

BIG BEAR VALLEY COMMUNITY WILDFIRE PROTECTION PLAN

ADDENDUM “A SYSTEMS APPROACH” OCTOBER, 2010

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SECTION 1.0 INTRODUCTION

Since the Big Bear Valley Community Wildfire Protection Plan (BBVCWPP) was written in 2005 and adopted in 2006, various action items have been accomplished and various wildfire prevention strategies have been implemented. Furthermore, many of the projects identified by the USFS have been completed or are in process of being completed. Therefore, there is a need to update the fuels reduction projects and identify locations where water distribution systems upgrades that are necessary to meet fire flow requirements. Furthermore, there is a need to address other structure ignitability prevention measures that are necessary to consider implementing over the next ten years. These prevention measures include discussion of vegetation in the immediate landscape area, utility power pole protection measures, the installation of non-ember intrusion vents, wood fences, skylights, and out buildings. This Addendum will also update the most recent fire history data on the number of fires over 300 acres, the total acres burnt and the average acreage burnt per fire burn within the Wildland Urban Interface (WUI) boundary of the Big Bear Valley. In addition, it will provide a Fire History Map of all the fires over three hundred acreages within the San Bernardino National Forest.

Overall, the progress made since 2005 has been extremely vital to the potential success of protecting the communities within the Big Bear Valley from a wildfire. There has been a well coordinated effort between various local, state, and federal agencies.

Since the adoption of the Big Bear Valley Community Wildfire Protection Plan, four fires of significant size have occurred within the boundary of the Big Bear Valley WUI. They are the Arrastre Creek, Butler I, Butler II, and the Slide Fires. The Arrastre and Butler I Fires were started by lightning; the Butler II and Slide Fires were ignited during high wind events blowing flying embers out of the controlled lines of the Butler I, igniting the Butler II Fire and ultimately creating the Slide Fire.

The total acreage of the Butler II Fire was 14,039. It burned with high intensity and was a type conversion stand replacement fire. It forced the evacuation of 1,200 people. Firefighting costs were \$6,000,000.

The Slide Fire burned 12,789 acres, 201 homes, 3 out-buildings with \$8 million in firefighting costs. This fire received the federal declaration for disaster relief.

In 2007 in another part of the state, the Angora Fire in South Lake Tahoe occurred. It burned 3,100 acres, destroyed 242 residences and 67 commercial structures, and damaged 35 other homes.

Table 5.0 indicates that even though the total number of large fires over 300 acres have not occurred, the average number of acres burned per fire over 300 acres has increased. The size has nearly quadrupled the average size fire since the 1960s. This should not be alarming. This is consistent with the finding by Agee and Skinner in their 2005 report that stated, “The exclusion of fire in the 20th century has created severe fire problems across the West. . . . that drier forest, i.e., the San Bernardino National Forest, which is characterized as a dry forest with cyclical drought conditions is seeing [uncharacteristically severe wildfires.]” The report goes on to say that these types of forests need active fuels management treatment to mitigate the fire hazard that has been allowed to exist without active fuels treatment.

Table 5.0 – Big Bear Valley (WUI) Fire History from 1900 to 2010

Decade	Number of Fires	Total Acres	Mean Acres/Fire
1900-1919	13	1,586	122
1920-1939	2	1,463	732
1940-1959	13	18,181	1,399
1960-1979	21	60,105	2,862
1980-1999	23	78,625	3,418
2000-2010	4	28,222	7,055

Today, it has been stated that there is between 50 to 120 tons of dead burnable fuels per acre in the San Bernardino National Forest. Active fuels management lends itself to conducting prescribed burns and fuels treatment, which includes mastication, the removing of dead burnable trees, and smaller dense trees within 20 to 30 feet of larger more dominant trees. The ultimate goal should be to reduce the current condition class.

The portion of the national forest that is within 1.5 miles of the boundaries of the communities of the Big Bear Valley is susceptible to a significant devastation from a wildfire without a fuels treatment within the bowl area of the Big Bear Valley. This must be a top priority of the USFS.

What has been evident from the recent fires is intense burning. This intense burning that results from the fuel load increases tree and shrub mortality during a wildfire, eliminates habit for protected species and denudes protected plants species, which ultimately leads to deforestation and stand replacement fires rather than low intensity burning fires that tends to have less tree and shrub mortality.

