

***2012 Unit Strategic Fire Plan
Amador-El Dorado-Sacramento-
Alpine Unit***



El Dorado Complex December 3, 2011

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SIGNATURES

Unit Strategic Fire Plan developed for Amador-EI Dorado-Sacramento-Alpine Unit

This Plan:

- Was collaboratively developed. Interested parties, Federal, State, City, and County agencies within the Unit have been consulted and are listed in the plan.
- Identifies and prioritizes pre fire and post fire management strategies and tactics meant to reduce the loss of values at risk within the Unit.
- Is intended for use as a planning and assessment tool only. It is the responsibility of those implementing the projects to ensure that all environmental compliance and permitting processes are met as necessary.
- Meet the goals and objectives as described in the 2012 Strategic Fire Plan.

Unit Chief

Kelly Keenan

Date

Captain / Pre-Fire Engineer

Douglas Michael Ferro

Date

EXECUTIVE SUMMARY

The goal of any administrative unit of CAL FIRE is to reduce the loss of life, property, watershed values, and other assets at risk from wildfire through a focused pre-fire management program and increased initial attack success.

The above statement is fairly clear. However the roadmap to accomplishing those ends isn't always crystal clear. Every administrative unit and associated communities have differing concerns as it relates to project implementation and priorities as it relates to wild land fire. The purpose of this Strategic Fire Plan is to provide adequate direction to departmental staff and communities within the administrative unit to better direct resources and personnel commitments to the implementation of this Strategic Fire Plan.

The Amador-El Dorado-Sacramento-Alpine Unit Pre-Fire Management Plan has been prepared with the following objectives in priority order.

1. Continue to support the implementation of fire safe clearance around structures (LE 100 Inspections).
2. Support project work and planning efforts that encourage the development of safe ingress and egress routes for emergency incidents.
3. Support implementation of the new 2008 WUI Building standards through cooperation with local government planning departments.
4. Continue to provide operational training that will support safe and successful suppression operations.
5. Utilize CAL FIRE and community resources to mitigate large and damaging wildfires with defensible fuel zone/fuels reduction projects at critical operational locations.
6. Utilize prevention operations to reduce ignitions within the Unit.
7. Conduct incident analysis to evaluate Unit success in achieving the 95% threshold of keeping fires less than 10 acres in size.
8. Educate the community on their role in the wildlands and support Fire Safe Council activities.
9. Nurture and build relationships with local public and private industries to develop cooperative project plans.
10. Continually reassess local mitigation projects and update this Fire Plan.

This Pre-Fire Management plan has been developed utilizing the above objectives during the evaluation process for this plan.

A: UNIT DESCRIPTION

The Unit has a unique wildland fire environment owing to its Mediterranean climate, highly combustible fuels, frequent wildland-urban interface (WUI) zones, and the complexity of its terrain. Fires burn with greater intensity in this environment and are more costly and difficult to control, creating a greater risk of loss of life, property, and resources.

The Unit's Direct Protection Area (DPA¹) on the west slope of the Central Sierra Nevada Mountain Range is experiencing explosive population growth. Most of this growth is occurring outside of the incorporated cities - the same areas that contain the most hazardous fuels and most difficult terrain. Most of the man-made values at risk from wildfire are also located in these areas.

The fire environment in the Unit is conducive to large destructive wildfires as shown by the fire history map (www.fire.ca.gov) Also, as seen in the Vegetation Type Map (Exhibits page 92), the majority of AEU's DPA contains high to very high hazard fuels (brush and timber). These areas contain steep, rugged river canyons making access difficult, and fighting fires with bulldozers difficult, if not impossible in some locations.

Key Issues:

- Increasing life, property, natural resources, and ecological losses.
- Inadequate community ingress/egress routes.
- Difficulty of fire suppression, increasing safety problems for firefighters.
- Longer periods between recurring fires in many vegetation types increasing volumes of fuel per acre.
- Increasing fire intensities.
- Increasing taxpayer costs and asset losses.
- More people are living and recreating in wildland intermix areas, which adds to the increases in ignition sources, resulting in more fires.
- The loss of funding for the two lookouts has significantly decreased the early detection ability of fires in AEU.

¹ DPA are lands that CAL FIRE has contractually agreed to protect. These are usually federal lands where the federal government is fiscally and legally the protection agency but CAL FIRE resources are better positioned to provide protection. Federal agencies provide direct protection to SRA lands where the situation is reversed.

Fire History

The Unit's fire history is one of numerous small fires with large fires occurring every thirty to forty years. The last large fire was the Rancheria Creek Fire in 1961(34,104 ac.) However, over the past twenty years population growth and development in the wildland have placed many additional homes and businesses at risk - now small fires often create WUI fire protection problems previously only found in the most densely populated areas of southern California. In 2008, CAL FIRE updated its fire mapping requirements to include mapping grass fires 300 acres and over, brush fires 50 acres and over, and timber fires 10 acres and over, and wildland fires destroying three or more residential dwellings or commercial buildings.

.Most large fires are aligned east to west. This is particularly evident in Amador County. This orientation is due to two factors, prevailing winds and terrain. El Dorado and Sacramento Counties are more likely to experience fires which run from the north to the south - especially at the lower elevations. However, the historical large fires in El Dorado County follow the same east to west orientation as those in Amador County.

Fire Weather & Terrain

The Wildland Fire Triangle consists of fuels, weather, and topography. The most variable component is weather and the most stable of the three is topography. These components of the fire environment can't be altered by humans to affect the potential outcome of wildland fire occurrence, however the contribution to fire behavior by both require significant analysis to meet the objective of mitigating wildland fire activity on State Responsibility Lands. Fuel is the only component we can alter.

Fire Weather

Fire weather for AEU is typically dominated by three general weather phenomenon; the delta push influence, north wind events, and east foehn winds caused by high pressure development in the Great Basin. All three weather conditions cause considerable increases in fire intensity and size, however the delta influence is the most common and surfaces frequently throughout summer.

Typically, high pressure systems will dominate Northern California in the summer months bringing extremely hot and dry conditions to much of the region. As these systems develop they will tend to yield near the Delta and Sacramento areas bringing the marine influence to the Unit. This is generally considered a good thing for fire behavior; slightly cooler afternoon temperatures and increases in relative humidity. The downside to a marine influence is the strong wind gusts may accompany these patterns. These winds are generally capable of overriding any benefit that may come from marine air. There is, however, an upside. This type of wind will typically subside after sundown causing fire behavior to drop off dramatically.

The other critical wind patterns experienced in AEU are very difficult to predict, are relatively rare, and often times are forecasted only the day before they occur. Northerly or easterly winds are typically warmer and drier than most other wind patterns due to air compression. These conditions provide the perfect environment for increased fire intensity and large fire growth. Fire growth is typically wind driven, however as these wind patterns recede, fire immediately returns to fuel/topography driven in opposing directions to the wind driven direction. This type of wind event is commonly referred to as a Santa Ana Wind in Southern

California, however it can manifest itself anywhere in California and are referred to as foehn or North winds.

Topography

Topography in AEU is like most other Sierra Units; flat near the valley bottom and increasingly steep as the Unit reaches higher elevations. More importantly is the relationship of vegetation change with that of topography. Fuel loads tend to increase significantly as the topography becomes more rugged. The area near the Central Valley and Delta region, which is characterized by rolling hills and flat valley bottoms, is generally dominated by grass lands or savannah. The fire behavior is generally wind driven short duration fires, typically lasting no more than one burning period. (Between 10:00 A.M. to sundown.)

As the terrain approaches the upper foothills the vegetation changes dramatically to brush and tree dominated fuel types. These areas are generally steeper and longer sloped which will tend to cause more fuel and topography dominated fire behavior. Heavier fuels over steeper slopes cause marked increases in fire intensity and fire size; this combination makes fire fighting efforts increasingly more difficult. This is primarily due to the demands that heavier fuels on steeper terrain can have on resources during active suppression and mop up operations.

Higher elevation areas of the Unit are typically steeper than that of the upper foothill region. Fuels are generally Sierra Mixed Conifer which is made up of heavy timber and significant loads of accumulated dead fuels. Fire spread is typically fuel and slope driven but winds can cause long range spotting.

A major topographic feature that can lead to increased fire spread and intensity is the canyon alignment of the major river systems within the Unit. All of the major river systems are generally aligned in an east/west direction which coincides with the general prevailing westerly wind patterns over the Unit. This alignment can have the effect of "channeling" which can increase the wind speed and turbulence along these river systems. This alignment can often cause fire to spread farther and with greater intensity.

The AEU has completed a Fire Weather Operating Plan which is used to drive much of the Units day to day fire related decision making.

Geographic/Ownership

AEU is located in the Northern Central Sierra. It includes Amador, El Dorado, Alpine and portions of Sacramento and San Joaquin counties. AEU encompasses 2,667,841 acres. AEU's Direct Protection Area (DPA) serves approximately **895,214**. The United States Forest Service (USFS), Bureau of Indian Affairs, Bureau of Land Management, and Bureau of Reclamation manage lands that are protected by AEU. Conversely, in addition to national forest lands, the Forest Service provides direct wildland fire protection to private lands within the Eldorado and Toiyabe National Forest. Even with the USFS providing that protection the Unit is still actively engaged in pre-fire projects outside of its DPA.

Within AEU there are two all season trans-Sierra highways, State Highway 50 in El Dorado County and State Highway 88 in Amador County. Bisecting the Unit north to south is historic State Highway 49, on the west side of the Sierra and State Highway 89 in the Lake Tahoe

Basin on the east side of the Sierra. Most population growth has historically occurred along the two east-west highways. With the influx of high-tech industry in Sacramento County, growth is occurring north and south from the major population centers creating new areas of wildland-urban interface.

AEU contains all or part of three major watersheds, the Middle and South Forks of the American, the North Fork of the Mokelumne, and the Cosumnes River basin. Numerous water agencies and power companies utilize the water from these rivers and their tributaries for generation of hydroelectric power, acquisition of drinking and irrigation water.

Socioeconomic

The approximate resident population in AEU's DPA is 320,053. El Dorado County's highest population densities are found along the Highway 50 corridor from El Dorado Hills to Pollock Pines. The areas of Pleasant Valley and along State Highway 49 south of the community of El Dorado are also experiencing a rapid population growth. In Amador County, the population densities are greatest along the State Highway 88 corridor from the City of Jackson to the Pioneer area.

County	Population²
Alpine	1,175
Amador	38,091
El Dorado	181,058
Sacramento	1,418,788
San Joaquin	685,306
Unit Total	2,324,418

In addition; annually a significant seasonal population increase occurs in mid-spring and continues to gradually increase due to the influx of seasonal workers seeking employment during the apple and grape harvests in the late fall.

The easy access to the Lake Tahoe Basin, recreational areas, summer homes, and tourist attractions are also major factors that influence the population during fire season. Even though most of these areas are located within the Eldorado National Forest, visitors must travel through CAL FIRE's DPA to reach them. Since the majority of the fires are human caused, this increase in Units seasonal population usually results in more wildland fire ignitions.

The major industries that support the local economy include timber, tourism, recreation, wine and fruit production, construction, service oriented businesses and to a lesser extent, light industry. All of these industries have at one time or another been affected by wildfires. Hundreds of thousands of dollars have been lost both directly and indirectly due to wildfires. It has been estimated that a closure of Highway 50 during the summer months would result in a loss of between 1.5 and 2 million dollars a day in the South Lake Tahoe Basin (including Nevada interests). Additionally, an estimated \$150,000 would be lost to west

² 2010 Census Data

slope communities due to a closure of Highway 50 from the west county line to Echo summit.

B: UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES

AEU Action Plan



The Unit's Fire Management Plan was developed to address fire safe planning and hazardous fuel reduction concerns of state, federal, local CAL FIRE agencies, as well as fire safe councils and other collaborators. The Fire Plan incorporates an across the board approach to reducing the occurrence and impact of wildland fires on communities and local resources. A coordinated effort involving, Engine Companies, Law Enforcement, and local CAL FIRE Safe Councils educate the public and enforce PRC-

4291 defensible space requirements. In addition the public is educated and given the opportunity for input on community wildfire protection plans (CWPPs), community safety, evacuation planning and hazardous fuel reduction. These coordinated efforts are concentrated within the Units the WUI areas and specifically directed at the individual homeowner.

