures in high hazard or risk areas as identified in this plan, and favor fire-resistant landscaping. M*
- *Cities of Lakeport and Clearlake model similar defensible space and new development programs for their jurisdictions to those developed countywide. M*

The HMP further identifies “Action 1.1.1: The County should encourage development and dissemination of maps relating to fire hazard to help educate and assist builders and homeowners to comply with wildfire interface mitigation activities.”¹²

- *County Community Development Department will provide applicants for new building permits with copies of the current Fire Hazard Severity Zone maps (see Chapter 3) as well as copies of relevant policies from this plan and others regarding construction in high hazard areas. S*

8.3.3. Community Defensible Space and Fuel-Reduction Programs

The most effective fire prevention action in wildland-urban interface communities is to reduce the fuels immediately within and adjacent to homes and other structures—defensible space and the home ignition zone.¹³ Hence, in the event of a wildfire, there will be limited fuels to carry the fire, and damage will be minimized.

“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.”¹⁴

Residents have the primary responsibility in ensuring they have defensible space around their homes and properties. As stated in Appendix C, 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 Humboldt County Fire Safe Council was recently awarded grant funds to conduct a pilot program called the “Firesafe Homes and Forests Cost Share Program.” The program is funded by Title III¹⁵ and the U.S. Forest Service, and is being managed by Humboldt’s Community Development Services Department, in conjunction with local Fire Safe Councils and interested property owners. It provides a cost-share match to landowners working with a local FSC to implement fuel-hazard reduction activities.

¹² HMP. 2005. p. 69.

¹³ See Appendix C for more information.

¹⁴ Cohen. 2008. p. 25.

¹⁵ Secure Rural Schools and Community Self-Determination Act. 2000. www.fs.fed.us/srs/Title-III.shtml.

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.

- *Lake County residents implement defensible space around all structures, and on all residential parcels within the county. S, O*
- *Lake County residents work with neighbors, and on neighboring properties (with the owner's permission) to create neighborhood-wide defensible space. S, O*
- *Lake County Fire Safe Council work with Plan Partners to provide information and resources to help residents create defensible space around their homes and in their neighborhoods. S, ★*
- *Lake County Fire Safe Council work with Plan Partners to explore incentive programs to help residents create defensible space around their homes and in their neighborhoods. M*
- *Lake County Fire Safe Council work with Plan Partners, Social Services, Senior Centers, schools, and other community and social service organizations to develop programs to create defensible space for elderly and disabled residents who are not able to do this for themselves. S, O*
- *Lake County Community Development Department work with Humboldt County to explore possibility of a similar "Firesafe Homes and Forests Cost Share Program" in Lake County. M*

8.3.4. Community Chipping Program

Lake County is fortunate to have an established community chipping program in place. The West Lake Resource Conservation District (RCD), which owns the chipper, manages this program, in cooperation with LQAMD. (See www.recycling.co.lake.ca.us/news/ChippingProgram.pdf for more information, and Appendix D for a history of the chipping program) Funding had been previously provided in part by the County, but with changes in Title II¹⁶ and III spending restrictions, ongoing funding is in question. However, other funding is being sought. Both local Fire Safe Councils actively interface with residents to promote these programs.

- *Lake County Fire Safe Council work with West Lake RCD to develop a program to provide community chipping days throughout the county, in partnership with the South Lake FSC for its area of influence, and other interested partners throughout the county, including Homeowners Associations. S, O*
- *All interested partners support the countywide community chipper program of the Lake County Fire Safe Council, by contributing resources and helping to secure ongoing funding as possible. S, O*

For more information on chipping, Green Waste, and biomass, please see section 8.10 below.

8.3.5. Firewise Communities Program

Changes in federal funding programs in 2008 have favored programs certified under the Firewise Communities program (www.firewise.org). Eligibility for Title III projects, as well as other federally funded programs, may now require Firewise status.

- *County work with Fire Safe Councils, MNF, and BLM to assist in the development and implementation of Firewise Communities Programs for all applicable and/or interested areas within Lake County. S, M*

¹⁶ US Forest Service. *Title II–Special Projects on Federal Land*. www.fs.fed.us/srs/Title-II.shtml.

8.4. Reducing Fuels

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 using the Precautionary Principle and following the Conservation Principles as described in Chapter 1.

In terms of prioritizing fuel treatments across large landscapes, research by Dr. Mark Finney at the Fire Science Lab¹⁷ challenges previous theories in landscape-level fuel treatments and models strategic locations for fuel-reduction treatments. Regardless, it is generally agreed that such treatments should be focused first around communities in the wildland-urban interface. Many residential areas in Lake County qualify for such treatments, and thus were identified at the community meetings and are listed in this document.

As stated in section 8.1 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 Appendix C for a more detailed explanation of these zones, and Appendix D for more detailed explanations of 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, shaded wherever there is a canopy. “Fuelbreaks are never designed to stop fires but to allow suppression forces a higher probability of successfully attacking a wildfire.”¹⁸ The combination of home construction modifications 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. For example, the width can vary widely, generally ranging from 50 to 300 feet. “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.”¹⁹ Sample prescriptions are described in Appendix D. 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, “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.”²⁰

¹⁷ Firelab.org. Fire, Fuel, and Smoke Science Program. www.firelab.org/content/view/full/812/352/. And, Finney, Mark A. *Creating Fire-resilient Landscapes: Improving our Understanding and Application*. March 2004. <http://outreach.cof.orst.edu/resilientfire/finney.htm>. { TA \l "http://www.firelab.org/fbp/fbpstaff/mfinney.htm, http://outreach.cof.orst.edu/resilientfire/finney.htm" \s "http://www.firelab.org/fbp/fbpstaff/mfinney.htm, http://outreach.cof.orst.edu/resilientfire/finney.htm" \c 1 }

¹⁸ Agee, J.K.; Bahro, B.; Finney, M.; Omi, P.; Sapsis, D.; Skinner, C.; Wagtendonk, J.; Weatherspoon, C. 2000. “The Use of Shaded Fuelbreaks in Landscape Fire Management.” *Forest Ecology and Management* 127: Pp. 55–66. { TA \l "Agee et al, \“The use of shaded fuelbreaks in landscape fire management,\” Forest Ecology and Management 127 (2000) 55-66, p. 56." \s "Agee et al, \“The use of shaded fuelbreaks in landscape fire management,\” Forest Ecology and Management 127 (2000) 55-66, p. 56." \c 1 } { TA \l "Agee et al, \“The use of shaded fuelbreaks in landscape fire management,\” Forest Ecology and Management 127 (2000) 55-66, p. 56." \s "Agee et al, \“The use of shaded fuelbreaks in landscape fire management,\” Forest Ecology and Management 127 (2000) 55-66, p. 56." \c 1 }

¹⁹ Agee et al. 2000. p. 56.

²⁰ Agee et al. 2000. p. 60.

In Lake County, there is widespread support for a well-managed, controlled burning program, especially on public lands.²¹ This is a phenomenon not necessarily found in neighboring counties. A cooperative program exists between CAL FIRE, LCAQMD,²² the Bureau of Land Management, and the Mendocino National Forest to regularly maintain shaded fuelbreaks and other fuel-reduction areas through burning and other methods on public lands. This is an important program to continue and be enhanced. Given Lake County’s national reputation for its clean air, this must be done in close cooperation with LCAQMD.