Yet, how does one balance the need to allow cost effective treatment of the National Forest that improves biodiversity and promotes the recovery of threatened and endangered species of plants,

while at the same time improves the fire protection for structures that exist in the inner mix on private properties. The answer may be that a combination of protective measures is necessary. This addendum addresses the additional fire protection measures to protect the communities of the Big Bear Valley while balancing biodiversity of protected plants within the Big Bear Valley. No single approach is adequate to protect a community. A multi-faceted systems approach to fuel reduction is needed to protect a community. Remember the old saying, “Never put all your eggs in one basket” is a truism in the arena of wildfire protection. What is needed is the implementation of a systems approach to protect a community.

Some of these critical measures that require implementation are on public lands, meaning the San Bernardino National Forest lands. These types of projects include creating shaded fuel breaks at the top of ridgelines and next to communities. This type of fuels treatment should include conducting low intensity burning of ground fuels for the purpose of eliminating burnable ground fuels and the elimination of perpetual saplings as well as conducting mastication of plant material in strategic places, including those areas close to structures. While on the private side, successful protection of structures must include the removal of certain shrubs, the elimination of smaller diameter trees, and the removal of pine needles and leaves greater than 2 inches in height.

SECTION 2.0 FUELS TREATMENT CONTROVERSY

On July 9, 2007, Randle O’Toole wrote in the [*American Spectator*](#), “Treating fuels won't stop fires.” Treated fuels in our national forests can make a difference in fire behavior to the point that if fuels treatment is conducted, it can modify the behavior of the fire to the extent necessary to potentially extinguish or control it. Fuels treatment can be done for a few reasons. First, it could be for healthy forest reasons, or for protecting communities, and for environmental concerns. Effective fuels treat for wildfire protection of communities is predicated on three factors: (a) the extent of the treatment; (b) the capability and knowledge of how fire professionals use the treatment area to their benefit during a wildfire; and (c) the long term maintenance of the treated area.

In the Angora Fire in South Lake Tahoe in 2007 that was reported to have started in a treated area, about half the acres burned were recently treated. The level of treatment was completed to the level of a typical shaded fuel break designed to protect the community. A fuel break is a strip or block of land on which the native vegetation has been permanently reduced and/or modified so that fires burning around it can be more readily and safely controlled. Fuels within fuel breaks are reduced in volume through thinning or pruning or are changed to vegetative types that burn with a lower intensity and offer less resistance to fire control efforts. The goals of a shaded fuel break is to control fire behavior by reducing ladder fuels, open up the canopy by increasing tree spacing which inhibits a crown fire, and treating ground fuels to facilitate fire suppression either

by ground and/or air attack. The typical standard is a width of 400 to 600 feet wide with shrubs mulched, trees limbed up 6 to 8 feet in height, and crown spacing of 20 to 30 feet apart.

Randle O’Toole said, “When it is hot and dry enough, forests will burn no matter how much fuels have been treated.” Although the statement by Mr. O’Toole in most cases will occur, the question is will it burn but at what level of intensity will it burn? Will it be a crown fire or ground fire? By addressing treatment of fuels the intensity and the rate of spread can be altered.

SECTION 3.0 FUELS TREATMENT SUCCESSES

The San Bernardino County Mountain Area Safety Taskforce (MAST) was organized to address the bark beetle infestation and to promote and implement fire prevention and forest treatment in and around mountain communities and in sensitive infrastructure facilities within the San Bernardino National forest. During the Grass Valley Fire these fuels treatments have seen success in modifying fire behavior in fuels treatment. These open area treatments were effective at actually stopping the progression of the fire during the Grass Valley Fire in 2007.

Another example: from the recent fires that threatened Flagstaff, Arizona, Mayor Carroll said health care, public works, and economic development all hinge on protecting the forests and sacred lands in their communities.

In June of 2011, Flagstaff faced two fires. Mayor Presler stated *“the fire that burned in a treated area within city limits did little damage. The fire that raged on the outskirts of town in an untreated area did more than \$10 million in damage just to the city water line.”*

Another example of this beneficial effect occurred during the Galion Fire in August of 2007. It is another example of the benefits of conducting shaded fuels treatment around the community and here is what was said in an article posted *October 10, 2007 by Andrew Madsen:*

“The running crown fire slammed into the fuel break and reduced intensity as it became a ground fire. The ground fire continued through the fuel break and into the subdivision. Several structures were destroyed or damaged, but most remained free of damage. Those homeowners who had prepared ahead of time suffered little or no damage to their homes or outbuildings.”