Shaded fuel breaks are also a large component of the overall fuel reduction effort with the Unit focusing on those fuel breaks that support the safe ingress of fire suppression forces and egress of the civilians in the surrounding communities.



The Unit considers collaborator support extremely important. Lack of collaborators may eliminate otherwise important projects from consideration. To gain community support, the Unit works closely with the Fire Safe Councils, local governments, and Federal agencies. Fire Safe Councils provide a forum for creating support for all kinds of projects. This resource has proven so effective that the Unit

now accomplishes projects it could not accomplish in the past.

The Fire Safe Councils also closely link their projects with projects in the Unit's Fire Plan. This allows greater progress towards the ultimate goal of reducing damage from wildfire.

The key to effective fire planning is the CAL FIRE Battalion Chiefs acting as community wildfire leaders. Consequently, as community wildland leaders, the Battalion Chiefs can only achieve the Unit and Department goals with support from the community they serve.

Amador-El Dorado Unit Strategic Fire Plan Assessments

The fire plan process involves analyzing of:

- Assets at Risk (AAR)
- Ignition Workload Assessment (Level of Service)
- Fuels
- Frequency of Severe Fire Weather
- Residential Density (parcel based)

Computer based Geographic Information Systems (GIS) is used to assess and rank fire hazard and risk. GIS provides a systematic approach for determining the level of wildland fire protection service and identifying high risk, and high value areas. These are the areas with the greatest potential for large and costly wildfires. Ranking areas in terms of hazard levels allows fire managers and collaborators to focus on the most critical areas, evaluate alternatives and recommend solutions to reduce costs and losses.

The assets at risk are evaluated to the 450-acre scale within the Unit. This scale has been designated by the Department for purposes of manageability. This is based on the sectioning of a USGS 7.5 minute quadrangle map down into a grid resulting in grids of 450 acres per cell. The 450-acre cells have been designated as Quad 81st (Q81) for fire plan assessments purposes. For instance, each Q81st in the Units has a rank applied to it for Assets at Risk (AAR), Level of Service (LOS), and Fuel Hazard Ranking.

The GIS assessment tool only provides one side of the equation. Using each Battalion Chief's intimate knowledge of their area insures project development and implementation is directed at the most critical areas.

Residential Density

This data is a parcel map representing improved residential parcels. It helps planners focus on those areas where the combination of fuels, weather, and improved parcels pose the greatest potential for large damaging fires. It also provides planners and fire managers with an up-to-date view of residential density. This data is especially useful in helping Unit Battalion Chiefs establish target areas within their battalions to concentrate defensible space inspections. Utilizing parcel maps in identified target areas helps the field personnel quickly and accurately complete their inspections.

Ignition Workload Assessment (Level of Service)

The Fire Plan Ignition Workload Analysis assessment (LOS) is designed to measure the Unit's success at controlling fires before they become large and costly. The underlying assumption is that fires successfully contained in the initial attack stage are generally not as large or costly as the few fires which exceed Unit suppression organization capabilities.

CAL FIRE uses GIS to overlay a history of wildfires onto a vegetation type map and derives the average annual number of fires by size, severity of burning and assets lost. This data allows a level of service success and failure rate calculation. The number of successful initial attacks divided by the number of initial attacks will equal the level of service for the time period analyzed. This rating is expressed as a percentage of fires that are successfully extinguished during initial attack.

Success is defined as those fires that are controlled before unacceptable damage and cost are incurred.

Failures are defined as the following:

Woodland	Fires = 15 acres and above
Grass	Fires = 12 acres and above
Brush	Fires = 6 acres and above
Interior (Timber)	Fires = 3 acres and above

FUELS

Vegetation within the Unit varies widely and includes grassland, oak woodland, brush, mixed conifer, and true fir. Using the GIS database, each 450-acre planning block is ranked by age and type of vegetation. These rankings identify high-volume fuel areas with accumulations of dead fuel having the potential for costly and damaging fires. Planning blocks are ranked high, medium, or low risk based on their potential as sites of costly and damaging fires.

The hazardous fuel ranking system is based on estimates of potential fire behavior associated with the particular fuel type, and it has a direct relationship to the burning characteristics of that fuel. The fuel rank is a composite index of fire behavior indicators – rate of spread, fireline intensity, heat per unit area, etc. This index represents how a fuel complex burns under a particular set of weather conditions. The intent is to provide a basic means of stratifying the landscape into areas of moderate, high, and very high hazard as related to potential fire behavior.

The rankings were determined by using the underlying fuel models in conjunction with the BEHAVE³ fire behavior prediction system. The various fuel models were then plotted on the fire characteristics chart commonly used to evaluate resistance to control (Rothermal, 1983), where a fuel model's rate of spread is plotted against its heat per unit area. This plot represents fire behavior calculations conducted under severe fire weather conditions, where fires are more likely to escape. The farther the flame front is from the origin, the greater the fire behavior potential, and hence, the greater the resistance to control. As these fuel models only reflect surface fire behavior, additional information regarding crown fire potential and slope was also included in the development of the ranking scheme.

Generally, only those fuel models where there is a large volume of available fuels (yielding high heat per unit area) and at least a moderate expected rate of spread under severe environmental conditions have a hazard rank of "Very High", "High" and "Moderate" ranks represent lesser fuel volumes where either heat per unit area or spread rate is expected to be lower. Heavy brush and heavy forest fuel types received "Very High" ranks. Moderate brush, pine/grass, intermediate load conifer, and light logging slash received "High" ranks. Grass and low volume forest types received "Moderate" ranks.

Weather

Weather conditions dramatically influence fire behavior. Large costly fires are frequently, though not always, associated with severe fire weather conditions. Severe fire weather is typified by high temperatures, low humidity, and strong surface winds.

Fire weather history is analyzed to determine the average number of days during fire season that severe fire weather occurs.

Severe fire weather is defined using the Fire Weather Index (FWI) developed by the USDA Forest Service Riverside Fire Lab. The FWI combines air temperature, relative humidity, and wind speed into a single score. The FWI gives wildland fire managers an index that indicates relative changes in fire behavior due to the weather (fuel and topography conditions are not included in the calculation). Severe fire weather occurs when the FWI, calculated from the hourly weather measurement, exceeds a predetermined threshold. The threshold FWI is derived from average bad fire weather of (approximately) 95° F, 20% relative humidity, and a 7 mph eye-level wind speed. Frequency of severe fire weather is defined as the percent of time during the budgeted fire season that the weather station records severe fire weather. Individual weather stations are ranked as low, medium, or high frequency of severe fire weather. This ranking can then be applied to the area on the ground represented by the weather station.

³ Behave fire modeling system is a computer application used to predict wildland fire behavior.

Severe Weather Analysis Parameters

FWI CUTOFF	START LOW RANK	START MED RANK	START HIGH RANK
29.725	0%	5%	20%

STATION	OWNER	LAT	LON	ELEVATION	WX-SCORE	WX-RANK
Ben Bolt	CAL FIRE	38.586	-121.017	840	0	L
Esperanza	CAL FIRE	38.243	-120.514	2512	1	L
Green Springs	CAL FIRE	37.834	-120.502	1000	2	L
Pilot Hill	CAL FIRE	38.833	-120.009	1250	0	L
Mt Zion	CAL FIRE	38.394	-120.650	2960	0	L
Secret Town	CAL FIRE	39.185	-120.882	2720	0	L
Crane Flat	NPS	37.767	-119.817	6644	1	L
Tuolumne Meadows	NPS	37.867	-119.300	9200	1	L
White Wolf	NPS	37.850	-119.650	8000	1	L
Bald Mountain	USFS	39.901	-120.686	4613	0	L
Beaver	USFS	38.519	-120.328	5700	10	M
Crestview	USFS	37.735	-119.000	7518	1	L
Hell Hole	USFS	38.900	-120.683	5240	9	M
Owens Camp	USFS	38.733	-120.250	5240	7	M
Stampede	USFS	39.483	-120.075	6600	1	L

WxSCORE

[SevereWx]/[WxInSeas] The weather score is a percentage of the number of days of severe weather during the designated fire season. Non-fire season data is not considered as the fuel is not in a state in which to readily burn regardless of the severity of weather.

WxRANK

The WxSCORE intensity rating is lumped into three categories, low, medium, and high, to create a severe fire weather frequency ranking

SECTION II:**COLLABORATION****A: COMMUNITY / AGENCIES / FIRE SAFE COUNCILS**

Representatives involved in the development of the Unit Strategic Fire Plan are included in the following table. Their organization and title are indicated below:

Organization	Representative (title)
Sierra Pacific Industries	Craig Ostergaard, Forester (209) 223-7170
Pacific Gas and Electric	Paul M. Maben, Vegetation Program Manager (209) 736-8644
Amador County Fire Safe Council	Cathy Koos Breazeal (209) 296-6220
El Dorado County Fire Council	To be assigned Email: board@edcfiresafe.org
Folsom Fire Safe Council	Linda Conroy, President (916) 585-3372
Alpine Fire Council	Jeff Brees (530) 694-2791
Tahoe Regional Chapter for the NVFSC	Andrew List, Executive Director (775) 884-4455
Tahoe Region for the NVFSC	Jessica Moore-Mahnken (530) 543-3473
United State Forest Service	Lake Tahoe Basin Management Unit (530) 543-2600
United State Forest Service	Duane Nelson, District Ranger, El Dorado National Forest Placerville Ranger District (530) 647-5301
United State Forest Service	Jeanne Higgins, Forest Supervisor, Humbolt-Toiyabe (775) 331-6444
Bureau of Reclamation	Mike Finnegan, Area Manager (530) 989-7200
California State Parks	Marshal Gold Discovery SHP (530) 622-3470
Bureau of Land Management	Mother Load Field Office (916) 941-3101

SECTION III: VALUES AT RISK

A: Assets at Risk

Assets at risk refer to real and societal values that have the potential to be burned or damaged by wildfire. Sixteen assets have been identified and ranked as to their risk from wildfire. The table below provides a description of the assets evaluated.

Asset at Risk	Public Issue Category	Location and ranking methodology
Hydroelectric power	Public welfare	1) Watersheds that feed run of the river power plants, ranked based on plant capacity; 2) cells adjacent to reservoir based plants (Low rank); and 3) cells containing canals and flumes (High rank)
Fire-flood watersheds	Public safety Public welfare	Watersheds with a history of problems or proper conditions for future problems, ranked based on affected downstream population
Soil erosion	Environment	Watersheds ranked based on erosion potential
Water storage	Public welfare	Watershed area up to 20 miles upstream from water storage facility, ranked based on water value and dead storage capacity of facility
Water supply	Public health	1) Watershed area up to 20 miles upstream from water supply facility (High rank); 2) grid cells containing domestic water diversions, ranked based on number of connections; and 3) cells containing ditches that contribute to the water supply system (High rank)
Scenic	Public welfare	Four mile view shed around Scenic Highways and 1/4 mile view shed around Wild and Scenic Rivers, ranked based on potential impacts to vegetation types (tree versus non-tree types)
Timber	Public welfare	Timberlands ranked based on value/susceptibility to damage
Range	Public welfare	Rangeland ranked based on potential replacement feed cost by region/owner/vegetation type
Air quality	Public health Environment Public welfare	Potential damages to health, materials, vegetation, and visibility; ranked based on vegetation type and air basin
Historic buildings	Public welfare	Historic buildings ranked based on fire susceptibility
Recreation	Public welfare	Unique recreation areas or areas with potential damage to facilities, ranked based on fire susceptibility
Structures	Public safety Public welfare	Ranked based on housing density and fire susceptibility
Non-game wildlife	Environment Public welfare	Critical habitats and species locations based on input from California Department of Fish and Game and other collaborators
Game wildlife	Public welfare Environment	Critical habitats and species locations based on input from California Department of Fish and Game and other collaborators
Infrastructure	Public safety Public welfare	Infrastructure for delivery of emergency and other critical services (e.g. repeater sites, transmission lines)

Ecosystem Health	Environment	Ranking based on vegetation type/fuel characteristics
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Knowledge of the type, magnitude, and location of assets at risk, is critical to fire protection planning. Given the limits on fire protection resources, these resources should be posted within the Unit, at least in part, based on the value of the assets at risk. Knowledge of assets at risk is also necessary to choose those projects, which will provide the greatest benefit for a given investment.