To most effectively maintain the various fuelbreaks proposed on non-federal lands throughout the county, an “Adopt a Fuelbreak” program can be developed by the Lake County FSC in cooperation with community/neighborhood groups, homeowner’s 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.

- *Lake County FSC work with appropriate land management agencies to obtain funding to maintain existing cooperative fuel-reduction projects throughout the county. O*
- *Public land-management agencies, tribal experts, and CAL FIRE in cooperation with LCAQMD and Fire Safe Councils educate residents on the positive and negative aspects of controlled burning and prescribed fire and other fuel-reduction options. S*
- *Lake County Fire Safe Council work with land-management agencies to develop an “Adopt a Fuelbreak” program for maintenance of fuelbreaks. Work with CAL FIRE, tribal experts, and other fire and resource professionals to employ appropriate maintenance practices. M*
- *County support fuel-reduction efforts, consistent with GP Policy HS-7.3 Fuel Modification Programs, by streamlining permitting processes wherever applicable and/or providing in-kind support, such as Public Works resources. M*
- *County work with state and federal agencies and Lake County Fire Safe Council to promote creation of shaded fuelbreaks along perimeters and ridges of open space buffers, planned with respect to conservation-based principles and local aesthetics, and consistent with GP Policy OSC-1.9 Open Space Buffers and Policy OSC-2.15 Ridgeline / Hilltop Protections. L*
- *County work with state and federal agencies and Lake County Fire Safe Council to explore the creation of a system of ridgeline shaded fuelbreaks or firebreaks planned with respect to conservation-based principles and local aesthetics, and in accordance with GP Policy OSC-6.15 Ridgeline Trails. L*

8.4.1. Priority Fuel-Reduction Projects

Figure 8-1 at the end of this chapter includes the shaded fuelbreaks and other fuel-reduction projects that were prioritized for implementation in Lake County. These projects were generally identified at a community meeting, or otherwise resulted from this planning process. Projects were prioritized based on CAL FIRE’s identified fuel hazards and fire threat, terrain, values at risk, level of community support, and population density, with an emphasis on interface areas.

- *Lake County Fire Safe Council work with applicable agency and Plan Partners, (including MNF, BLM, CAL FIRE, RCDs, etc.), to explore funding and to implement the strategic fuelbreaks and fuel-reduction efforts identified in this CWPP throughout Lake County. S, M, L*

Please see Figure 8-1. Lake County Fuel-Reduction Priorities at the end of this chapter.

²¹ Restore the Mendo. *The Mendocino National Forest – Controlled burns protect people and property, restore forests, and save taxpayer dollars.* www.restorethemendo.org.

²² Lake County Air Quality Management District

8.5. Reducing Structural Ignitability

Reducing the chance that structures (our homes, businesses, etc.) will burn is an important component of any fire-safety action plan. New federal funding sources are being tied to implementation of policies such as these at the local level. The following sections identify specific actions that will be taken to reduce structural ignitability.

8.5.1. WUI Building Standards

The State of California through the State Fire Marshal's Office has developed state-of-the-art building standards²³ for development within the WUI. Local government officials shall become familiar with these WUI standards, if they are not so already, and identify specific steps to implement these throughout their jurisdictions.

- *County implement GP Policies HS-1.3 Building and Fire Codes, and HS-7.7 Fire Resistant Building Materials by continuing to adopt the most current the California Wildland-Urban Interface Building Code, especially Chapters 7 and 7A. S, O, ★*
- *County and Cities stay current on applicable wildland-urban interface standards and new legislation through the State of California Fire Marshal's Office. O, ★*
- *County and Cities Community Development, Fire Protection Districts, and Fire Safe Councils educate decision-makers and residents on the importance of and implementation of WUI Building Codes, including appropriate building materials.²⁴ S*
- *Fire Agencies work with Fire Safe Councils to perform risk assessments within their jurisdictions. M*

8.5.2. Roofing

Efforts should continue to be made to eliminate all untreated wood-shake roofs. Shake roofs are a leading cause of home loss in wildfires. Research shows that homes with a non-combustible roof and clearance of at least 30 to 60 feet have an 85-95% chance of survival in a wildfire.²⁵

- *Fire Agencies, County Community Development, federal partners, and Fire Safe Council continue to educate residents on the importance of replacing untreated wood-shake roofs. S*
- *County and Cities develop incentive-based programs for residents to replace untreated wood-shake roofs. M*

8.5.3. Windows

Double-pane windows are far more effective in their ability to survive a wildfire, as well as being smart for energy conservation within the home. Current WUI building standards require tempered glass for new construction.

- *Fire Safe Councils, utilities, and interested partners educate residents on need to have double-paned windows throughout their homes with recommendations to upgrade to tempered glass for fire safety where possible. O*
- *Fire Safe Councils, utilities, and interested partners explore incentive programs to upgrade windows to double pane or higher standards. M*

8.5.4. Decks

With adequate defensible space, most solid wood decking is fire-resistant enough to withstand short-term heat loads. However, this requires both horizontal and vertical fuel clearance around and below decks.

²³ See *California's Wildland-Urban Interface Code Information* at www.fire.ca.gov/fire_prevention/fire_prevention_wildland_codes.php for more information.

²⁴ Further information on this available through the California State Fire Marshal's Building Materials Listing. www.osfm.fire.ca.gov/strucfireengineer/strucfireengineer_bml.php.

²⁵ Foote, Ethan. "Wildland-Urban Interface Ignition-Resistant Building Construction Recommendations." Community Wildfire Protection Plan Workshops. California Fire Alliance and the California Fire Safe Council. August 2004.

- *Fire Safe Councils and other Plan Partners educate residents on importance of fire-safe decking.* **O**

8.5.5. Outbuildings

Outbuildings (e.g. storage, wood, and tool sheds) with less than thirty feet of separation from main structures place homes at a high risk of loss. If they catch fire, they can often catch the home on fire as well.

- *Fire Safe Councils and others educate residents on need for separation of heat loads from residences.* **O**
- *County Code Enforcement, work with Fire Protection Districts and CAL FIRE to enforce clearing 30-100 feet (or to the property line) around structures, as per State law and the proposed countywide residential fuel-reduction ordinance.* **M**

8.5.6. Woodpiles and Other Fuel Sources

Many fuel sources are found around homes, especially in rural communities. These include woodpiles, fencing, decks, propane tanks, and other fuel-storage areas. Storing items closer than thirty feet from homes and structures increases risk of fire damage.

- *Fire Safe Councils and other Plan Partners educate residents on need to have a minimum of thirty feet separation of firewood piles and woodsheds from residences.* **O**
- *Fire Safe Councils and other Plan Partners educate residents on 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.* **O**
- *Fire Safe Councils and other Plan Partners educate residents on the risks of having wood fences attached to homes.* **O**

8.6. Enhancing Fire Protection

8.6.1. Resources for Fire Protection

Lake County is fortunate in that it has six funded, organized fire protection districts (FPD). However, there are areas within the county that are lacking in sufficient fire protection resources. Virtually all districts have a stated need for additional funding and resources to meet their mission. The Rivas area (within the Kelseyville and Lake County FPDs) is one such area. This is likely the highest risk area in the county for a fire to quickly become a conflagration. Yet, the area has limited local fire protection staffing and resources.