This example supports the need for the development of various shaded fuel breaks and supports the need to conduct general thinning of the forests within 1.5 miles of communities.

The ember production that is produced as result of the quantity of dead burnable material is a significant factor to consider reducing in order to protect the communities of the Big Bear Valley? The effect of allowing the accumulation of dead burnable trees and or shrubs in the

national forest can produce an increase in ember production. In the Butler II and Slide Fires, high winds carried embers outside the controlled lines. The Big Bear Valley is susceptible to high winds as well. The same devastation that occurred in the Slide and Butler II Fires can be expected unless fuels treatment, eliminating the fuel load, in and around the Big Bear Valley occurs. That is why this plan identifies many fuels treatment projects within the Big Bear Valley Wildland Urban Interface. Just as important Fire Officials have found it necessary to eliminate various vegetation within the immediate landscape area.

In fact, this was what didn't occur at the Angora Fire. Accordingly, in a 2007 review after the Angora Fire, the blue ribbon commission found that up to half of South Tahoe homes had flammable roofs and up to 89 percent were surrounded by flammable vegetation. In the same article, Mr. O'Toole went on to state that "Some South Tahoe landowners blamed local planning restrictions against tree removal, but one individual that violated those rules said his house survived while his neighbor's did not." This author toured the devastation of the Angora Fire before reports were written. His findings, after evaluating the Angora Fire, noticed that it was evident that the presence of trees and other pyrophytic plants within the immediate landscape area was a significant factor of structural loss and significantly contributed to the degree of burn. Yet, fire investigators found that there were other factors involved. The other factors were that "most of the structures caught fire from 'firebrands' -- pieces of burning wood -- carried in the smoke column either from neighboring structures or from nearby burning vegetation. The investigators found that some homes had highly flammable wooden shake roofs and inadequate fire clearance around the structures. In many cases, winter firewood and kindling supplies were piled too close to homes." There was no mention that the density or close proximity of structure to structure caused home to home ignition like that found as a factor during the Grass Valley Fire in Lake Arrowhead in 2007.

SECTION 4.0 RIPARIAN AREAS

Another key factor that was found to be a contributing cause of fire spread during the Angora



Figure 1. Tree Mortality of riparian areas after the Angora Fire in Lake Tahoe in 2007.

Fire was the non-treated riparian areas that contained dead burnable material that spread the fire. Native riparian vegetation in "stream environment zones" (such as the Angora Creek) in the Lake Tahoe region were protected as sensitive resources and removal of vegetation from these areas were typically restricted by the Tahoe Regional Planning Agency to protect damage to soils, habitat, and water quality. During the Angora fire the untreated riparian

areas burned with such intensity that damage to soils, habitat, and water quality was significantly altered. There was a loss of wildlife habitat, increased erosion, and diminished water quality due to ash production. Researchers should potentially study the effects of conducting light treatment of riparian areas to a point that these areas can maintain their fire resistivity.

SECTION 5.0 VEGETATION IN THE IMMEDIATE LANDSCAPE AREA

Fuels treatment in the San Bernardino National Forest are not the only projects to be completed. Private property owners need to complete treatment as well. On July 9, 2007, Jack Cohen of the USFS stated in the [*American Spectator*](#), “The best way to protect homes is to treat the private land directly around the homes, not remote public lands.” Jack Cohen has found that homes catch fire if they have flammable roofs or they are exposed to the radiant heat of trees and shrubs burning near the home.

Fire researchers determined that 89% of homes that burned during the Angora Fire were surrounded by hazardous flammable vegetation. U.S. Forest Service fire researcher Jack Cohen stated, “Homes catch fire if exposed to the radiant heat of trees and shrubs burning near the home.” Therefore, it is important to remove hazardous flammable plants around the home.

Both San Bernardino County and the City of Big Bear Lake has passed ordinances that define what constitutes “hazardous flammable vegetation.” Furthermore, these ordinances require the removal of hazardous flammable vegetation within 15 feet of any structure. Certain shrubs, i.e., juniper shrubs, have the greatest ability to ignite around structures. The list of hazardous flammable plants (see pictures below) includes juniper shrubs, Spanish/scotch broom, serviceberry, Manzanita, mountain whitethorn, etc. These plants have the highest potential to contribute to the damage of structures.