Thus, as part of the overall fire plan process, assets were addressed at two levels. First, generalized assets at risk were estimated to indicate what areas contain high valued assets. Second, the input of collaborators further refined this assessment.

The areas with the highest combined asset values and fire risk were considered for projects, particularly where those projects would protect assets and reduce suppression costs should a fire start in the project area. Second, as potential projects were identified in these areas, they were subjected to an analysis of the degree to which the projects will reduce damage to assets and potential suppression costs.

The following table represents the weights (1-5), 1 being low and 5 being high, applied to each asset as used to compute the overall Asset Rank within the Unit.

Asset	Weight	Asset	Weight	Asset	Weight
Infrastructure	3	Timber	3	Storage (Water)	3
Water Supply	4	Range	1	Fire-Flood	2
Historic	2	Soil	1	Air	4
Scenic	2	Hydroelectric	3	Recreation	2
Housing	5	Non-game Wildlife	1	Game (Wildlife)	1
Ecosystem	3				

B: COMMUNITIES AT RISK

Wildfires burn millions of acres throughout the United States each year. These fires dramatically illustrate the threat to human lives and development.

A fundamental step in realizing this was the identification of areas that are at high risk of damage from wildfire. Federal fire managers authorized State Foresters to determine which communities were under significant risk from wildland fire on Federal lands.

The California Department of Forestry and Fire Protection undertook the task of generating the State's list of communities at risk. With California's extensive Wildland-Urban Interface situation the list of communities extends beyond just those on Federal lands.

AEU contains thirty-three communities classified at risk from wildfire. Most of which are adjacent to federal lands. These are indicated with an "F" in the "federal threat" column of the following chart. The Hazard Level Code included on the list designates a community's fire threat level where 3 indicates the highest threat.



Auburn Lake Trails residential development, El Dorado County

California Fire Alliance Communities At Risk

Communities	COUNTY NAME	FEDERAL THREAT	HAZARD LEVEL
Bear Valley	ALPINE	F	3
Kirkwood	ALPINE	F	2
Markleeville	ALPINE	F	3
Paynesville	ALPINE	F	3
Woodfords	ALPINE	F	3
Woodfords Community (Indian Reservation)	ALPINE	F	3
Amador City	AMADOR	F	3
Fiddletown	AMADOR	F	3
Ione	AMADOR		3
Jackson	AMADOR	F	3
Pine Grove	AMADOR	F	3
Pioneer	AMADOR	F	3
Plymouth	AMADOR	F	3
River Pines	AMADOR		3
Sutter Creek	AMADOR	F	3
Volcano	AMADOR	F	3
Cameron Park	EL DORADO	F	3
Coloma	EL DORADO	F	3
Cool	EL DORADO	F	3
Diamond Springs	EL DORADO	F	3
El Dorado Hills	EL DORADO	F	3
Georgetown	EL DORADO	F	3
Grizzly Flat	EL DORADO	F	3
Kelsey	EL DORADO	F	3
Latrobe	EL DORADO	F	3
Omo Ranch	EL DORADO	F	3
Outingdale	EL DORADO	F	3
Placerville	EL DORADO	F	3
Pleasant Valley	EL DORADO	F	3
Pollock Pines	EL DORADO	F	3
Shingle Springs	EL DORADO	F	3
South Lake Tahoe	EL DORADO	F	3
Rancho Murrieta	SACRAMENTO		3
Folsom	SACRAMENTO	F	
Galt	SACRAMENTO		
Sacramento	SACRAMENTO		

SECTION IV: PRE FIRE MANAGEMENT STRATEGIES

A: FIRE PREVENTION

AEUs Fire Prevention Bureau and Pre Fire Engineering Management establishes management goals utilizing five primary components. These Fire Prevention / Pre Fire Engineering components are law enforcement, engineering, information / education, volunteerism and cooperation. AEU's law enforcement staff investigates all fires for origin and cause; enforce California's Forestry and Fire Laws, Penal Codes, Health and Safety Codes and Public Resources Codes throughout the Unit, including PRC 4291. Engineering is a cooperative effort. CAL FIRE Departmental, and County, personnel assigned to assure the compliance of Title 19 and Title 21 during the planning phase of structures. These staff also offer supportive guidance in the design of local CAL FIRE safe projects; such as a Community Wildfire Protection Plans (CWPPs). AEU incorporates a proactive approach to public information and education. Direct contact with the local schools, cooperation with the local boards and councils is a catalyst for positive communication between CAL FIRE staff and the communities they serve. Incorporating Volunteerism is a cooperative effort between the Volunteers in Prevention (VIP) and AEU Prevention Staff, which uses local volunteers to staff fire lookouts, appear at public events, meet with residents, and interact with the public with the CAL FIRE's mission in mind. The balance of each of these components allows the prevention program to address statewide, regional and local CAL FIRE issues. AEU's Fire Prevention Bureau annually evaluates ignitions data for fire origin and cause. With the updated ignition data AEU's Battalion staff is better prepared to address and mitigate local issues; and to assist local CAL FIRE prevention, education and strategic planning.

DEFENSIBLE SPACE: Managing and reducing the flammable vegetation around structures will also reduce the number of structure ignitions from wildland fires. Clearing vegetation and maintaining that clearance is required by section 4291 of the Public Resources Code (PRC 4291). In 2005 PRC 4291 was amended to increase the minimum vegetation clearance requirement from 30 feet to 100 feet around structures. Although this law requires it, many landowners fail to maintain adequate clearance around their structures. CAL FIRE's Defensible Space inspection program is used to enforce compliance with PRC-4291. Additionally, the fuel reduction projects within AEU are aimed at reducing wildland fuels and educating the public on what they can do for themselves to protect their homes from wildfires and reducing structure ignitability. Defensible space clearance, in compliance with PRC 4291, is the most effective tool we have in protecting structures in a large wildland fire.

- INFORMATION AND EDUCATION

AEU's Volunteer-In-Prevention (VIP), Information and Education Program

The AEU VIP Program assists the Unit in a variety of Fire Prevention Activities. The Unit currently utilizes the assistance of the El Dorado County Fire Safe Council and the Amador County Fire Safe Council to fill the Unit's VIP needs. The Fire Safe Councils in conjunction with the Unit help support community outreach events, defensible space evaluations, home and garden shows, and educational events. The Fire Safe Councils are active year round in the Unit and are an integral part of the community.

The Fire Prevention Public Information Office actively works with the media in order to keep the public informed on fire safety and wildfire awareness. Numerous press releases are issued through out the year to remind residents of such items as: defensible space requirements, burn permit requirements, burn permit restrictions, ready-set-go campaign information, and wildland fire incident information. Prevention personnel, along with fire engine personnel, participate in fairs, school activities, and community programs.

A. VIP Program

The VIP Program has been relatively dormant since 2006 but it is anticipated that this may change in 2012 due to the anticipated fire activity during the wildland fire season. The following is a list of activities that VIP's may be recruited for and asked to provide support in:

1. Incident Information Center Operators
2. LE 100 Defensible Space Inspectors
4. Fire and Life Safety Education Programs (Schools, Groups, Events)

This will entail recruiting, training and coordinating activities of Unit VIPs and the record keeping (VIP Database, CAL ATERS, etc) associated with the program. There will be no mandatory number of hours required from a volunteer, but the Unit will require at least one program per year for a VIP to stay active.

B. Public Information Program:

As the Unit's Public Information Officer, the Fire Prevention Specialist provides media releases and articles, conducts live interviews (TV and Radio), prepares and disseminates fire information/incident information fact sheets, information on evacuations (in support of local law enforcement), etc. Duties include responding as an Incident Information Officer (Field PIO, PIO Center Manager, PIO in JIC, PIO on unified command incidents, etc.) locally or statewide. This year the program will expand to include coordinating a Media Safety Training for local media outlets.

C. Public Education and Awareness Program:

The Public Education and Awareness Program is comprised of four components: 1) School Programs, 2) Group Programs, 3) Exhibits and Displays and 4) Parades which are coordinated with Field Battalions for the Unit.

1) School Programs are done throughout the Unit and reach children from preschool through 12th grade. The "team teaching" approach is used at the schools and is done on a request basis and is generally handled by Engine companies. There are a variety

of programs available to use depending on the request or needs of a particular school. For PreK-6th they include “Smokey Bear Team Teaching”, “Flannel Board”, “9-1-1”, “Stop/Drop and Roll”, “Crawl Low Under Smoke”, “Exit Drills In The Home”, “Friendly Firefighter”, “Fire Station Tours”, State Farms Smoke Detectives, Bic’s Play Safe-Be Safe, Masters of Disasters and Learn Not To Burn.

For 7th-12th grades the presentation is given in an assembly setting and the focus will range from Juvenile Fire Setting behaviors to Career Days. The Juvenile Fire Setting education program is presented in the following format: introduction; ice breaker, explanation of who, what, when, where and why juveniles set fires and the consequences of fire setting. A discussion follows on making good/bad choices, responsibilities of those choices (civil and criminal) and a review of basic fire safety principals. For Career Days the program will include an overview of the agency, its mission and the types of careers available and levels of education required to be competitive in the specific field.

**It has been an ongoing challenge to get support from local schools to allow fire and life safety programs into the classroom. With their required curriculums and testing policies, time in the classroom is at a premium. Too often they have turned down offers by the fire departments. This will remain a challenge but annually the schools are approached and offered free programs.*

2) Group Programs are done on a request basis and can cover all fire and life safety topics including Defensible Space, Disaster Preparedness for families, pets, seniors and the disabled, Preparing a “Go Kit”, Senior Fire Safety, Fire Safety for the Disabled, Special Needs and Fire Safety, etc. We provide these presentations to the public, local businesses, service groups, clubs and organizations. Requests vary and presentations maybe done in conjunction with another government agency such as a fire district or law enforcement agency.

3) Exhibits and Displays designed and constructed for fairs, parades, home and garden shows, wildfire awareness week, fire prevention week, burn awareness week, arson awareness week, homeowner association gatherings, National Night Out, etc. These may be done in concert with another emergency service agency, local government, fire safe council, etc.

4) Parades are handled at the Battalion level and requests are directed to the Battalion Chief. If it is appropriate, a fire engine and other equipment may be directed to participate.

D. Juvenile Fire Setter Program (JFS)

Under the direction of the Fire Prevention Bureau Chief, the Fire Prevention Specialist is responsible for developing and maintaining the Units Juvenile Fire Setter Intervention and Education Program. The Fire Prevention Specialist manages the JFS cases that originate from CAL FIRE Fire Prevention personnel, local and federal fire agencies, local law enforcement, the Probation Department and the District Attorney’s Office. The JFS includes: 1) Assessment of the juvenile for future fire setting. 2) Educate the juvenile and family about fire setting and fire safety. 3) Make recommendations to Juvenile Justice (Probation/District Attorneys Office), Social Services, Mental Health, Child Protective Services and private mental health providers. The Fire Prevention Specialist also assists local and federal agencies with their JFS programs on a request basis.

Amador-El Dorado-Sacramento-Alpine Unit Structure Ignitability

The following section will discuss structure ignitability within the Amador-El Dorado Unit. Structure ignitability is a building's susceptibility to catching on fire. This is a growing concern as more homes and businesses continue being built in the wildland-urban interface. Measures can be taken to reduce the ignitability of structures in wildland areas by:

- Proper planning, which locates homes and communities such that their exposure to wildfire is minimized.
- Use of building design techniques that prevent flames or windborne embers from entering the structure, and use of building materials that are fire and heat resistant.
- Managing and reducing the flammable vegetation around the structure.