South Lake FPD is working with CAL FIRE under a Schedule A Contract. Outside of fire season, additional resources are brought in through an “Amador Plan,” which provides extended low-cost staffing for several of its stations. Amador Plans can apply to areas with existing CAL FIRE services. Beyond the South Lake FPD, CAL FIRE has stations in Clearlake Oaks and on Highway 175 near Kelseyville. CAL FIRE also manages the Mount Konocti Lookout. However, staffing there is not currently funded; it is only occasionally staffed, during anticipated lightning or other extreme fire conditions.

Some of the outlying fire stations—such as Lake Pillsbury, Spring Valley, Point Lakeview, Blue Lakes, Upper Lake, Glenhaven, and Loch Lomond—depend entirely or largely on volunteers. Like many other communities, volunteer fire fighters are becoming less available. This leaves some of the most remote – and most at-risk to wildfire – communities with overextended fire protection resources.²⁶

- *County, Kelseyville FPD, and CAL FIRE explore the possibility of an Amador Plan to provide additional coverage in the Rivas area.* **M**
- *County, Northshore FPD, and CAL FIRE explore the possibility of an Amador Plan to provide additional coverage in the Glenhaven area.* **M**

²⁶ A 2006 study in rural Pennsylvania provides good information regarding how to successfully recruit volunteers: www.ruralpa.org/Volunteer_firefighters06.pdf.

- *County work with Kelseyville FPD, Lake County FPD, and local Homeowner's Associations to provide additional fire protection staffing and resources to the Riviera Heights, Point Lakeview, and Clear Lake Riviera fire stations. M*
- *Lake Pillsbury FPD, County, Forest Service, Pacific Gas and Electric (PGE), and Fire Chiefs explore options for additional funding and other resources for Lake Pillsbury FPD, including volunteer training opportunities on weekends. M*
- *Mendocino National Forest and PGE work with Lake Pillsbury FPD to provide additional equipment and fire protection services in the Lake Pillsbury areas. M*
- *Fire Protection Districts work with Lake County Fire Safe Council, and city, county, and federal agencies to develop a countywide volunteer firefighter recruitment program, especially targeting those communities with primarily volunteer staffing. M*
- *CAL FIRE evaluate options for repair and staffing of Mt. Konocti Lookout. M*

8.6.2. Water

Water is critical for successful fire suppression. California's minimum fire-fighting 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 Appendix C for more information on water storage options.)*

Several areas within the county are lacking in sufficient water for fire protection. Those communities with water system issues for adequate fire protection include: Buckingham, Clearlake Oaks, Cobb Mountain area, Double Eagle, Glenhaven, Hidden Valley Rancho, Jerusalem Grade, Lake Pillsbury, Lower Lake, Morgan Valley, Nice, Noble Ranch, Paradise Valley, Point Lakeview, Rivas West, Scotts Valley, Spring Valley, and Upper Lake.

- *Lake County Fire Safe Council, RCDs, watershed councils, and other interested partners educate rural residents on the needs and benefits of water storage. S*
- *Plan Partners encourage RAC²⁷-funded program to place water storage tanks for fire protection on lands adjacent to federal lands, especially in Cobb Mountain, Scotts Valley, Double Eagle, and Lake Pillsbury areas.²⁸ M*
- *Lake County Fire Safe Council and Plan Partners explore funding for a water storage program (water tanks or water tenders) in rural lands, especially on private lands not adjacent to federal lands, in areas such as Cobb Mountain, Hidden Valley Rancho, Jerusalem Grade, Morgan Valley, and Noble Ranch. M*
- *Fire Safe Councils, CAL FIRE, local governments, watershed councils, and other interested partners explore incentives for increasing water storage on private properties. L*
- *County and city governments, Fire Safe Councils, CAL FIRE, LCAQMD, social service agencies, and other interested partners explore options and incentives for funding low-income, rural water storage. M*
- *County, South Lake FPD, CAL FIRE, Calpine, and South Lake Fire Safe Council work with Cobb Area County Water District to develop additional water sources and capacity for fire protection. M*
- *County and Kelseyville FPD work with Buckingham Homeowner's Association to develop adequate water for fire protection within the development. M*
- *County and Kelseyville FPD work with Homeowner's Associations in the Rivas to improve their hydrant systems. M*

²⁷ Mendocino National Forest Resource Advisory Committee

²⁸ Contact the Del Norte Fire Safe Council for an example of a successful program: 707-951-1116; email: dnfsc@charterinternet.com.

- *Clearlake Oaks County Water District improve the hydrants on Widgeon Way and the Avenues. L*
- *Glenhaven Community Water develop a hydrants system for Glenhaven. L*
- *County work with Lakeport FPD, CAL FIRE, BLM, and other partners to explore water sources for fire protection in Scotts Valley, including the purchase of additional water tenders. M*
- *County work with Northshore FPD, CAL FIRE, USFS, and other partners to explore water sources for fire protection in Upper Lake, including the purchase of additional water tenders. M*
- *Upper Lake Water District support the project to increase water line capacity and storage in the Upper Lake water system, including closing the loop from Old Lucerne to Main Street. M*
- *County, South Lake FPD, and CAL FIRE explore options to expand the hydrant system to the east side of Middletown and out Butts Canyon Road. L*
- *Callayomi County Water District work with South Lake FPD to explore hydrant system for Hilderbrand District, along Highway 29 south to the Napa County border, if and when service becomes available. M*
- *County work with Fire Chiefs to develop a policy whereby the County Assessor will not increase property values and taxes when water storage is added to private properties for the purpose of fire protection. M*
- *County Community Development ensure water for fire suppression needs is included in the development of the Integrated Water Management Plan, especially in terms of future development. M*

8.6.3. Roads

Roads provide emergency response access to county residents. Where bridges are narrow or unstable, and land slides result 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. Priority areas for improvements include: Widgeon Way, Sulphur Bank Slide, Burns Valley Creak, San Juaquin Slide, Perini Creek Culvert Bridge, Ettawa Springs Bridges, Old Long Valley Road, and Garner Creek Road.

- *County and Cities Public Works Departments work with Fire Chiefs, Law Enforcement, Caltrans, Lake County/City Area Planning Council (APC), and CHP to identify road ingress and egress issues that increase emergency response times. S*
- *County and Cities Public Works Departments work with Caltrans, APC, and interested partners to secure funding and other resources to repair priority ingress and egress sites. O*

8.6.4. Signage of Roads and Structures (Addressing)

Throughout the county, firefighters and other emergency personnel are faced with the challenge of finding homes quickly and safely during an emergency. At a minimum, existing city and county standards that require streets and homes to be visibly addressed must be enforced. These standards include signs to be four inches high, with a contrasting backing, and in accordance with the CA Building Code.