Mountain Whitethorn



Green leaf Manzanita



Sage



Mountain Mahogany



Spanish Broom

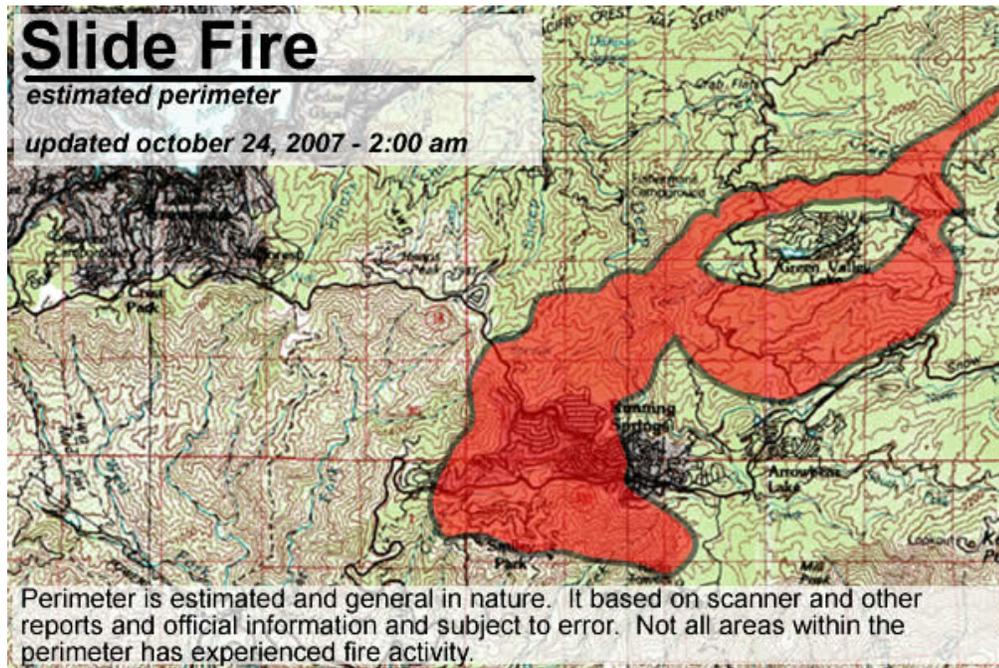


Serviceberry



Juniper

Combining both fuels modification of the San Bernardino National Forest within proximity to the communities and the removal of hazardous flammable plants within the immediate landscape area are necessary strategies to have in order to help prevent structural damage in a wildfire.



SECTION 6.0 UTILITY POWER POLES

Power poles and power lines have a tendency to burn when exposed to a wildfire. The Southern California Edison Company reported that during the 2007 Grass Valley Fire in the San Bernardino County, 247 power poles were lost as a result of these wildfires. This creates ingress/egress problems for firefighting equipment and personnel. If access is not available to perform active firefighting duties and conduct the suppression of fire, a torching of home-to-home ignition can have a tendency to occur.

There are two factors that contribute to wood power pole failures during a wildfire. They are the proximity of the vegetation to the power poles and the material that power poles are made of (wood with creosote). Yet, little research has been done by the electrical companies to address or enhance the survivability of power poles during a wildfire.

Structures that are at higher risk are homes which are served by wooden utility poles on long dead end roads with one point of ingress and/or egress. At any point along the road if a power pole fails, ingress/egress can be hampered.

Utility companies should implement strategies that will aid in the preservation of power poles during a wildfire. One of these strategies includes implementing vegetation clearance requirements. Utility companies must meet the clearance requirements as outlined in the PRC 4292 for power poles. Yet, many times this goes unnoticed. CALFIRE and PG&E partnered to

create a utility company pocket guide to illustrate what fire prevention measures are necessary for enforcement around power poles. These requirements include:

- **Radial Clearance (Ground Level):** measure 10 feet out from the pole and clear all flammable material in a circle from the ground up to a height of 8 feet.
- **Vertical Clearance (0-8 feet):** remove all brush, limbs, and foliage of living vegetation within 10 feet of the pole and up 8 feet from the ground.
- **Eight Feet up to the High Voltage Lines:** remove any dead, diseased or dying limbs within 10 feet of the pole under the power lines.