PLANNING: The Amador-El Dorado-Sacramento-Alpine Unit (AEU) has seen rapid growth over the last couple of decades with homes and businesses being built farther away from population centers creating new areas of wildland-urban interface. Improper planning in regards to minimizing a structures exposure to wildfire has allowed many of the structures to be built in areas that increase their exposure to the effects of wildfires, such as building on steep slopes and within or at the top of both large and small drainages. Drainages act as chimneys and funnel heat and energy from wildfires. Homes within these drainages are subjected to a lot more heat and embers during a wildfire increasing the structures chance of igniting. Many times firefighters are unable to defend structures within these drainages from an oncoming wildfire because of the amount of heat. Unfortunately, new construction continues to occur within these areas increasing the number of structures with a high susceptibility to igniting during a wildfire. AEU's Fire Prevention Bureau works with county planning and building departments to locate new construction in areas that minimize a buildings exposure to wildfire.

CONSTRUCTION: How a structure is constructed and the type of material is just as important as where a structure is located. The California Department of Forestry and Fire Protection/ Office of the State Fire Marshal has developed wildland-urban interface building standards for new construction. The objective of the Wildland-Urban Interface Fire Area Building Standards is to establish minimum standards for materials and material assemblies and to provide a reasonable level of exterior wildfire exposure protection for buildings in Wildland-Urban Interface Fire Areas. The use of ignition resistant materials and design to resist the intrusion of flame or burning embers projected by a vegetation fire (wildfire exposure) will prove to be the most prudent effort California has made to try and mitigate the losses resulting from our repeating cycle of interface fire disasters. The new standards became effective on January 1, 2008 for all areas within State Responsibility Areas and on July 1, 2008 in Local Responsibility Areas classified as Very High Fire Hazard Severity Zones. The new standards address such things as roofing, attic ventilation, ignition resistant siding, decking, windows, and wall vents. The new standards will help to reduce the number of burning embers that enter a building and ignite fires. Burning ember intrusion is the main reason homes are destroyed in wildland-urban interface fires.

Fire Hazard Severity Zone Maps

In 2007-2008 CAL FIRE updated the existing Fire Hazard Severity Zone maps to coincide with the adoption of the new wildland-urban interface building standards. The updated maps have incorporated improved wildland fire behavior science, data sets, and understanding of structure ignition mechanisms during conflagrations. These fire hazard severity zones will be used by building officials to determine appropriate construction materials for new buildings in the wildland- urban interface. The updated zones will also be used by property owners to comply with natural hazards disclosure requirements at time of property sale. It is likely that the fire hazard severity zones will be used by local government as they update the safety element of general plans. The Fire Hazard Severity Zone maps and new building standards for each county can be obtained from the CAL FIRE website, www.fire.ca.gov.

B: VEGETATION MANAGEMENT

Vegetation Management Program

During the past 10 years, the Unit has treated an average of 500 acres annually under the Vegetation Management Program (VMP). Currently the Unit has treated approximately 20,000 acres since 1982, with an estimated 500 additional treated acres by the end of the year. Many of the projects undertaken in the Unit have been within the wild land-urban interface. Due to the existing land use patterns within the Unit and the increasing population densities in Amador and El Dorado Counties, it is anticipated that the emphasis of the Vegetation Management Program will continue to focus projects within the wild land-urban interface areas. Future projects will concentrate on densely populated areas with high assets at risk.

California Forest Improvement Program (CFIP)

Both federal and state cost share programs exist to assist private timberland owners in the management of their lands; CAL FIRE will pay as much as 90% of the cost of the project. The California Forest Improvement Program (CFIP) has recently been funded to aid non-industrial timberland owners in managing their lands. Many of the cost share practices such as site preparation, timber stand thinning, pruning, and chemical release aid in managing and reducing fuel loading on non-industrial timberlands.

In 1999, CAL FIRE foresaw the need to expand the ability of the program to meet other watershed needs. These measures include thinning, shaded fuel breaks, and other land treatments or forest resource improvement projects consistent with Section 4794 of the Public Resources Code.

Proposition 40 Fuel Reduction Program

The goal of the CAL FIRE Prop-40 Fuels Reduction Program is to reduce wildland fuel loadings that pose a threat to watershed resources and water quality. These funds would be for planning, administration, and implementation of forest land and fuels management projects that protect watersheds from catastrophic wildfire, thereby improving water quality, protecting habitat and fisheries, and controlling erosion and sedimentation in the Sierra Nevada region.

CAL FIRE is using the VMP program, Community Assistance Grants (CAG's) and CFIP as tools to accomplish the goal of protection of the targeted watersheds, specifically fuels management projects. In order to protect these stands from fire it may be necessary to accomplish more than the standard lopping of fuels generated from hand site preparation, Pre-commercial thinning (PCT), pruning and/or release activities. The table below displays the Community Assistance Grant projects implemented under the Proposition 40 Program.

Note: This program will sunset June of 2013

California Tahoe Conservancy Fuel Reduction Program

The California Tahoe Conservancy (CTC) conducts fuel reduction projects throughout the Lake Tahoe Basin through their Urban Land Management Program.

Pre Fire Engineering

Pre fire engineering is a critical part of the Unit Strategic Fire Plan. GIS mapping is used to analyze the fire environment and help unit managers make key decisions for on the ground pre fire projects. It is the goal of engineering to provide the most current and accurate data for the fire plan process. This goal is accomplished by field validating the data with unit battalions, collaborators, county officials, and federal agencies.

Objectives:

- Update the Assets At Risk data
- Update the fuels for the unit
- Maintain current and up to date county parcel data
- Work with Unit personnel and collaborators to enhance the fire plan data
- Asses the weather rankings for accuracy

A: DIVISION / BATTALION / PROGRAM PLANS

Amador County

Amador County consists of 299,861 acres of CAL FIRE Direct Protection Area and is divided into CAL FIRE Battalion's 3 and 4. (See Appendix B for Battalion Boundaries Map) Within these two Battalions are six local CAL FIRE cooperators; Amador Fire Protection District, Jackson Fire Department, Lone Fire Department, Latrobe Fire District, Lockwood Fire and Pioneer Fire.

The Amador County terrain consists of low lying grasslands to the west and productive timber lands on the eastern boundary. In the center of Amador County is a flourishing agricultural community. These low mountain ranges are thick with brush and trees, and the valleys are lush with vineyards making Amador County a very popular area to live as well as a great travel destination.

Battalion 3

CAL FIRE Battalion 3 is 185,062 acres and encompasses portions of El Dorado and Amador counties. Within Amador County the communities of Pioneer, Pine Grove, Volcano, and Lockwood are within the Battalion. The fuel types in the Battalion range from 45% timber, 48% brush, to 7% grass/oak woodland.

Like many areas in the Sierra Nevada's there exists a significant wildland-urban interface (WUI) problem within Battalion 3. There are several large, well populated subdivisions within Battalion 3 that are at risk from a catastrophic fire occurrence.

Battalion 3 consists of two CAL FIRE stations, a Conservation Camp, one un-staffed lookout, and Mount Zion State Forest (160 acres). Pine Grove station, in Pine Grove, has two engines, while Dew Drop station, east of Pioneer, and has one engine. Pine Grove Conservation Camp provides four hand crews. Pine Grove station is staffed year-round. Our northern most station, Dew Drop / Station 10, located along Highway 88 is staffed with an engine and crew during the fire seasons. Dew Drop station is also staffed with an engine and crew by the El Dorado National Forest during the fire season.

Battalion 3 shares its boundaries with three local CAL FIRE agencies. These fire districts are; Pioneer Fire, partially in El Dorado County, Lockwood Fire, and Amador Fire Protection District in Amador County. A close working relationship is maintained with each district as well as with the USFS.

Battalion 4

CAL FIRE Battalion 4 is 367,983 acres in size and encompasses portions of Amador, Sacramento, and San Joaquin counties. The fuel types in the Battalion range from 14% timber, to 33% brush, and 49% grass/oak woodland.

Like the other Battalion's in the Unit there exists a significant wildland-urban interface problem within the Battalion. There are several large, well populated subdivisions that are at risk from a potentially large catastrophic fires. As a Unit, through VMP, we are proactively working with residence, Sierra Pacific Industries and our Federal and Local cooperators to reduce these risks.

There are two CAL FIRE stations within the Battalion. Sutter Hill station staffs one engine year-round and a second engine during fire season. A CAL FIRE bulldozer is also stationed at Sutter Hill, along with an automotive shop, and the Unit's service center. Pine Grove station, in River Pines, staffs one CAL FIRE engine year-round. There are no CAL FIRE stations in Sacramento or San Joaquin counties.

Cooperating Fire Agencies

The CAL FIRE Academy and fifteen Amador County fire departments lie, at least partially, within the Battalion. The local CAL FIRE departments include: the Amador Fire Protection District, Lone City Fire, Jackson City Fire, Jackson Rancheria Casino, Jackson Valley Fire Protection District, Lockwood Fire Protection District, Mule Creek State Prison Fire, Plymouth City Fire, and Sutter Creek Fire Protection District.

CAL FIRE and the above fire departments serve the following Amador County communities: Buena Vista, Carbondale, Comanche, Fiddletown, Ione, Jackson, Jackson Rancheria Casino Fire, Martell, Plymouth, River Pines, and Sutter Creek.

El Dorado County

El Dorado County consists of 459,863 acres of CAL FIRE Direct Protection Area and is divided into all or portions of CAL-FIRE Battalion's 1,2,3,5 and 8 (See Appendix B for Battalion Boundaries Map)

Similar to Amador County, El Dorado County consists of low lying grass and brush lands to the west and productive timber lands on the eastern boundary. Amongst the brush and timber terrain of the Sierra Nevada Mountains El Dorado has a productive agricultural community; apple orchards and vineyards line the southern aspects and lush valleys. Highway 50 not only provides easy access to and from South Lake Tahoe but provides an easy Sacramento commute for those thousands of residence wanting to live in a rural community

Battalion 1

Battalion 1 encompasses approximately 309,544 acres in El Dorado and Sacramento counties. El Dorado County communities within the Battalion include Camino, Diamond Springs, El Dorado, El Dorado Hills, Pioneer, Logtown, Latrobe, Nashville, Cameron Park, Placerville, Pleasant Valley, Pollock Pines, Rescue, and Shingle Springs.

Battalion 1 is an active Battalion in the Amador El Dorado Unit in regards to vegetation fire response and has the highest urban interface population density in the Unit. In 2010, Battalion 1 had the highest number of vegetation fire ignitions in the Amador El Dorado Unit. Within Battalion 1 there are two CAL FIRE facilities and two fire lookout/communication infrastructure sites.

Camino Fire Station 20 and Amador El Dorado Unit Headquarters

Camino Fire Station 20 houses 1 frontline Type III Fire Engine and one reserve Type III fire engine. In addition, it houses the Battalion utility vehicle. Camino Fire Station was built in 1936 with additions completed in the 1950's and 1960's. It was built for the protection of, and continues to provide service to the surrounding lands owned by private timber companies. The Fire Station shares the compound with the Unit Administrative Headquarters, the Unit Emergency Command Center, the Unit Expanded Dispatch Center, and the Regional DGS Radio Technician Offices. In addition, the facility houses Mt. Danaher Fire Lookout. This lookout is not currently in service, but is registered with the National Historic Lookout Association and is the tallest free standing lookout tower in California.

Camino Fire Station 20 is responsible for all risk response to the areas including Camino, Pollock Pines, Placerville, Pleasant Valley, Grizzly Flat, and Omo Ranch, the American River Canyon / Highway 50 corridor and is the 2nd due CAL FIRE engine into the Lake Tahoe Basin.

El Dorado Fire Station 43 and North Division Automotive Shop

El Dorado Fire Station 43 houses two frontline Type III fires engines and 1 type II Fire Dozer and Transport. It also houses the Dozer Tender Unit and is the Battalion Chief Headquarters. The Fire Station shares the compound and is responsible for the North Division Automotive Shop. This facility serves as the Fleet Equipment Manager office and is staffed with 1 full time mechanic. The shop provides fleet support for all of the North Division as well as the staff

vehicles at the Unit Administrative Headquarters and assists with support to the Cameron Park Fire Department Schedule A contract.

The response area for El Dorado Fire Station 43 includes eastern Sacramento County, El Dorado Hills, Shingle Springs, Latrobe, Cameron Park, Placerville, El Dorado, Diamond Springs, Gold Hill, Nashville, Omo Ranch, Pleasant Valley, Pioneer, Grizzly Flat, and Rescue.