- *Law Enforcement, CAL FIRE, federal agencies, County, and Cities collaborate to enforce existing signage requirements for streets and residences. O*
- *Law Enforcement, CAL FIRE, Fire Chiefs, federal, county, and city agencies, and Fire Safe Councils explore incentives for private road and address signage conformance, including public education. M*
- *Fire Agencies implement model signage program, similar to that developed by South Lake FPD, to expand it to other areas of the county. S*
- *County ensure all signage created in accordance with GP Policy OSC-2.3 Signage Program meets fire protection standards. O*

8.7. Evacuation Planning and Emergency Preparedness

8.7.1. Developing Evacuation Routes and Sites

Effective evacuation planning facilitates safe and orderly evacuation during emergencies. The South Lake County Fire Safe Council has developed an exemplary informational brochure on evacuation planning for the south county. No such resources currently exist for other parts of the county. The 2005 HMP identifies “Action 1.1.4: The County should prepare Evacuation Route Contingency Plans for each of the identified Urban Interface Communities in coordination with [CALFIRE] and local Fire Districts.”²⁹

Alternative evacuation routes and sites were identified at the 2008 community CWPP meetings. This information was reviewed, and Map 8-2 at the end of this chapter was developed as the basis for a countywide evacuation plan. (See Appendix B for more information on community meeting data and maps.)

- *County OES, Law Enforcement, CAL FIRE, Lake Transit Authority, Caltrans, CHP, Red Cross, federal agencies, Fire Chiefs, and Fire Safe Councils collaborate to develop a detailed evacuation plan and update it as needed, using the information generated in this plan as a base. M*
- *County OES, Law Enforcement, CAL FIRE, federal agencies, Fire Chiefs, Fire Safe Councils, Red Cross, and Senior Centers develop and distribute evacuation-planning materials for all areas of the county based on the South Lake FSC Evacuation Plan model to educate residents on evacuation options in their communities. O*
- *County Social Services, OES, Senior Centers, Lake Transit Authority, Lake Family Resource Center, Law Enforcement, Fire Protection Districts, Redwood Coast Regional Center, Red Cross, Lake County Fire Safe Council, and other interested local, state, and federal agencies identify leadership and resources to develop evacuation programs for vulnerable populations. M*
- *County OES, Law Enforcement, CAL FIRE, APC, Caltrans, CHP, Red Cross, federal agencies, Fire Chiefs, and Fire Safe Councils explore roles and needs of using the county airport, airstrips, and heliports in evacuation planning. M*

Gates

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

- *Law Enforcement, CAL FIRE, Fire Chiefs, federal agencies, Fire Safe Councils, and Homeowners Associations initiate informational programs to educate residents about the importance of easily passable gates during emergencies. S*
- *County, Law Enforcement, Fire Chiefs, CAL FIRE, Fire Safe Councils, and Homeowners Associations explore incentives and options for fire-safe gates. M*
- *Hidden Valley Lakes Homeowners Association work with South Lake FPD to provide access through gates to Hidden Valley Ranchos for evacuation and fire protection. S*

Alternate Evacuation Routes

Through the series of community meetings and analysis done for this plan, the following areas were identified as in need of additional or alternative evacuation routes.

- *County OES, Fire Chiefs, Law Enforcement, Lake Transit Authority, Caltrans, CHP, CAL FIRE, federal agencies, and Fire Safe Councils collaborate to explore the following evacuation routes: M*
 - Alternate evacuation routes out of Riviera West and Clear Lake Riviera subdivisions to the south.
 - Alternate evacuation route out of north side of Clear Lake Riviera subdivision to Soda Bay Road.

²⁹ HMP. 2005. p. 69.

- Alternate evacuation route out of Riviera Heights subdivision off of Westridge Drive or Circle to Soda Bay Road.
 - Alternate evacuation route out of Anderson Springs to Socrates Mine Road.
 - Alternate evacuation route out of Double Eagle to Benmore Canyon or Walker Ridge Roads.
 - Alternate evacuation route between Twin Lakes Subdivision and Perini Road.
 - Alternate evacuation route out of Donovan Valley.
 - Additional evacuation routes out of Gifford Springs and Jerusalem Grade.
 - Improve Point Lakeview Road for evacuation.
 - Brush back Seigler Canyon Road to improve it as evacuation route.
 - Options for evacuating lakeside communities with boats.
- *Mendocino National Forest, County, and Northshore FPD explore feasibility of opening Garner Ranch Road to make safe evacuation route out of New Long Valley and Spring Valley. L*
 - *Mendocino National Forest, BLM, County, and Northshore FPD explore feasibility of opening Wolf Creek Road north to Bartlett Springs to make safe evacuation route out of Spring Valley. M*
 - *County Public Works, Fire Chiefs, Caltrans, Law Enforcement and APC explore options to improve roads and signage in Anderson Springs, Widgeon Way, Jerusalem Grade, Double Eagle, Blue Lakes Road, and Laurel Dell Road. M*

Evacuation Sites

A series of evacuation sites were identified at the community meetings. They are shown on Map 8-2 at the end of this chapter. (See Appendix B for more information on community meeting data and maps.)

- *County OES, fire chiefs, law enforcement, CAL FIRE, federal agencies, Fire Safe Councils, Red Cross, County Social Services, and Senior Centers develop and/or upgrade appropriate sites identified at community meetings to function as evacuation sites and/or disaster centers during emergency situations. M*

8.7.2. Emergency Notification and Communications

The county and related agencies have a well-rehearsed process for communication among first responders. There are still issues regarding how to effectively and rapidly alert residents in the most remote areas. Options need to be explored to improve emergency communication in these areas.

- *County OES, Fire Chiefs, Law Enforcement, CAL FIRE, and federal agencies explore options for emergency alert sirens and other emergency communication options for remote areas such as Lake Pillsbury and Double Eagle Ranch, and upgrading sirens in Cobb and Loch Lomond. M*

8.7.3. Emergency Planning and Coordination

Collaboration is the key to effective planning and implementation, especially in terms of emergency response. Regular and consistent communication among participating entities is fundamental to successful prevention and emergency response programs. This is a vital component to implementing General Plan Policy HS-1.5 Interagency Coordination, HS-8.1 Coordinate Emergency Response Services with Local Agencies, and HS-8.2 Emergency Response Exercises.

- *County OES organize regular coordination meetings (quarterly at a minimum) between Law Enforcement, Fire Protection Districts, County Community Development, Cities, APC, Fire Safe Councils, other emergency response providers including relevant state and federal agencies, and other interested partners to coordinate joint prevention and emergency response activities. S*
- *County OES organize regular, periodic, documented emergency response trainings and exercises, ranging from local to regionally synchronized, and from tabletop to detailed simulations. Follow sessions with after-learning period to facilitate effective communication and learning among partners, including Law*

Enforcement, Fire Protection Districts, County Community Development, Cities, APC, Fire Safe Councils, and other emergency response providers. S

- *County explore and identify appropriate local structure for seeking state and national emergency response and pre-disaster funding. S, ☆*

Updated emergency response information is a basic component of an effective response strategy. Lake County has the capacity to manage and maintain this information within its Information Technology Department. Local and federal agencies need to ensure that their information is continually updated with the county.