SECTION 7.0 OTHER POSSIBLE STRATEGIES

A strategy to protect power poles might be for utility companies to consider securing type four engines with gel units. Gel could be applied to the surface of power poles ahead of the fire. Another option would be to implement a wood power pole replacement program with non-combustible power poles or consideration of placing utility lines underground.

In any event, having the utility companies take responsibility for maintaining and preserving their own equipment during a wildfire event can be critical to the safety and security of the community and to firefighters.

SECTION 8.0 NON-EMBER INTRUSION VENTS

One of the significant causes of home destruction during a wildfire comes as a result of direct flame impingement entering the home through vent openings and/or flying embers that can penetrate through vent openings, igniting material in the interior of the houses. Fire officials have modified their codes to reflect smaller screen sizes. Typically, screen opening size was reduced from 1/4 inch vents to 1/8 inch, primarily because no other technology was available.

Today, various companies manufacture vents that do not allow the penetration of flame or fire brands.

These vents are tested and approved by the State Fire Marshal's Office and show high promise as a future tool.



The difficulty that fire officials will have is determining how to politically require retrofitting existing structures. Options available to fire officials would be to pass ordinances to require the

retrofit of these vents by a date certain in the future. Fire officials could conduct annual inspections of structures and require the installation of vents. Another strategy might be to require retrofitting of non-ember intrusion vents when there is a ministerial or administrative permit issued to modification a structure with a value of \$2,000.00 to \$3,000.00 or greater.

SECTION 9.0 FENCES

The typical wood fence poses a problem for structures within a hazardous fire area. More often, structures are constructed with wood fences that abut each other. Wood fences then become a ladder fuel, and flames can directly impact a structure. Fences typically burn as a result of having dead, burnable material, i.e., pine needles, leaves, tumble weeds, and/or fire brands accumulation around the base of the wood fence. If this dead, burnable material is eliminated and/or if it is grass or bare mineral soil that communicates with the fence, there appears to be minimal ignition potential. One study, conducted in Australia in 2005, tested twenty three different fire experiments on treated pine, hardwood, and steel fences using four different ignition scenarios, i.e., ember attack, flame attack, radiant heat, and leaf litter. Solid fencing using hardwood or steel fencing material seemed to be effective at stopping the transfer of both fire and radiant heat. Yet, there is always a chance that the potential for fire brands igniting with the accumulation of combustible material may occur, i.e., leaf litter and pine needles around the base of the fence.



There appears to be a debate as to how far away from a structure wood fences should be replaced with non-combustible fencing material in order for a house to become safe. Most wood fences are made of cedar, which is not considered a hardwood. Cedar planks stand vertically with horizontal bracing supports attached to posts. In 2006, a study was conducted that tested the effect that fire brand have with slatted wood and vinyl fencing. Using a B and A size fire brand, the test fire did not support the continuation

of the fire once the A and B fire brand burned out. The Firewise/USA organization suggests the removal of wood fencing material within 5 feet of a structure. Insurance companies are now requiring 15 feet? Fifteen feet is impractical to meet in all cases,



especially when building code setback requirements of between 3 and 5 feet exist.

The flame length of wood fences needs to be studied to develop a standard that could be systematically implemented for communities that exist within a hazardous fire environment. As various photos indicate, the elimination of wood fences within a designated distance that is undefined at this point should absolutely occur.

The difficulty for fire officials will be how to strategically implement the removal of wood fences in the home ignition zone.

SECTION 10.0 SKYLIGHTS



Skylights are another issue that needs to be addressed, specifically plastic skylights. Plastic skylights can melt with radiant heat and/or direct flame impingement. Also, the accumulation of fire brands can and have melted skylights resulting in an opening that allows significant accumulation of fire brands to enter the structure. Once inside, the contents ignite and the structure burns from the inside out.

SECTION 11.0 OUT BUILDINGS

Out buildings are those structures that can be characterized as sheds, storage facilities, etc. The out buildings are often times located within 30 feet of a home or a neighbor's home. Many times, the out buildings are neglected with forest floor fuels that have been left to accumulate without care by the property owners.

Often times, out buildings are placed next to wooden fences that act as ladder fuel to homes, outbuildings, etc. Policymakers must think of strategies that could be implemented to change the location and the maintenance condition of out buildings when they are within 30 feet of any structure and within 10 feet of any wood fence.