El Dorado Fire Station 43 responded to 779 incidents in 2010, up from 709 incidents in 2009. These responses were between May 1st 2009 and Nov. 1st, 2009. This represents the timelines that the fire station is fully staffed. Of those 703 incidents, 14% were vegetation fires in SRA.

The Battalion enjoys cooperative relationships with local CAL FIRE agencies that lay within Battalion 1. In addition, the Battalion values a close working relationship with the federal land management agencies including the USDA Forest Service and the USDI Bureau of Land Management.

The Local CAL FIRE Agencies that lie within Battalion 1 boundary lines are:

- El Dorado County Fire Protection District
- El Dorado Hills Fire Department
- Cameron Park Fire Department
- Diamond Springs-El Dorado Fire Protection District
- Rescue Fire Protection District
- Latrobe Fire Protection District
- Pioneer Fire Protection District.
- Sacramento Metropolitan Fire District

Battalion 2

CAL FIRE Battalion 2 lies primarily on the Georgetown Divide in northern El Dorado County. The communities of Georgetown, Garden Valley, Pilot Hill, Mosquito, Kelsey, Coloma, and Auburn Lake Trails are within the Battalion. The total area of the Battalion is 128,454 acres. Fuel types within the Battalion range from 19% timber, 54% brush, to 27% grass/oak woodland.

Like most Sierra Nevada areas the Battalion has a significant wildland-urban interface problem. The majority of construction in the area took place prior to adoption of the Fire Safe Regulations. This has led to areas with inadequate ingress/egress routes and insufficient defensible space clearance around structures. This problem was confirmed with the destruction of fourteen homes in the 1994 Kelsey fire.

Battalion 2 consists of two CAL FIRE stations, a Conservation Camp, and one un-staffed lookout. Garden Valley station and Pilot Hill station are each two engine stations, with Growlersburg Conservation Camp, located outside of Georgetown, providing five hand crews.

Five local agency fire districts lie, at least partially, within Battalion 2. These fire districts are; Garden Valley, Georgetown, Mosquito, Rescue, and El Dorado County Fire. A close working relationship is maintained with each district as well as with the USFS.

Cooperators/Collaborators

CAL FIRE AEU and NEU

ALT Fire Safe Council and Homeowners Association

California Department of Parks and Recreation

United States Department of the Interior, Bureau of Reclamation



Battalion 5 - CAMERON PARK

General Information

Location:	West Slope, El Dorado County, California
Geographic Coordinates:	W120°-59'-15" ; N38°-41'-02" (@ Cameron Airport)
Area:	8.5 square miles (5,440 acres)
Terrain:	Foothills
Elevation:	Low 1000' (Cameron Estates) Mid 1250' (Cameron Airport) High 1600' (Pine Hill Preserve)
Land Use:	Residential (70%); Recreational (10%); Commercial (8%); Nature Preserve (6%); Industrial (3%); Airport (2%); Highway (1%)
Population (2010 Est.):	18,225
Housing:	Single Family – 5,588 Dwelling Units Multifamily – 1,298 Dwelling Units

Community History

Cameron Park is a foothill community on the west slope of the Sierra Nevada mountain range in El Dorado County. Established as a community services district in the 1960's, the community initially consisted of several hundred residents living around a championship golf course and a small commuter airport located on the Highway 50 corridor.



The Cameron Park Country Club is located in a central valley at the south end of the community. In this view from the clubhouse (facing northwest) a ridge in the background rises approximately 300 feet above the fairway. Many homes are nestled into dense concentrations of highly flammable, mature, brush along Woodleigh Lane and



The adjoining streets located on the top of this ridge. The Cameron Park Airport sits in the central part of the valley immediately north of the golf course. In this view of the runway (facing northwest) surrounding homes can barely be seen through dense stands of oak woodland and brush.

Community Development

Since the Cameron Park Community Services District was formed in 1961, more than 5,500 single family homes, 1200 dwelling units (multi-family complexes), commercial buildings, retail centers, industrial plants, and schools have developed in an eight and one-half square mile area. The population has grown from 400 residents to an estimated 18,225 residents. The community development is in areas where buildings and combustible vegetation are collocated in an environment referred to as a **wildland-urban interface**.



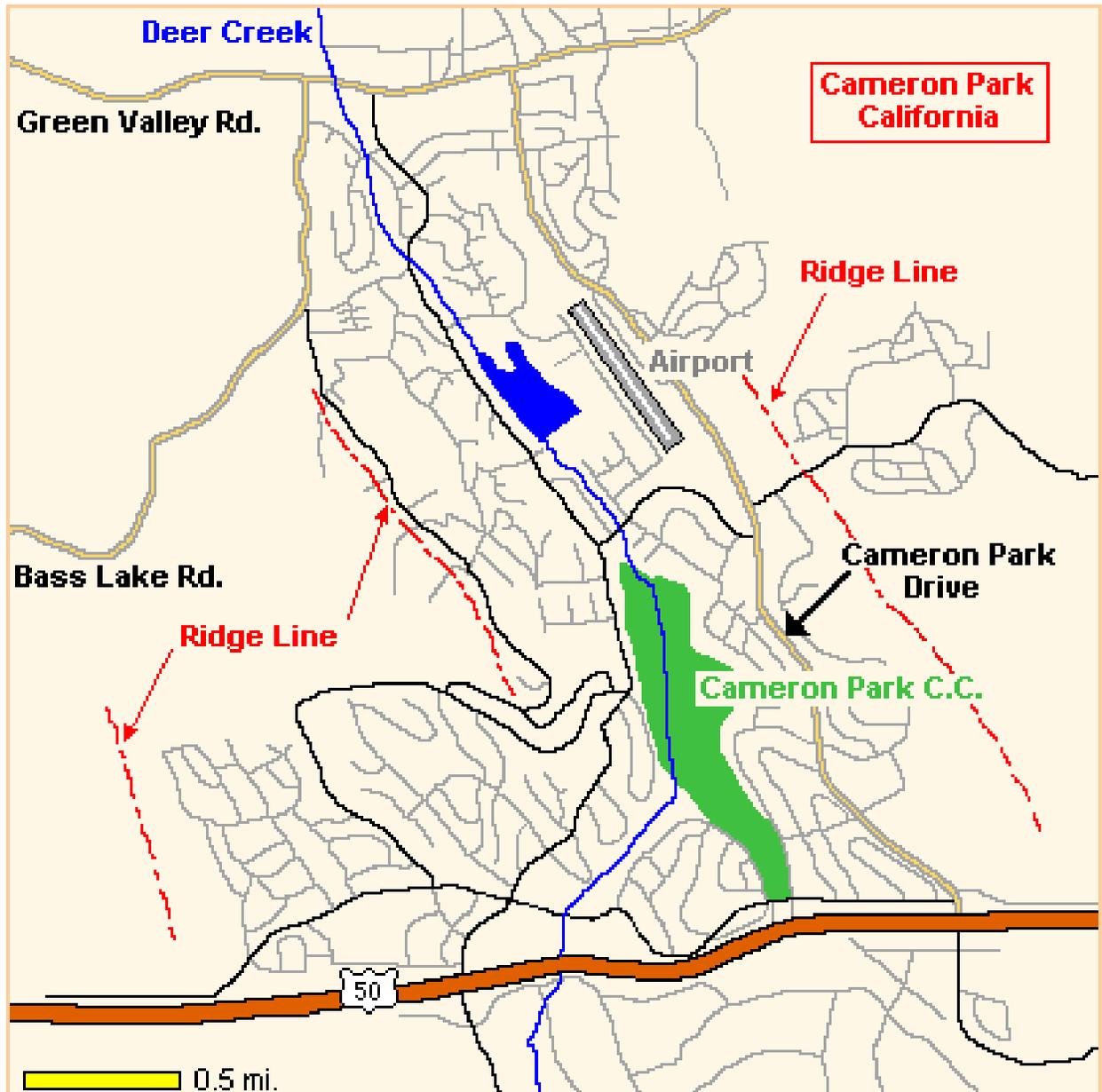
Commercial buildings - In the background is a dense stand of brush near a retirement community and Marshall Hospital. Some private homes can be seen along the ridge top with the brush field below them.

Much of the commercial and residential development in the District is surrounded by a dense stand of native flammable vegetation. In this case Manzanita, Chemise, and Digger Pines are in close proximity to the building.



Geography

The general topography of the area consists of a central valley along the Deer Creek drainage, approximately ½ mile wide with a northwest/southeast orientation. The golf course, airpark, a 40 acre lake, and surrounding residences are the primary features in the valley. The elevation at the valley floor is in the range of 1200 to 1300 feet above sea level. Much of the valley is enclosed between ridges to the east and west sides. The ridge tops rise 300 to 400 feet above the valley floor. Slopes leading up to the ridge tops range from approximately 15% to 35%.



The Wildland-Urban Interface Problem

Development in Cameron Park has created a wildland-urban interface condition in an area with mature stands of brush, and dense oak woodland forests. Manzanita and Chemise are the most common brush species reaching heights greater than 10 feet. There is a large amount of dead material in the brush. Oak species include large varieties such as Blue Oak and Valley Oak. However most of the trees are of the smaller brushy varieties such as Live Oak or Holly Oak.

Some areas of the community, mostly the lower elevations and gentler slopes, include seasonal dry grasses. There are several areas of open space in the community ranging from 5 acres to 300 acres. Some of the open, space such as the golf course, airport, and Cameron Park Lake, have been cleared of flammable vegetation. Much of the open space such as undeveloped lots and preserve lands (Pine Hill Preserve), are covered with flammable vegetation providing areas in and around the community where a large wildfire could become established.



A large patch of brush located on the east side of a ridge, below Woodleigh Lane. To the right a subdivision of new homes has been carved into the hillside. At the bottom of the hill is the Deer Creek drainage which passes through Cameron Park Lake (right side of photo).

Residential development throughout the district includes the valley floor, ridge tops, and the slopes that lead up to the ridge tops. Many of the

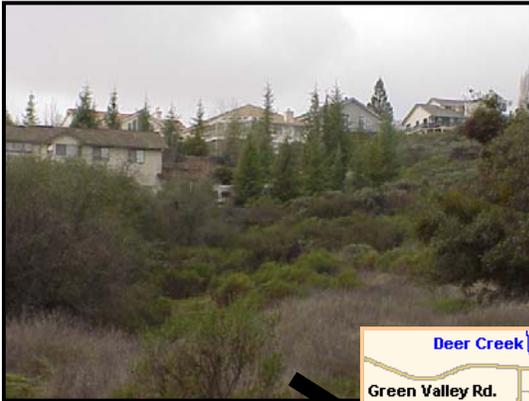
homes were built in the 1970's and 1980's, before the County of El Dorado adopted standards for roof construction. Homes with wood siding, wood decks, and shake roofs, nestled into heavy fuels on steep slopes are common. Currently, the average density of homes in the community is approximately 1 home per acre (5,180 residences in 8.5 square miles). However, residential lot sizes typically range in the $\frac{1}{4}$ to $\frac{1}{2}$ acre size, providing for densities in some areas of more than four times the average. Many of the residential roads in the community are narrow, winding, and do not support 2-way traffic when cars are parked on the road sides, thus complicating fire suppression and evacuation procedures.