The Hazard Mitigation Plan identifies “Action 1.1.2: The County should coordinate with [CAL FIRE] and countywide Fire Districts in developing GIS-based maps of fire access trails, firebreaks, water sources and structures within moderate to very high fire severity zones.”³⁰

Among other things, this information can be used to create and update Fire Run map books. These map books provide both local and out-of-area firefighters, as well as other emergency responders, detailed maps of all residential areas in the county including water sources, and other fire-fighting resources. Updated information for these books was collected at the community CWPP meetings.

- *County OES, Law Enforcement, Fire Protection Districts, and applicable city, state, and federal agencies maintain and update Lake County emergency response data with the County Information Technology Department (IT) to be shared with all participating agencies in accordance with GP Policy HS-8.8 Coordinate with Cities and Other Local Agencies and Policy HS-8.11 Critical Facilities. O*
- *County IT provide current available data and maps to any and all agencies and organizations (including Fire Safe Councils) participating in emergency response in Lake County. O*
- *Fire Protection Districts, CAL FIRE, law enforcement, and Fire Safe Councils work with County IT to update and maintain the Fire Run map book. S, O*
- *County IT work with OES, Law Enforcement, FPDs, CAL FIRE, APC, FSCs, and other interested partners to develop a GIS-based database of existing and proposed evacuation routes, sites, medical facilities, emergency call boxes, and other relevant evacuation resources. M*

8.7.4. Residential Emergency Preparedness

Effective evacuation planning depends on residents being prepared. This is especially important for families with small children, and elderly and disabled citizens. Residents in remote areas of Lake 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/preparedness/cdc_english/evac-plan.html regarding how to do family disaster planning, and www.redcross.org/preparedness/cdc_english/evac-1.html 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.

In remote, rural neighborhoods or communities, phone trees can be an effective local strategy for disseminating information quickly. Homeowner’s 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.

- *Lake County residents should be prepared for wildfire and other emergencies by creating family disaster and evacuation plans. S, O*
- *Residents in remote, rural areas and Target Areas (see 8.3 above) consider storing their most valuable items in a fire-safe urban area during extreme fire weather conditions. S, O*

³⁰ HMP. 2005. p. 69.

Lake County has a strong and effective network of Senior Centers in place, and a large senior community, many of whom are interested in volunteer community service. These are both excellent resources to support effective emergency preparedness within the county.

- *County of Lake, Social Services, Red Cross, and other interested partners work with Seniors Centers to upgrade to Disaster Center Readiness level. M*
- *County OES and Social Services work with Senior Centers and other interested local, state, and federal partners to develop emergency planning resources and potential evacuation sites for all county residents. M*

Finally, the County HMP identifies the following actions: “Action 9.1.1: Provide community education through service programs offered by the County Office of Emergency Services and training for the Community Emergency Response Team (CERT) program; and Action 9.1.3: The County should continue to support the education and awareness programs developed and distributed by public services organizations such as the Red Cross.”³¹

- *County OES and Social Services work with local Senior Centers, Lake County Family Resource Center, and Red Cross to help residents plan and prepare for emergencies. O*
- *County OES, Law Enforcement, CAL FIRE, federal agencies, Fire Chiefs, Fire Safe Councils, Red Cross, Senior Centers, and Lake County Family Resource Center conduct disaster preparedness and emergency response drills for high-risk communities countywide. S, O*
- *County OES work with Spring Valley CERT to enhance and improve services. M*
- *County OES work with high-risk communities and Target Areas to develop new or enhance existing CERT programs. M*

8.7.5. Sheltering in Place

Sheltering in Place is a controversial subject. It means that residents could not evacuate, and instead stay at home or wherever they are when a wildfire happens. This is only feasible with excellent defensible space and fire-safe construction. The liabilities associated with sheltering in place can be tremendous.

The 2004 Lake County Interface Wildland Fire Contingency Plan recognized that there may be circumstances when residents may be forced to shelter in place at their homes during a conflagration. As a general rule however, sheltering in place is not recognized by California fire agencies as a viable course of action. Firefighters working to protect structures are placed at greater risk; many have been injured in spite of having the proper protective clothing and enhanced training relative to their jobs.

Following the 2009 wildland-fire events in Australia, the FIRESCOPE³² and the Blue Ribbon Task Force³³ reviewed the shelter in place concept. This panel included local fire chiefs, the Director of CAL FIRE, and officials from federal agencies. They issued a joint statement in February 2009 that emphasized the following:

"The preeminent duty of the fire service is protection of human life. For that reason, the California fire service stands united in the position that early evacuation in the face of life-threatening wildfire is the single most important thing any homeowner can do to protect lives.

The guiding principle of California's approach remains consistent and unwavering: Prepare your property, leave early, and follow all evacuation orders."³⁴

- *County OES and Red Cross work with Fire Safe Councils, Fire Protection Districts, Law Enforcement, CAL FIRE, MNF, and BLM to develop local safety information in the event citizens are unable to evacuate. M*

³¹ HMP. 2005. p. 78.

³² www.firescope.org

³³ <http://firescope.org/blue-ribbon/blue-ribbon.htm>

³⁴ California Professional Firefighters. www.cpf.org/go/cpf/news-and-events/news/ca-fire-service-prepare-leave-early-follow-evacuation-orders/.

8.7.6. Evacuation Plans for Pets and Livestock

Lake County is a rural, agricultural community. Many residents have pets, livestock, or both. A system of evacuation sites for pets and livestock needs to be developed to address this need. Many shelters will not allow animals other than assistance or service dogs. The Red Cross and Humane Society are two good resources on this subject; see www.hsus.org/hsus_field/hsus_disaster_center/index.html for more information.

- *Lake County Fire Safe Council work with Plan Partners, Red Cross, Humane Society, 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. M*

8.8. Integrating Policy

Integrating wildfire prevention and planning into other planning efforts and policies is a cost-effective, long-term fire prevention strategy for Lake County and the cities of Lakeport and Clearlake. According to the 2005 Lake County Natural Hazard Mitigation Plan,

“The potential for wildland interface fire increases as residential and recreational developments encroach further into wildlands. Many steps can be taken to reduce this potential loss to life and property by wildfire. Enforcement of proper building fire safe codes; use of green belting (removal of vegetation around structures or replacing with fire-resistant vegetation); prescription burning control fuel load; implementation of fire safe practices, including proper road construction and adequate water systems; and perhaps more important, proper land use planning and zoning.”³⁵

The 2007 LAFCO Report³⁶ states:

“While not part of specific MSR determination for a district the principals of Fire Safe planning must be a priority in the County’s updated General Plan calling for collaboration with all local, state and federal agencies.”³⁷

At the county level, several current planning documents address wildfire issues in one form or another. These include the: 2008 General Plan, 2007 LAFCO Report, 2005 Natural Hazard Mitigation Plan (HMP), and the draft 2009 Emergency Operations Plans, including the 2004 Interface Wildland Fire Contingency Plan. The relevant sections of these documents are summarized in Chapter 5. In addition to those integrated planning actions already described in this chapter, the following is a list of policy actions that will further the goals of this CWPP and fire prevention efforts in Lake County.