Table 6.5 CWPP PROJECTS MATRIX
October 2010

	<i>Responsible Party</i>	<i>Acres Under Analysis</i>	<i>Thinning</i>	<i>Brushing</i>	<i>Agency Involvement</i>	<i>Proposed Timelines*</i>	<i>Estimated Cost</i>	<i>Management Unit Name</i>	<i>Project Status</i>
Project Description		ACRES							
Barton Flats	USFS	3947				2005	TBD		Ongoing and continuous
BB Healthy Forest Treatment #1	USFS	492				2005	TBD		South Big Bear fuels treatment projected 2010
BB Healthy Forest Treatment #2	USFS	670				2005	TBD		
BB Healthy Forest Treatment #3	USFS	3037				2005	TBD		
BB Interface	USFS	780				2005	TBD		Completed 2007
BB Skyline 1	USFS	534				2005	TBD		Completed 2007
BB Skyline 2	USFS	86				2005	TBD		Completed 2008
BB Tract South	USFS	66				2005	TBD		Completed 2008
BB Tract Center	USFS	104				2005	TBD		Completed 2008
BB Tract North	USFS	91				2005	TBD		Completed 2008
Bear Mountain	USFS	917				2005	TBD		Ongoing
Fawnskin NW	USFS	927				2006	TBD		Planning 2010
Glory Ridge Fuels Reduction	USFS	998				2005	TBD		No Planning
Lakeview West	USFS	122				2005	TBD		Completed 2008
Lakeview East	USFS	50				2005	TBD		Completed 2008
Metcalf	USFS	183				2005	TBD		Completed 2008
Pine Knot	USFS	34				2005	TBD		
Snow Summit	USFS	611				2005	TBD		Ongoing
Willow Glen	USFS	16				2006	TBD		Planning Phase

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Bertha Ridge	USFS	3333				2006	TBD		Planning Phase
Children's Forest	USFS	197				2006	TBD		Planning Phase
Lake Erwin & Lake Williams	USFS	2764				2006	TBD		NEPA Review
Nelson Ridge & Baldwin Lake	USFS	1430				2010	TBD		NEPA Review
Pinion Ironwood Fuelwood Sale	USFS	539				2006	TBD		Ongoing Project
Santa Ana / Clarks Grade Fuel Modification	USFS	1500				2010	TBD		
Sawmill	USFS	293				2006	TBD		
Section 17	USFS	522				2010	TBD		NEPA Review
Bluff Lake	USFS	1272				2010	TBD		NEPA Review
Grays Peak	USFS	2801				2007	TBD		
Holcomb West	USFS	2407				2007	TBD		
Poligue Canyon	USFS	39				2008	TBD		
Snowslide	USFS	7243				2009	TBD		Burned during Slide and Butler I & II Fires
Delmar Mountain	USFS	2839				2009	TBD		
Holcomb Valley	USFS	3472				2009	TBD		
Onyx Peak	USFS	975				2009	TBD		
Wildhorse	USFS	5099				2010	TBD		
Arrastre Flat	USFS	7722				2010	TBD		
Santa Ana River	USFS	4186				2008	TBD		

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Public Education									
Valley-wide Public Education Prog.	BBLFD					2005			Project began in 2005-ongoing
Hold demonstration properties in compliance with local defensible space laws	BBC, SBCFD, BBLFD, Fire Safe councils					2009			Ongoing
Big Bear City Fire Department	BBC					2005			Project began in 2005-ongoing
Conduct landscapers, timber operators training classes	BBLFD					2008			Project began in 2008-ongoing
Adopt, Valley-wide Ready, Set, Go Program/Develop Brochure	SBCFD, BBC, BBLFD, BBVFSC					2010			
Develop website Thisisin.org	BBLFD					2006			Completed 2006
Develop Healthy Forest/Defensible Space Outdoor Education class	Pine Summit/ BBLFD					2009			Completed/ ongoing
Fire Safe Council	BBVFSC					2005			Project began in 2005-ongoing
Thinning Projects									
Bear Valley School District	BBLFD, BBC, CALFIRE					2005			Completed