Typical Wildland-Urban Interface Conditions

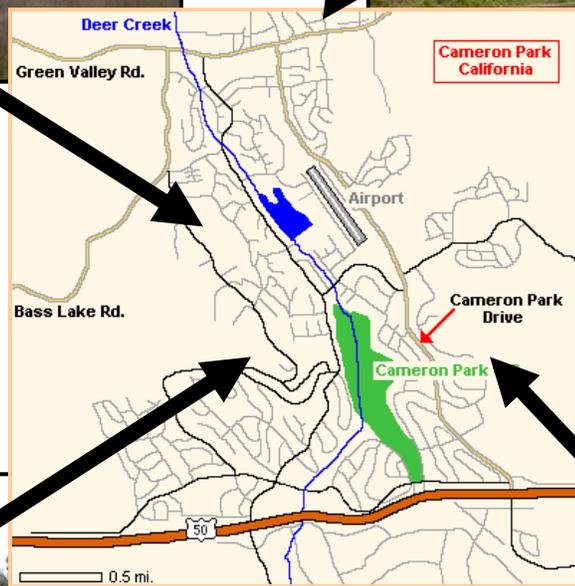
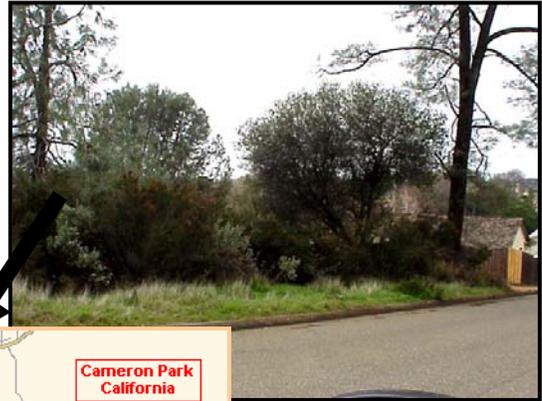
Although the most recent subdivisions have required fire safe plans, the wildland-urban interface problem remains a hazard throughout the community. Development between 1950 and 1990 typically did not remove or modify combustible vegetation sufficiently to eliminate the

fire risk. Newer subdivisions since 1990 have created a fire safe environment within the subdivision, however flammable vegetation often remains around the perimeter. Below are some typical examples of wildland-urban interface conditions in the community.

Woodleigh Lane



Royce Drive



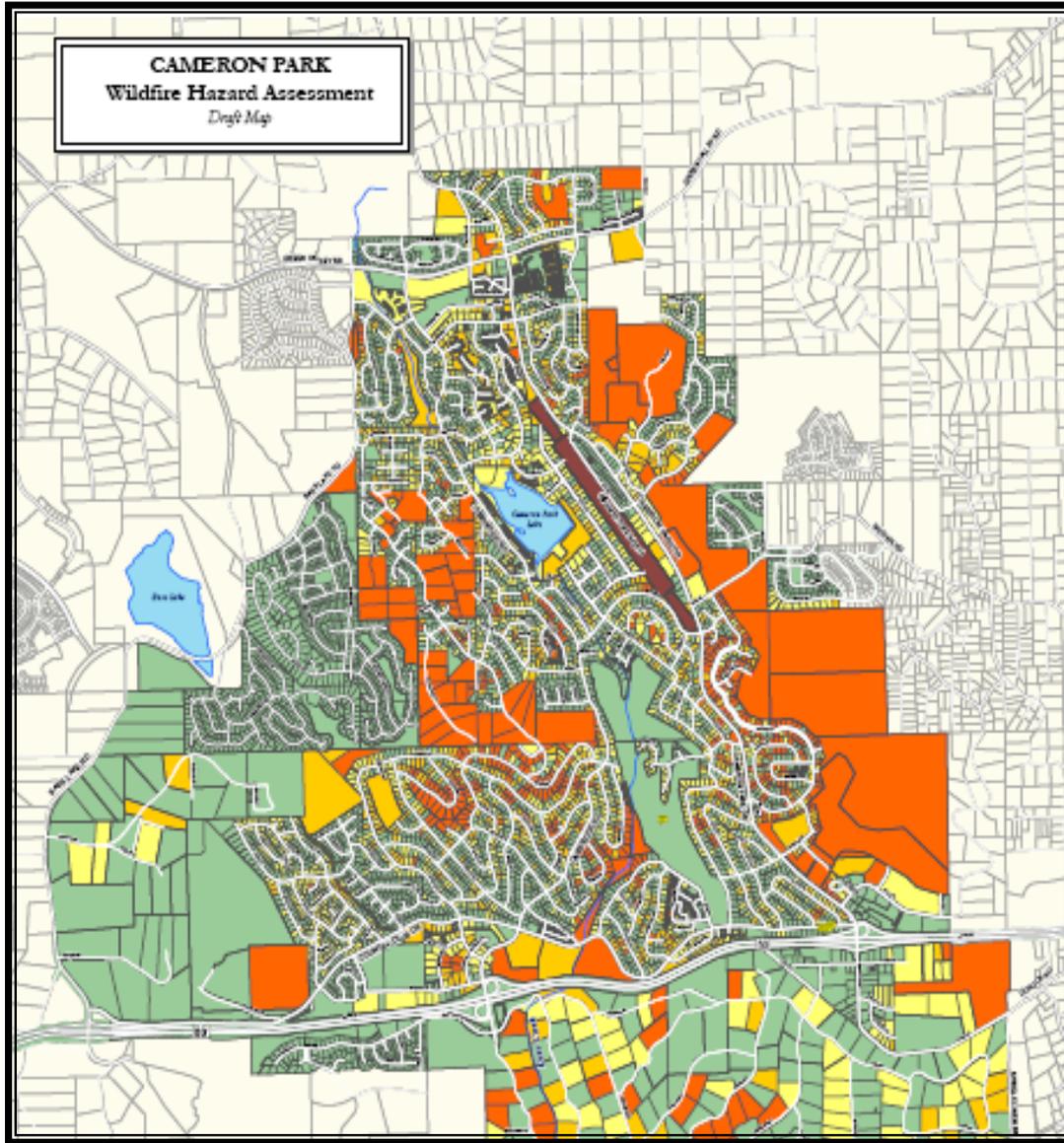
Knollwood Drive



Sudbury Road

Cameron Park Wild Fire Community Hazard and Risk Assessment

The Cameron Park Fire Safe Planning and Fuels Reduction Project depicts, in detail, the critical CAL FIRE hazard and threat to Cameron Park. This tool allows Cameron Park to prioritize wildland urban interface mitigation projects. The complete geographic inventory of the community identified those areas in most need as “extreme”. Additionally, the Cameron Park Risk Assessment has identified others areas as high, moderate, or low. Attributes assessed to develop this map include: building materials, roof type, fuel type or fuel model, and lot slope and aspect.



Map Prepared January, 2006



Fire History

The community of Cameron Park is situated next to Highway 50 which is heavily commuted by local, state, and interstate travelers. The Highway 50 corridor is also the most densely populated area of El Dorado County. Wildfire history is much higher along the Highway 50 corridor than surrounding areas of El Dorado County in terms of numbers of fires started. Over the 40 year history of the community, numerous large vegetation fires have occurred in the immediate surrounding areas.

Given the fuels, topography, weather, development and fire history in the area, the community is vulnerable to a catastrophic wildfire. The California Department of Forestry and Fire Protection (CAL-FIRE) in cooperation with the Cameron Park Fire Department (CPFD) has implemented a comprehensive "Fire Safe" project for the community of Cameron Park to minimize the potential for costs and losses associated with a catastrophic wildfire.



Hickok Fire September 2002

The most recent large fire in the Cameron Park area occurred 3 miles north of the community in 2002. The Hickok Fire burned approximately 700 acres of vegetation and threatened dozens of homes in the community of Rescue before it was stopped by firefighters at Deer Valley Road.

View from Green Valley Road and Cameron Park Drive

Fortunately the Hickok fire occurred on a day when winds were light (less than 5 mph). Had this fire occurred on a day when winds were blowing from the northwest at 25 mph it most certainly would have burned into, and probably through, the community of Cameron Park.



View from Cameron Park Airport

Cameron Park Fire Safe Project

A common complaint received by the Cameron Park Fire Department from the public is about their concern for protection from a wildfire emergency. An analysis of emergency incidents in the local area supports the public perception that the greatest threat to the community may be from a destructive wildfire similar in nature to the fire that occurred recently in South Lake Tahoe, the Angora Fire, which started this past summer on June 24, 2007. The Angora Fire burned less than 5 square miles (31000 acres) and destroyed 254 homes and 75 commercial and other structures in one day.

The Cameron Park Fire Department in Cooperation with the California Department of Forestry implemented a project in the Community of Cameron Park with a long term goal of establishing a "Fire Safe" community. The enormous scope of the problem necessitated that it be approached by a coalition of public and private stakeholders that included: 1) Fire Department officials, 2) El Dorado County government and agency officials, 3) Community Services District officials, 4) utility company representatives, 4) environmental groups, 5) insurance industry representatives, 6) real estate industry representatives, 7) homeowners associations, 8) large land owners, and 9) general public.

The project is comprehensive enough to address the entire wildland-urban interface problem in the district from small strips of flammable vegetation along roadside easements, to large tracts of undeveloped brush covered lands. No timeframes were established for the completion of this project. Progress is dependent upon the cooperation and initiative of the stakeholders, and the success in securing project funding through grants or other sources. Three critical elements of the project are:

Project Elements

Planning:

Cameron Park Fire Safe Bureau
Cameron Park Fire Safe Council
Fire Safe Development Plans – PRC 4290
Community Wildfire Preparedness Plan
Community Hazard and Risk Assessment

Fuel Reduction:

Residential Lot Clearing Requirements – PRC 4291
Vacant Lot Clearing Requirements – H&S 14875 - 14922
El Dorado County Chipper Program
Green Waste Program
Vegetation Management Program
Curbside Landscaping

Public Education:

Volunteers in Prevention
Public Displays
Demonstration Lots
Public Recognition
Hazard Awareness

Planning Element Description

Cameron Park Fire Safe Bureau – The Cameron Park Fire Department has a Fire Safe Bureau to coordinate the districts' efforts towards minimizing costs and losses associated with wildfire emergencies. The Fire Safe Bureau is located at Cameron Park Fire Station 89. The Fire Safe Bureau works with the Cameron Park Fire Safe Council to implement the Cameron Park Fire Safe Project. The Fire Safe Bureau re-focuses the efforts and priorities of the fire department personnel and resources directly on the wildland-urban interface problem.

Cameron Park Fire Safe Council – A Fire Safe Council is established in the community. It is a partnership between the fire department and the community for addressing the local wildfire hazard. The Fire Safe Council is a coalition of public and private sector stakeholders including community leaders, residents, business persons, government agencies, the fire department, and other groups and associations committed to developing a "Fire Safe" community in Cameron Park. The Fire Safe Council meets every other month. One member of the Cameron Park Fire Safe Council represents the community at the El Dorado County Fire Safe Council. The active Fire Safe Council is one of the critical elements for this project's success.

Fire Safe Development Plans (PRC 4290) – A Fire Safe Plan has been prepared and submitted for project applications for new construction and development within the community. The Fire Safe Plan provides for emergency vehicle access and perimeter wildfire protection measures. Elements of the fire safe plan include standards for road and street networks, water supply standards, building construction, and fuel modification and defensible space. The Department's Fire Safe Bureau works closely with the County of El Dorado Building and Planning to accomplish fire safe projects.

Cameron Park Wildfire Preparedness Plan (CWPP) – A preplan for managing wildfire emergencies in and around the community has been developed. The preplan incorporates information developed in the Fire Safe Plan to improve chances for initial attack success in the event of a wildfire emergency. Fuel breaks, water supplies, evacuation routes, staging areas, resource needs, strategies and tactics, etc. are developed for a variety of wildfire scenarios. The pre-plan will be distributed to local CAL FIRE fighters for training and made available to the public for educational purposes.

Community Hazard and Risk Assessment – A hazard and risk assessment has been completed for the entire community. The hazard and risk assessment quantifies the threat to persons and property in the community from a wildfire emergency. Factors such as fuel, topography, land use and types of building construction were considered. The hazard and risk assessment is a critical planning tool that directs the efforts of the Fire Safe Bureau.

Fuel Reduction Element Description

Residential Lot Clearing Requirements (PRC 4291) –Residents are required to establish defensible space around the structures on their lots, under the authority of Public Resource Code § 4291. PRC 4291 requires removal of flammable vegetation for

a minimum of 30 feet, and up to 100 feet around structures. Fire department personnel and volunteers make initial inspections. Failure to comply may result in a citation.

Vacant Lot Clearing Requirements (H&S 14875 – 14922) – Based on the community hazard and risk assessment, vacant lots are required to remove flammable vegetation under the authority of the Fire District’s weed abatement ordinance. The weed abatement ordinance was established in 2010, by the Board of Directors, under the authority of Health and Safety Code § 14875. Fire Department personnel and volunteers make initial inspections. Failure to comply may result in the fire department contracting for the abatement work and a lien being filed on the property. Failure to comply may result in a citation.