- *County Community Development work with OES, Mendocino National Forest, Bureau of Land Management, CAL FIRE, APC, and other relevant partners to ensure integration between planning efforts in Lake County that could affect the county’s long-term fire safety, including at the community and Area Plan planning level. O*
- *County develop mandatory, enforceable disclosure regulations for all local real estate transactions regarding the wildfire risks and hazards identified in this CWPP. M*
- *County prioritize GP Policy LU-1.6 Paper Lot Consolidation in order to minimize WUI fire threats, especially to the communities of Nice and Lucerne. In those areas where paper lots are turned into open space, management plans shall include creation of shaded fuelbreaks along perimeters or ridges using conservation-based principles. M*

³⁵ HMP. 2005. p. 19. Emphasis added.

³⁶ Lake Local Agency Formation Commission (LAFCO). *Lake County Fire Protection Districts Municipal Service Review and Sphere of Influence*. October 19, 2007.

³⁷ LAFCO. 2007. p. 9.

- *Lake County Fire Safe Council work with Community Development and the local insurance industry to educate the industry on appropriate local defensible space practices, and provide materials for them to share with policyholders in accordance with GP Policy HS-8.6 Insurance Provisions. **S***
- *Community Development work with Lake County Fire Safe Council to develop a fire-safe landscaping document to distribute to Lake County residents, in accordance with GP Policy OSC-1.7 Encourage Planting of Native Vegetation and Policy OSC-1.8 Native Vegetation for Landscaping. **S***
- *County incorporate the fire planning concepts and actions outlined in this CWPP in its planning for Mount Konocti Public Lands. **M***

8.9. Promoting Fire Safe Education

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.

The General Plan states in Policy HS-1.4 Hazard Awareness and Public Education,

“The County shall continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, Naturally Occurring Asbestos and fire hazards, and emergency procedures.”³⁸

- *Lake County Fire Safe Council work with CAL FIRE, MNF, BLM, NRCS³⁹, County, Cities, insurance industry, and others to implement a countywide community fire-safety education program, including Public Service Announcements in all local media. **S***
- *Lake County Fire Safe Council work with federal agencies, County, Cities, and other interested partners to develop and fund a regular “Living with Wildfire” newspaper or magazine for Lake County residents. **S, O***
- *Lake County Fire Safe Council work with CAL FIRE, MNF, BLM, and tribal experts to develop and implement a countywide education program on the benefits and risks of using controlled burning/prescribed fire, including the importance of minimizing air pollution during burning. **M***

The Trinity County Fire Safe Council created a “Big Red Truck Program.” In it they take a fire truck to homes as part of a defensible space assessment. This is a very graphic and effective way to show homeowners whether or not their home could be defended in a fire by first seeing if the truck can even safely make it to and from their home. This has also served as a fundraiser for local fire departments, as they get paid for each assessment. A similar program within the various Fire Protection Districts in Lake County could be developed.

- *Lake County Fire Safe Council work with FPDs to explore a “Big Red Truck Program” for defensible space education and assessments. Research state and federal funding options for the program. **M***

8.9.1. Fire-Safety Education in 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 Lake County. The Butte County Fire Safe Council has developed a successful 6th grade curriculum (www.buttefiresafe.org/education.php). 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.

- *Lake County Fire Safe Council work with agencies and school districts to implement fire-safety curricula in all grade levels throughout the county, in conjunction with community educational projects. **M***
- *Lake County Fire Safe Council work with 4-H chapters to develop local fire-safety educational programs. **S***

³⁸ Lake County General Plan (GP). 2008. p. 7–4.

³⁹ USDA Natural Resources Conservation Service

- *Lake County Fire Safe Council work with Chamber of Commerce and local industries to fund and develop a service-learning program in local high schools focused on fire safety and defensible space. M*

8.9.2. Fire-Safety Education for New Residents and Tourists

Lake 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 Lake County, many from urban areas. These new inhabitants often do not have experience with fire in the wildland-urban interface. Educational programs are needed targeting the tourism, development, and real estate industries, as well as their clients.

- *Lake County Fire Safe Council, CAL FIRE, MNF, BLM, Fire Chiefs, and local governments develop fire-safety educational programs for real estate and development industries. M*
- *Lake County Fire Safe Council, County Visitor Information Center, CAL FIRE, MNF, BLM, Fire Chiefs, Chamber of Commerce, and local governments develop fire-safety educational programs for local tourism industries. S*
- *Lake County Fire Safe Council, CAL FIRE, MNF, BLM, Fire Chiefs, County Community Development, and local governments target fire-safety educational efforts to new residents, especially those coming from urban areas and others with little experience with fire in the wildland-urban interface. M*
- *Fire Safe Councils work with Senior Centers to develop a welcome-neighbor program—offering a welcome basket with fire-safety information for new residents. S*

8.10. Utilizing Excess Fuels

Under preferable conditions, fuels removed from hazardous areas can be utilized in some form to help defray fuel-reduction costs. Lake County no longer has an intact timber industry; therefore there is very limited capacity for utilization of small-diameter wood products (e.g. creating finished products such as furniture). Nor is there a local biomass facility. However, research into biomass is occurring in many neighboring counties. Local economic development efforts should include these possibilities in their focus areas. Research and development into this field will likely be beneficial for the long-term sustainability of fuel-reduction efforts.

Lake County Public Services runs a Green Waste program. Residents using curbside waste collection can request a special container and leave green waste at no extra cost. Furthering this program to be available to low-income families—those who often do not participate in curbside waste collection—will help successfully implement defensible space.

The Resource Conservation District/Lake County Fire Safe Council’s community chipper program will also be generating significant quantities of wood chips, much of which can be utilized within the county.

- *Local economic development interests, Resource Conservation Districts, and Lake County Fire Safe Council explore options for utilization of materials generated from hazardous fuel-reduction efforts, including those collected through the County Green Waste program. L*
- *Lake County Fire Safe Council and Resource Conservation Districts work with landscaping community to utilize materials generated from the chipping and Green Waste programs, potentially as a funding source for these programs. M*
- *County and Cities Public Services work with Social Services to develop a voucher program to utilize Green Waste collection for low-income residents who are not already participating in refuse pickup service. S*
- *County and Cities Public Services work with Social Services to develop volunteer green waste pickup program for low-income, senior, and disabled residents who are unable to use other programs. S*
- *Fire Safe Councils work with local governments and LCAQMD to develop Green Waste collection days. S*
- *Lake County Fire Safe Council, MNF, and BLM investigate biomass options in neighboring counties for utilization of fuels from Lake County fuel-reduction efforts. M*

8.11. Facilitating Lake County Fire Safety in the Long Term

The existence of both the Lake County Fire Safe Council (LCFSC) and South Lake Fire Safe Council (SLFSC) is a critical component to improving fire safety in Lake County. Through their collaborative processes, many varied partners have come to the table to implement fuel reduction and fire-safety projects in the county. Hence, ongoing support for and participation in these Fire Safe Councils is fundamental for their development and continuing success.