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Valley-wide vegetation abatement	BBLFD, BBC, SBC					2005			Ongoing
Shore/Big Bear Blvd.	BBC	Yes/ 15		BBC,BBL SCFD		C	14,000		Completed
Shore/Big Bear Blvd.	BBC	/15		BBC,BBL SCFD		6/7/2007	Unknown		Marked
Shay Road	BBC	/ 5	Yes	BBC,BBL SCFD		C	9,000		Completed
CAMP Tanda	BBLFD/CAL FIRE	10	Yes			2007			Completed
Pine Summit	Pine Summit	8	Yes						Completed
Valley-wide Neighborhood Chipping Program	SBCFD, BBC, BBLFD, Public Works					Began 2005			Ongoing and continuous
Peery Reservoir	BBC/BBL	Yes/1	Yes	BBC,BBL SCFD		C	6,000		Completed
Structure Ignitability Projects									
Structural Ignitability Demonstration	BBLFD					2005			
Adopt ordinance mandating the replacement of shake shingle roofs	BBLFD, SBCFD					2007/2008			Completed
Propose adopting ordinance to require installation of non-ember intrusion vents	BBLFD					2010			

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Adopt defensible space ordinance	BBLFD, SBCFD					2007/2008			
Adopt 2007 Fire and Building Code	BBLFD, SBCFD, BBC					2007			Completed
Apply for grants to replace wood shake shingle/organic material on roofs	SBCFD, BBC, BBL								Project began in 2005-ongoing
Fuel Modification Projects									
Condition of Approval - all new developments will be required to submit a fuel modification plan	BBC,SBCFD, BBL	Yes	Yes	N/A	Ongoing				
Infrastructure Improvement Projects									
Valley-wide siren system that is intended to notify the public to tune into local radio or TV stations in order to receive information of public concerns, i.e., fires, earthquakes, or other emergency situations	BBLFD/BBCFD								
Install evacuation route signs in upper Moonridge area directing people to evacuation centers									
Develop and implement policy to provide and protect power poles on one way dead-end streets. Seek any and all funding available to change out wood power poles on one way out streets						2010			

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Fiber optic installed which increases reliability of the communications link with the Valley's dispatch center in Victorville	BBLFD								Completed
A portion of the Valley's radio communications are currently via telephone lines. For added reliability, BBLFD received a grant to install a redundant radio repeater system which would operate independent of the fiber optic system.	BBLFD								Completed
Industrial Resource Management									
Support ongoing efforts to construct woody biomass utilization electric generating plant									Ongoing
Research recycling of pine needles	BBLFD					2008			Ongoing
Research recycling of pine needles for fireplace logs	BBLFD					2009			Complete
Forest Products Utilization									
Valley-wide Chipper Days	FSC					2004/06			
Property owners list for chipped material									
Conduct fuels reduction Inspection for insurance compliance						2009			
Develop firewood policy						2010			