Chipper Program – The Cameron Park Fire Department utilizes the El Dorado County Fire Safe Council’s chipper program to support the residential lot clearing efforts. The chipper program provides a cost effective alternative and incentive for property owners to cooperate with the District’s fuel reduction efforts. Chips can be scattered in place on the property owner’s lot, stored in a central location for redistribution, or used as a groundcover in road easements or other areas.

Fire Resistive Plants – Ornamental trees, shrubs, and groundcovers that are fire resistive and perform well in the local soil and weather conditions have been identified. Property owners are encouraged to replace native flammable vegetation with fire resistive ornamental plants.

Public Education Element Description

Volunteers in Prevention (VIP) – The district has established a *Volunteers in Prevention* program to assist with administration of the Cameron Park Fire Safe Project and public education. The VIP program is administered by CAL-FIRE. VIP’s are utilized for a variety of fire prevention activities including office support, inspections, and public education programs.

Demonstration Lots – “Demonstration Lots” have been established around the District featuring two types of fire safe landscaping. One type demonstrates how to thin and prune native vegetation (primarily oak woodland) to reduce its fire danger potential. The other type includes fire resistive ornamental plants that can be used to replace or enhance native plant species.

Public Displays – Public education materials are constantly displayed at community events attended by the Fire Department and/or the Fire Safe Council.

Web Page – The District’s web page is updated to provide a complete overview of the Cameron Park Fire Safe Project.

Hazard Awareness and Prevention – Public education materials have been developed to heighten the awareness of the community towards the dangers of a wildfire emergency and to educate the public on the efforts to reduce the hazard. Materials include maps and information of the fire history in the local area; history of catastrophic wildfires in the state; methods for fuel reduction and fire resistive landscaping; methods for creating defensible space around structures; methods for

preventing the ignition of a wildland fire; and/or a mock newscast of a catastrophic wildfire in the community to present the reality of the danger.

Conclusion

The community of Cameron Park is in an area where high fire danger exists. This Community Fire Safe Project offered by the Cameron Park Fire Department, in cooperation with the California Department of Forestry and Fire Protection, addresses the public's concern for fire danger. It has been endorsed by the Cameron Park Fire Safe Council. It is a plan for the continued development of a "Fire Safe" community in Cameron Park. This document is subject to review and revision in the future.

Amador-El Dorado-Sacramento-Alpine Unit

Camino Emergency Command Center

The Camino Interagency Emergency Command Center (CICC) provides the Command and Control for all State Responsibility Area (SRA), Local Responsibility Area (LRA), and Federal Responsibility Area (FRA) for Amador, El Dorado, Alpine, Sacramento Counties, the Eldorado National Forest (ENF), and Tahoe Management Unit (TMU).

Amador - El Dorado - Sacramento - Alpine Unit (AEU), El Dorado National Forest (ENF) and Tahoe Management Unit (TMU) are located in CICC's dispatch center at Camino. The Interagency Command Center allows each agency to assist the other during times of high activity, the opportunity to share personnel and assures coordination of local, state, and federal fire fighting forces during wildland fires, structure fires, and medical emergencies.

CICC monitors fire weather conditions within the Unit to augment staffing prior to these weather events. CICC maintains 9 Remote Weather Stations (RAWS), and monitors these stations on a daily basis to set the appropriate dispatch level. A Standard Response Plan is pre-determined for each dispatch level for timely activation in the event of a wildfire, or other type fire which is threatening to burn the wildland.

CICC maintains an Emergency Resource Directory (ERD) which allows personnel to support any given incident within the area. The ERD contains information such as the Incident Command System (ICS) qualifications for AEU, ENF, and TMU personnel, supplies, vendors, private resources available for hire, call when needed rosters (i.e.; dozers, helicopters, water tenders, etc), and Local Government cooperators information.

CICC also has an expanded operation. The CICC Expanded Dispatch is used for large or complex incidents that outgrow the main floor of the command center. When an Initial Attack incident occurs that has the potential to become an extended attack or major incident, CICC immediately staffs expanded with ECC personnel. Once CICC Expanded is up and running, all ordering for the given incident takes place within this building and staffing levels are adjusted based on the size or complexity of the incident. The incident is assigned a separate Command Frequency, to allow the CICC to return to processing new incidents. As the incident continues to grow, additional resources are assigned from within AEU, ENF, or TMU, or orders are placed to fill from other areas of the state or nation. The properly staffed Expanded Operation allows for timely resource ordering, cancellation, or reassignment of resources, overhead, and equipment while taking the load of supporting the incident off the CICC main floor.

Mission Statement

The Camino Interagency Command Center, operated by California Department of Forestry and Fire Protection and the United States Forest Service, is a cooperative interagency command center. The command center is dedicated to providing professional and efficient dispatch services for the residents and visitors of El Dorado, Amador, Sacramento, and Alpine Counties including the El Dorado National Forest and the Tahoe Management Unit. The primary mission is to achieve the most economical and effective cooperative fire, aviation

management, emergency medical response, law enforcement, and rescue service through collaboration.

Division 6 /Battalion 8

The AEU staff is located in South Lake Tahoe (Meyers) and includes a Division Chief (Forester II) and a Battalion Chief. The Division Chief serves as forestry regulator, fire prevention enforcer, lead for both the forestry and fire protection programs and the many related political issues, and Agency Representative during emergencies. The Battalion Chief responsible for fire protection, fire prevention operations, and also is an Agency Representative during emergencies.

Battalion 8 and Division 6 share the same boundary and encompass both El Dorado County within the Lake Tahoe Basin and Alpine County from Bear Valley and east to the Nevada border. The SRA lands within the entire Battalion/Division are protected by the United State Forest Service under the Cooperative Management Agreement (CFMA). CAL FIRE assists with prescribed burning operations and fuel reduction funding and operations throughout Battalion 8.

The El Dorado County area of the Battalion encompasses approximately 16,000 acres of SRA land and is protected through the CFMA agreement from wildfire by the USFS Tahoe Management Unit. El Dorado County communities within the Battalion include Meyers, South Lake Tahoe, Fallen Leaf, Meeks Bay, Rubicon Bay and Tahoma.

The Alpine County area of the Battalion encompasses approximately 45,136 acres of SRA land and is protected from wildfire through the CFMA agreement by the USFS Humboldt-Toiyabe National Forest. Alpine County communities within the Battalion include Markleeville, Woodfords, Bear Valley, and Kirkwood.

EL DORADO COUNTY-LAKE TAHOE BASIN

The elevation of the SRA lands of Battalion 8 within the Lake Tahoe Basin ranges from 6,200 feet (lake level) to upwards of 7,382 feet (Echo Summit). The SRA lands are primarily at lake level and characterized by the Upper Montane vegetative community, consisting of a mix of ponderosa pine at the lowest elevation, white fir, incense cedar, Jeffrey pine, sugar pine, lodgepole pine, and red fir at the higher elevations.

Historically, the Wildland Urban Interface (WUI) areas surrounding Lake Tahoe burned frequently from lightning strikes with a return interval of between 7 and 15 years. However, very little of these WUI areas have been burned by lightning and human-caused ignition sources combined. In recent years, the Tahoe Basin has experienced larger fires, such as the 2002 Gondola Fire, 2007 Angora Fire, and the 2007 Washoe Fire.

The difference between the threat of catastrophic fire to the Lake Tahoe Basin and the threat of catastrophic fire to other areas of California and Nevada is the presence of Lake Tahoe itself. Lake Tahoe is one of the few areas in America that warranted creation by two neighboring states, as well as Congress, of a planning authority to oversee its protection, the Tahoe Regional Planning Agency.

On June 24, 2007 the Angora Fire destroyed 254 homes and 3,100 acres of timberland near South Lake Tahoe. Nevada Governor Jim Gibbons and California Governor Arnold Schwarzenegger acted upon the communities' requests for a fire and fuels policy review. Together, through a Memorandum of Understanding on June 25, 2007, they created the California-Nevada Tahoe Basin Fire Commission to review the laws, policies, and practices that contribute to the vulnerability of the Tahoe Basin to wildfires. This task was completed May 2008. The California-Nevada Tahoe Basin Fire Commission's report includes 48 findings and 90 recommendations. They are organized into six categories that address short-term and long-term needs, policy changes, education, funding, governmental structures, and environmental practices related to Lake Tahoe's vulnerability to wildfire. CAL FIRE was a key part of the commission's recommendations regarding fire suppression, fire prevention, and fuel reduction.

On May 27, 2008, Governor Schwarzenegger declared a State of Emergency for Placer and El Dorado counties, and issued a Proclamation which directed CAL FIRE to:

- Conduct vigorous defensible space inspections, provide public education about defensible space and impose fines or liens if appropriate
- Staff additional fire engines and other firefighting resources in the area as conditions dictate

With respect to all matters within the Tahoe Basin, the Commission determined that protection of life, property, and the environment be served in that order of priority (Recommendations 78 and 89). In that regard, the Commission recommended a number of actions involving CAL FIRE as follows:

- Enhance fire suppression resources within the Basin including revision of the "Balance of Acres" agreement between the State of California and federal authorities to assure that the Basin receives 24/7 fire protection services at a level equal to other state responsibility areas in California (Finding 37; Recommendations 10 and 75)
- Re-introduce CAL FIRE's presence within the Basin (Recommendation 76)
- Make fuels reduction projects in areas within and adjacent to the Basin's communities the first priority by all agencies (Recommendations 69 and 89)

Tahoe Station 5

The Governor's Proclamation (Recommendation 75) mandated that CAL FIRE "secure and deploy additional resources...to protect the safety of persons and property from wildfires within the counties of Placer and El Dorado during the periods of elevated fire risk." To meet the Commission's recommendation for AEU, CAL FIRE's Director authorized one CAL FIRE engine be stationed at the south end of Lake Tahoe. The engine was stationed in Meyers, at a volunteer fire station owned by the Lake Valley Fire Protection District (Station 5). The presence of the AEU Tahoe engine was discontinued in the Governor's FY 2011 due to budget shortfall. The following are the accomplishments performed by the AEU Tahoe engine during fire seasons 2008-2011.

Battalion 20 Fire Prevention

Introduction

AEU is located in the North Central Sierra. It includes Amador, El Dorado, Alpine as well as portions of Sacramento and San Joaquin counties. AEU encompasses a total of 2,667,841 acres; of this, 1,047,384 acres is State Responsibility Area (SRA), and AEU's Direct Protection Area (DPA) serves 903,860 acres. The United States Forest Service, Bureau of Indian Affairs, Bureau of Land Management, and Bureau of Reclamation manage lands that are protected by the Unit. Conversely, the Forest Service provides direct wildland fire protection to private lands, or SRA, that are within the Eldorado National Forest, the Lake Tahoe Basin Management Unit and the Humboldt-Toiyabe National Forest.

The Unit contains all or part of three major watersheds. These watersheds contain the Middle and South Forks of the American River, the North Fork of the Mokelumne River and all three Forks of the Cosumnes River. Numerous water agencies and power companies utilize these watersheds for hydroelectric power generation and irrigation purposes.

Fire History

The Unit's fire history is one of numerous small fires with large fires occurring every thirty to forty years. The last large fire was the Rancheria Creek Fire in 1961 at 34,104 acres. Over the past twenty years population growth and development in the wildland-urban interface have placed additional homes and businesses at risk from vegetation fires. Both large and small fires often create wildland-urban interface fire protection problems, previously only found in the most densely populated areas of Southern California.

Historically, the largest fires in AEU are aligned east to west. This is particularly evident in Amador County. The east to west orientation is due to two factors: 1) prevailing winds and 2) terrain. El Dorado and Sacramento Counties are more likely to experience fires which run from north to south - especially at the lower elevations. However, large fires in El Dorado County also follow a similar east to west orientation as those in Amador County.

2012 Fire Incident Documentation Policy

It is the goal of the Unit to investigate all fires according to established procedures, quickly identify arson or potential civil cost recovery fires, and to staff and manage investigations adequately and cost effectively. Fire incident documentation is critical to the development of the Unit's Ignition Management Plan.

In 2012, the Fire Prevention Bureau updated the Unit's Fire Incident Documentation Policy. The new policy directive should streamline the reporting and investigation of vegetation fires.