- *Public and private sector organizations, agencies, and individuals work with LCFSC and SLFSC to develop ongoing financial and in-kind support for FSC activities and development. O*
- *Lake County Board of Supervisors appoint county representatives to actively and regularly participate in the Lake County Fire Safe Council. These appointees could represent Community Development, Emergency Services, the Planning Commission, Social Services, Public Works, and/or the Board of Supervisors. S, ★*
- *All local, state, and federal public and private land management agencies appoint a representative to actively and regularly participate in the Lake County Fire Safe Council. S, ★*
- *Public and private sector organizations, agencies, and individuals (including County, RAC⁴⁰, MNF, BLM, and CAL FIRE) facilitate long-term funding to maintain a staff coordinator position at LCFSC. O*
- *Lake County FSC work with members and local, state, and federal partners to develop a strategic plan for the FSC to identify a successful long-term management structure and funding sources. S*

As described in Chapter 9, project and plan monitoring is an integral element to the long-term success of this plan. Monitoring strategies need to be developed early on to ensure useful data collection.

- *Lake County and South Lake FSCs work with MNF, BLM, RCDs, NRCS, and others to develop a long-term ecological monitoring program to track the effects of project activities on ecological processes and functions. M*
- *Lake County FSC work with Plan Partners to develop and implement a Strategic Planning Matrix to track project implementation. S, O, ★*

Finally, no plan is ever permanent. This plan was written in 2009 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. This can be done as an Appendix to this document. Additionally, acquiring and updating countywide data at a local scale will ease in readability and use of GIS data and maps.

- *Lake County FSC, County, Cities, Fire Chiefs, and all plan signatories review the Lake County CWPP at least every five years and update it as needed, using a collaborative public process. M*

⁴⁰ Mendocino National Forest Resource Advisory Council

Figure 8-1. Lake County Fuel-Reduction Priorities⁴¹

Community, Structure, or Area at Risk	Overall Risk	Project Area/Description	Treatment	Agency/ Land-owner	Priority 1⁴², 2, 3
All		Ongoing Fuelbreak Maintenance	Maintenance		1-2-3
All		Ongoing Prescribed Burning in MNF	Control Burn	USFS	1-2-3
Anderson Springs	High	Anderson Valley Road	Shaded Fuelbreak	Private	1
Anderson Springs	High	BLM Lands around The Geysers, CAL FIRE VMP ⁴³	Control Burn	BLM	1
Blue Lakes	Med-High	Ridgeline Fuelbreak from Blue Lakes to Highway 20 E	Shaded/Fuelbreak	Private, BLM	1
Buckingham	Med	Soda Bay Road (Black Forest)	Shaded Fuelbreak	Private	1
Clear Lake Riviera	High	Fuelbreak around Development, into and around Community Growth Boundary	Fuel Reduction, Shaded Fuelbreak	Private	1
Clearlake	Med-High	Chapman Tract	Fuel Reduction and Defensible Space	Private	1
Clearlake Oaks	High-Med	Cerrito and Alta Vista Drives Clearance; Opening of Evacuation Site at Top-water tank	Clearance, Shaded Fuelbreak	Private	1
Clearlake Oaks	High-Med	Widgeon Way, Lakeview, Konocti Roads	Clearance	Private	1
Cobb	High	Whispering Pines Fuel Reduction and Defensible Space	Shaded Fuelbreak with Defensible Space Assistance	Private	1
Cobb	High	Bottle Rock Road	Shaded Fuelbreak, VMP	Private	1
Cobb	High	Highway 175 Evacuation, Roadside Fuelbreak	Shaded Fuelbreak	Private	1
Double Eagle	High	Double Eagle Road and Spurs	Roadside Clearance Above and Below	Private	1
Harbin Hot Springs and Neighboring Springs	High	Brush Clearing on Harbin Springs Road	Brush Clearing	Private	1
Harbin Hot Springs and Neighboring Springs	High	Defensible Space and Fuel Reduction in the Various Hot Springs Resorts in the Area	Defensible Space and Fuel Reduction	Private	1
Hidden Valley	High-Med	Hidden Valley Fuel Break, Phase 1	Fuelbreak /Defensible Space	Private	1

⁴¹ Priorities are approximately considered as 1: 0-5 years, 2: 6-10 years, 3: 11+ years.

⁴² Existing projects that are deemed important are also listed as short-term priorities if they will be ongoing for several years.

⁴³ VMP: Vegetation Management Program of CAL FIRE

Community, Structure, or Area at Risk	Overall Risk	Project Area/Description	Treatment	Agency/ Land-owner	Priority 1⁴², 2, 3
Hidden Valley and Coyote Valley	High-Med	West of Yankee Valley Road and Honey Hills Drive	Fuelbreak and/or Control Burn	Private	1
Kelseyville Interface	Med	Highway 29 to Lower Lake, Where Fuels are Dense	Shaded Fuelbreak	Caltrans, Private	1
Kelseyville, Soda Bay, Buckingham, Riviera Heights, Riviera West, Clear Lake Riviera, Point Lakeview	High to Med	Soda Bay Road	Shaded/Fuelbreak	Mixed	1
Lake Pillsbury	High	Lake Pillsbury Ranch Road	Fuel Reduction	USFS	1
Lake Pillsbury, Upper Lake	High to Med	Elk Mountain Road	Fuelbreak	USFS	1
Loch Lomond	High	Loch Lomond Road	Shaded Fuelbreak	Private	1
Lower Lake, Cobb Mountain, Rivas, Kelseyville	High to Med	Highway 175	Shaded/Fuelbreak	Caltrans, Private	1
Lucerne	High-Med	Fuel Reduction on Paper Subdivisions off of Ogden Road, South of Town	Fuel Reduction	Private, County	1
Lucerne	High-Med	High Valley Road Shaded Fuelbreak	Shaded Fuelbreak	USFS	1
Morgan Valley	Med-High	Rocky Creek Road	Fuel Reduction, Shaded Fuelbreak	Private	1
Nice	High-Med	Fuel Reduction on Paper Subdivisions Northwest of Town (between/around Sherman to Pyle Road)	Fuel Reduction	Private, County	1
Nice, Lucerne, Upper Lake	High to Med	Hogback Ridge Shaded Fuelbreak	Shaded Fuelbreak	Private, BLM	1
Point Lakeview	High	Point Lakeview Road	Shaded/Fuelbreak	Private	1
Point Lakeview	High	Anderson to Panorama to Sunrise Road	Shaded/Fuelbreak	Private	1
Riviera Heights	High-Med	Fuelbreak between Development and Soda Bay	Fuel Reduction, Shaded Fuelbreak	Private	1
Riviera West	High-Med	Fuelbreak around Development	Fuel Reduction, Shaded Fuelbreak	Private	1
Scotts Valley	Med-High	Continue Control Burn Program for Westside Scotts Valley	Control Burn	BLM, Private	1