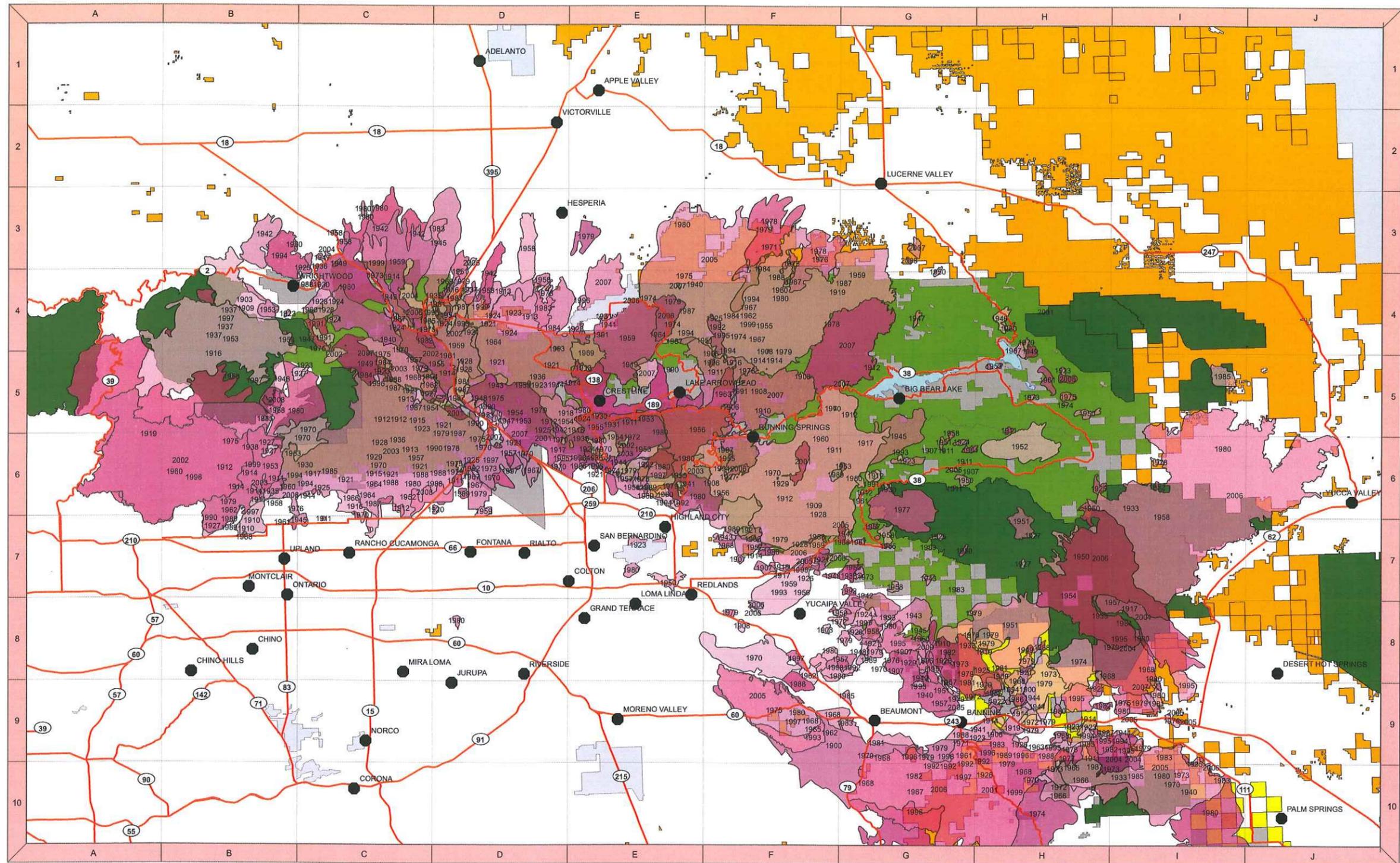
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Slash/Biomass Disposal									
Apply for grant assistance homeowners' vegetation removal	BBL	Yes	Yes		BBLFD				
Fund grant for elderly, low income property owners	BBL	60	Yes			2008			Ongoing
High Value Area Projected									
Spray protection for 1,000 trees	USFS								Completed
Seek funding for spraying high valued areas	BBLFD, BBCFD, BBVFSC								
Fire Safety Inspection Program									
At time of new construction - an inspection is conducted, trees marked, and direction is given to limb up trees and bushes by final	BBLFD	Yes	Yes			2005			
All new construction must comply with requirements in Fire Safety Overlay #1 San Bernardino County Development Code	BBCFD, SBCFD								
Hire Fire Fuels Assistant	BBLFD					2010			
All new construction must comply with BBCCSD Ordinance 212 - directs the Fire Chief to require fire sprinklers to mitigate lack of fire flow	BBC				BBC				
Implement fuels reduction inspection on existing structures when building permit is issued.	BBLFD					2008			Ongoing

Table 6.5 CWPP PROJECTS MATRIX
October 2010

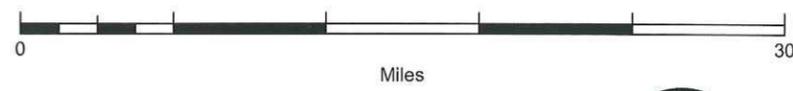
	<i>Responsible Party</i>	<i>Acres Under Analysis</i>	<i>Thinning</i>	<i>Brushing</i>	<i>Agency Involvement</i>	<i>Proposed Timelines*</i>	<i>Estimated Cost</i>	<i>Management Unit Name</i>	<i>Project Status</i>
Hire Fire Prevention Officer	BBC					2007			Completed
Hire Fire Fuels Program Coordinator						2008			Completed

*The proposed timelines herein are subject to change based upon compliance with the National Environmental Policy Act and/or available funding.



Legend

- System Road
- Water
- Military
- Tribal
- Private
- Wilderness
- BLM
- Region 5



1:283,825
UTM Zone 11 N, NAD 83



Fire History 1900-2009

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