Community, Structure, or Area at Risk	Overall Risk	Project Area/Description	Treatment	Agency/ Land-owner	Priority 1⁴², 2, 3
Scotts Valley	Med-High	Hendricks Road	Brushing/Road Clearance	County Road, Private	1
Scotts Valley	Med-High	Cow Mountain Fuelbreak	Maintenance	BLM, Private	1
Spring Valley	High	Wolf Ridge and Quartz Canyon	Control Burn	BLM	1
Upper Lake	Med	Fuelbreak East Side of Rancheria		Private, Tribal	1
Upper Lake	Med	Pitney Ridge (East of Upper Lake)	Shaded/Fuelbreak	USFS, Private	1
Upper Lake, Nice, Lucerne, Glenhaven, Clearlake Oaks	High-Med to Med	High Glade Lookout to High Valley	Fuelbreak	USFS, Private	1
Glenhaven	High-Med	Glenhaven Drive and Leila Drive	Clearance, Shaded Fuelbreak	Private	2
Blue Lakes	Med	Control Burn North of Blue Lakes	Control Burn	Private, BLM	2
Buckingham	Med	Little Borax Lake Road	Fuel Reduction, Shaded Fuelbreak	Private	2
Clear Lake Riviera	High	Wheeler Point	Fuel Reduction	Private	2
Clearlake	Med-High	Highway 53, Evacuation Route	Fuel Reduction, Shaded Fuelbreak	Private, County	2
Clearlake	Med-High	Clearlake Park	Fuel Reduction and Defensible Space	Private	2
Clearlake	Med-High	Sulfur Bank/Borax Lake	Fuel Reduction	Private	2
Clearlake Oaks, Glenhaven	High-Med	Hazardous Fuel Reduction in Hills behind Towns	Fuel Reduction	Private	2
Cobb	High	Westside 175 and Bottle Rock Area	Shaded Fuelbreak, Fuel Reduction	Private	2
Cobb	High	Gifford Springs Fuel Reduction and Defensible Space	Shaded Fuelbreak with Defensible Space Assistance	Private	2
Cobb	High	Pine Grove, Hobergs, and Other Populated Areas Not Yet Treated	Fuel Reduction	Private	2
Double Eagle	High	Walker Ridge	Fuelbreak	BLM, Private	2
Glenhaven	High-Med	Harvey Drive	Clearance, Shaded Fuelbreak	Private	2
Harbin Hot Springs and Neighboring Springs	High	Fuelbreak and Improved Access along Ridge Road Northwest of Harbin Springs Road	Shaded/Fuelbreak	Private	2

Community, Structure, or Area at Risk	Overall Risk	Project Area/Description	Treatment	Agency/ Land-owner	Priority 1⁴², 2, 3
Hidden Valley	High-Med	Hidden Valley Fuel Break, Phase 2	Fuelbreak/Defensible Space	Private	2
Hidden Valley and Coyote Valley	High-Med	Spruce Grove Road	Shaded Fuelbreak	Private	2
Hilderbrand District	High-Med	29 Fire Fuels Clearance	Fuel Reduction	Private	2
Jerusalem Valley	Med	Jerusalem Grade Road	Shaded/Fuelbreak, Clearance	Private	2
Kelseyville Interface	Med	Upper Kelsey Creek along Roads	Shaded Fuelbreak	Private	2
Kelseyville Interface	Med	Highland Springs Recreational Area, Highland Springs Road	Shaded Fuelbreak	County, Private	2
Kelseyville Interface	Med	Mount Konocti	Fuel Hazard Reduction	County, BLM, Private	2
Kelseyville Interface	Med	Adobe Creek, Fuel Reduction along Roads and Adjacent to Defensible Space Areas	Wildland Fuel Hazard Reduction, Shaded Fuelbreaks	Private	2
Lake Pillsbury	High	Rice Fork Fuel Reduction, South of Scott Dam	Fuel Reduction	Private, USFS	2
Lake Pillsbury	High	Northeast of Lake Pillsbury Ranch	Control Burn	USFS	2
Lakeport	High	Brewery Hill	Fuel Reduction, Defensible Space	Private	2
Lakeport	High	North Lakeport Fuelbreak and Defensible Space	Shaded/Fuelbreak, Defensible Space	Private	2
Loch Lomond	High	Cooper and Water Company Lands	Shaded Fuelbreak	Private, Water Co.	2
Loch Lomond	High	Parady Property	Control Burn	Private	2
Loch Lomond	High	Bonanza Springs	Shaded Fuelbreak	Private	2
Loch Lomond	High	Siegler Springs North	Shaded Fuelbreak	Private	2
Loch Lomond	High	Siegler Canyon	Shaded Fuelbreak	Private	2
Loch Lomond	High	Shenandoah Road	Shaded Fuelbreak	Private	2
Long Valley, New Long Valley	High	Garner Ranch Road	Shaded Fuelbreak, Clearance, Road Repair	Private, USFS	2
Lower Lake, Morgan Valley	Med-High to Med	Ridge Southwest of Dry Creek	Shaded Fuelbreak, Control Burn	BLM, Private	2
Lucerne	High-Med	Fuel Reduction on Hillside behind Town, between Bartlett Springs and High Valley	Fuel Reduction and Eventual Control Burn	USFS, Private	2

Community, Structure, or Area at Risk	Overall Risk	Project Area/Description	Treatment	Agency/ Land-owner	Priority 1⁴², 2, 3
Lucerne	High-Med	Fuel Reduction on Paper Subdivisions off of Bartlett Springs and Foothill Drive, North of Town	Fuel Reduction	Private	2
Lucerne	High-Med	Fuel Reduction in North Side Canyon behind Rancho Vista	Fuel Reduction	Private	2
Middletown	Low	Dry Creek Road	Brush Clearing	Private	2
Middletown	Low	Middletown Rancheria	Brush Clearing, Control Burn	Tribal	2
Riviera Heights	High-Med	Fuelbreak around Development	Fuel Reduction, Shaded Fuelbreak	Private	2
Riviera West	High-Med	BLM Buckingham Bluff Properties between Riviera West, Buckingham, and Riviera Heights, Fuel Reduction with Control Burn Where Possible	Hazardous Fuel Reduction, Control Burn	BLM	2
Scotts Valley	Med-High	Cow Mountain Fuelbreak Expansion	Fuelbreak	BLM, Private	2
Scotts Valley	Med-High	Upper Scotts Creek Watershed	Control Burn Mosaic	BLM, Private	2
Twin Lakes	Med	Twin Lakes Defensible Space and Neighborhood Fuel Reduction	Defensible Space, Fuel Reduction	Private	2
Twin Lakes	Med	Murphy Springs/Perini Hill – Organize Neighborhood through LCFSC	Fuel Reduction and Defensible Space	Private	2
Guenoc Ranch		Northwest of Proposed Development, between McCreary Lake and Coast Guard	Shaded/Fuelbreak	Private	3
Finley	Low	Ecologically Appropriate Tule Fuel Reduction	Fuel Reduction	Private	3
Harbin Hot Springs and Neighboring Springs	High	Shaded Fuelbreak North of Harbin	Shaded Fuelbreak	Private	3
Kono Tayee	Med	Bruner Road	Shaded Fuelbreak	Private	3
Lower Lake, Morgan Valley	Med-High to Med	Ridge between Herndon Creek, Ferris Canyon, and Cache Creek	Shaded Fuelbreak	Private	3

Map 8-1. Lake County Wildland-Urban Interface Designation

Map 8-2. Lake County Evacuation Routes and Sites