All wildland fires require a full LE-66. A wildland fire is defined as any uncontrolled vegetation fire which threatens to destroy life, property or resources and is either:

- a. Unattended; or
- b. Attended by persons unable to prevent the spread of the fire.

Examples include vegetation fires burning uncontrolled whether attended or not; vegetation fires that are a threat to life, property or resources; a debris or control burn that has escaped the landowner's control; and any debris or control burn without an escape that was extinguished due to a *threat* to the wildland.

In addition, the Unit formalized the use of LE-38A's, Notice of Fire Hazard Inspection, for less complex investigations that do not warrant a citation by a public officer or peace officer. LE-38A's will be utilized as an educational and enforcement tool when there is a violation of a Public Resource Code, Health and Safety Code, California Code of Regulation, or Air Quality Requirement such as burning illegal material or burning on a no burn day. LE-38A's will be forwarded to the Fire Prevention Bureau Chief within 7 days so necessary follow-up actions can be taken.

Local Land Use Planning and the SRA Fire Safe Regulations

In 1986, the California Board of Forestry and Fire Protection, supported by CAL FIRE, introduced legislation (Senate Bill 1075, Rogers) to develop *minimum* statewide standards for defensible space in State Responsibility Areas (SRA). This legislation was motivated by local government's general lack of response to wildland fire prevention and protection problems over the previous 20 years. This comprehensive wildland fire safety legislation was passed by the Legislature and signed by the Governor in 1987. SB1075 required the California Board of Forestry and Fire Protection to establish minimum fire safety requirements that applied to SRA.

Regulation development began in early in 1988, and final implementation of the state and local regulation packages occurred on January 1, 1992 via PRC 4290. PRC 4290 requirements address emergency access and water supplies, addressing and street signing, and fuel modification relating to new construction and development. The implementation of these regulations occurs through the local government building permit and subdivision map approval process. Local government is still the approving authority for development.

PRC 4290 regulations are triggered by the application for a building permit for purposes other than limited remodels, including but not limited to submittal of a subdivision map, application for a use permit, placement of a mobile or manufactured home, or constructing a road. These regulations do not supersede existing local regulations that are equal to or more stringent than the state regulations.

The Amador-El Dorado-Sacramento-Alpine Unit Fire Prevention Bureau oversees the application of Public Resources Code Section 4290 and Title 14 of the California Code of Regulations Section 1270 on all private lands classified as SRA within the Unit. These regulations are best known as the "SRA Fire Safe Regulations," and constitute the basic wildland fire protection standards of the California Board of Forestry and Fire Protection. CAL FIRE has been given the role of wildland fire protection expert and is provided the opportunity to review and comment on all proposed construction and development within the SRA.

In cooperation with El Dorado County Planning, Amador County Planning and Alpine County Planning, CAL FIRE has oversight responsibility and reviews Land Division Applications for compliance with PRC 4290. CAL FIRE forwards recommendations to the appropriate Planning Department specifying the minimum requirements necessary to meet state law.

The major factors considered in the review of any subdivision map are:

1. Access

Access is a major fire prevention and protection need, whether wildland or structural. Failure to provide reasonable access for emergency equipment and evacuation exits for civilians can result in major loss of life, property and natural resources. Fire apparatus sitting at an intersection, waiting for civilians to exit on a narrow road, cannot provide the necessary fire suppression action. Safe access requires street and road networks that limit dead-end roads and provide reasonable widths, grades, turn-outs, and curves on all roads and driveways.

2. Addressing and Street Signing

The difficulty of locating an unnamed or poorly signed road during an emergency, especially under smoky conditions, is a major problem to wildland and structural firefighters. Beyond this, many jurisdictions have allowed duplicate numbering and naming for roads and access, further compounding the location problem. The potential losses of life, property and resources are greater without an adequately visible and consistent addressing and numbering system.

3. Water Supplies

The application of water and the construction of a fire line are the primary tools used by wildland firefighters to contain and control a wildfire. The location and availability of sufficient quantities of water are essential to fire suppression and firefighter safety. While a single system of water delivery and/or storage is adequate, the effectiveness of any suppression system increases with diversity. Emergency water supplies are necessary to provide readily available, and accessible, emergency water for structural and wildland fire protection.

4. Fuel Modification Considerations

The establishment of physical barriers between a structure and the wildland is recognized as a major deterrent and loss reduction measure. Such barriers should be considered key to individual and community defensible space. While fuel breaks have strategic application over large geographical areas, they are expensive to construct and maintain. Other measures, such as the strategic placement of roads, recreational parks, irrigated landscaping, setback from property lines and fuel modification around structures are more suitable around homes and subdivisions.

Law Enforcement

The Unit currently has ten active Peace Officers (PC 830.2(g)) within the Unit. One of the eight is a Peace Officers are Field Training Officers (FTO). Current Peace Officer assignments are as follows:

Unit Chief
Deputy Chief, Operations
Assistant Chief, North Division
Battalion Chief, Fire Prevention Bureau
Fire Captain Specialist, Fire Prevention Bureau (FTO)
Fire Captain Specialist, Fire Prevention Bureau
Forester I, Forest Practice
Forester I, Forest Practice

The Unit will continue to utilize its Peace Officers for general Law Enforcement duties, Fire Prevention Efforts, Forest Practice Enforcement, Civil Cost Recovery Efforts, Internal Affairs Investigations, Out of Unit Assignments, various Fire Prevention and Law Enforcement workgroups, and training assignments/cadres.

The availability of all ten Unit Peace Officers on a routine and consistent basis is obviously limited by current Peace Officers assignments within the Unit. However, the depth and continuing commitment of the Unit to maintaining and training a sufficient number of Peace Officers continues to pay dividends in successful fire prevention efforts and law enforcement actions within the Unit and on a statewide stage.

Sacramento County

Sacramento County consists of 119,248 acres of CAL FIRE Direct Protection Area and is divided into portions of CAL FIRE Battalion 1 and Battalion 4. (See Appendix B for Battalion Boundaries Map) The majority of Sacramento County is provided fire protection by local government cooperators; Sacramento Metropolitan Fire, Folsom Fire Department, Elk Grove Fire, Herald Fire Protection District, Wilton Fire Protection District,

Alpine County

Alpine County is located primarily within the CAL FIRE Amador-El Dorado-Sacramento-Alpine (AEU) Unit and has approximately four percent of its lands designated as State Responsibility Area. The AEU portion of Alpine County extends from the Sierra Crest near Bear valley eastward to the Nevada state border. The remaining western portion of Alpine County lies within the CAL FIRE Tuolumne-Calaveras Unit. The remaining ninety-six percent of Alpine County is United States Forest Service.

Alpine County is the least populated county in California (1,159 people in 2005) and is generally split into two distinct geographic areas: Eastern Alpine County and Western Alpine

County. Elevation ranges from 5,617 feet at Woodsford adjacent to the Nevada border to upwards of 8,730 feet at Ebbets Pass. The SRA land encompasses 4% of the total acreage of Alpine County. The SRA lands are located primarily at the communities of Markleeville and Woodsford in eastern Alpine County, and Bear Valley and Kirkwood in western Alpine County. Eastern Alpine County is the area located east of the crest of the Sierra, known as the Sierra Front, and is characterized by high elevation eastside Jeffrey pine stands with sage brush and manzanita understory, as well as open rangeland areas of sagebrush, bitterbrush, and mountain mahogany adjacent to the Nevada border. Western Alpine County is dominated by the subalpine vegetative community which, depending on elevation, consists of a mix of white fir, red fir, juniper, incense cedar, Jeffrey pine, sugar pine, lodgepole pine, and western white pine and mountain hemlock at the highest elevations.

SUMMARY

The Battalion enjoys cooperative relationships with local CAL FIRE agencies within its boundaries. In addition, the Battalion values a close working relationship with the federal land management agencies including the USDA Forest Service and the USDI Bureau of Land Management. The cooperating entities that lie within Battalion 8 / Division 6 are:

- Lake Valley Fire Protection District
- City of South Lake Tahoe Fire Department
- Fallen Leaf Volunteer Fire Community Services District
- Meeks Bay Volunteer Fire Protection District
- North Tahoe Fire Protection District
- North Lake Tahoe Fire Protection District
- Tahoe-Douglas Fire Protection District
- Nevada Fire Safe Council
- Eastern Alpine County Fire Services (Markleeville and Woodsford)
- California State Parks
- Alpine County Fire Safe Council
- Tahoe Regional Planning Agency

San Joaquin County

San Joaquin County consists of 24,888 acres of CAL FIRE Direct Protection Areas with the Amador-EI Dorado Unit and is part of CAL FIRE Battalion 4. (See Exhibits for Battalion Boundaries Map) San Joaquin terrain consists of mostly grazing grassland and agriculture.

APPENDIX A: HIGH PRIORITY PRE FIRE PROJECTS

Batt	Project Number	Project Name	Status	Estimated Completion Year	Project Type	Net Acres
1	CalMapper 009	Sly Park	O	Continuous	VMP	
1	CalMapper 010	Sly Park North	O	Continuous	VMP	
2	CalMapper 005	Gold Hill	C	2011	VMP	9
2	CalMapper 001	Bacchi / Lewis	O	Continuous	VMP	
2	CalMapper 002	Finnon Lake	O	Continuous	VMP	

Batt	Project Number	Project Name	Status	Estimated Completion Year	Project Type	Net Acres
2	CalMapper 006	Buchholz	C	2011	CFIP	51
3	CalMapper 004	Doaks	O	Continuous	VMP	
3	CalMapper 007	Van Dipen	C	2011	CFIP	150
3	CalMapper 008	Jones	C	2011	CFIP	61.4
3	CalMapper 011	Shake Fiddle Town	A	Continuous	VMP	
4	CalMapper 003	Chance	O	Continuous	VMP	
4	CalMapper 012	Van Vleck	A	Continuous	VMP	
8	CalMapper 013	Markleeville, Alpine County	P	2012	Fuel Re.	
8	CalMapper 014	Bear Valley, Alpine County	P	2012	Fuel Re.	
8	CalMapper 015	Woodford, Alpine County	P	2012	Fuel Re.	
8	CalMapper 016	Lake Valley / Meyers Fuel Reduction	P	2012	Fuel Re.	
8	CalMapper 017	Meeks Bay Fire Chipper Program	P	2012	Fuel Re.	
1	CalMapper 018	Grizzly Flat Fuel Treatment Project (GF-5)	C	2010	Fuel Re.	190
1	CalMapper 019	Grizzly Flat Fuel Treatment Project (GF-6/7)	C	2010	Fuel Re.	160

Status Guide: A = Active, P = Planning, C = Completed, O = Ongoing, M = Maintenance.

UNIT GOALS

Goal 1: Identify and evaluate wildland fire hazards and recognize life, property and natural resource assets at risk, including watershed, habitat, social and other values of functioning ecosystems. Facilitate the sharing of all analyses and data collection across all ownerships for consistency in type and kind.

Objectives:

a) Engage and participate with local stakeholder groups (i.e., fire safe councils and others) to validate and prioritize the assets at risk.

1.) See Appendix A (HIGH PRIORITY PRE FIRE PROJECTS)

2.) See Pages 58-63 (Battalion Projects)

3.) See Pages 34-54 (Cameron Park)

Goal 4: Increase awareness, knowledge and actions implemented by individuals and communities to reduce human loss and property damage from wildland fires, such as defensible space and other fuels reduction activities, fire prevention and fire safe building standards.

Objectives:

a) Increase the number and effectiveness of defensible space inspections and promote an increasing level of compliance with defensible space laws and regulations through the use of CAL FIRE staffing as available, public and private organizations, and alternative inspection methods.

1.) See Fire Prevention Page 64

Goal 5: Develop a method to integrate fire and fuels management practices with landowner priorities and multiple jurisdictional efforts within local, state and federal responsibility areas.

Objectives:

h) Support the availability and utilization of CAL FIRE hand crews and other CAL FIRE resources, as well as public and private sector resources, for fuels management activities, including ongoing maintenance.

1.) Both Growlersburg Camp and Pine Grove are a key contribution to the success of AEU's ongoing VMP, CFIP, Prop 40, and CAG projects.

Amador County

Current Battalion 3 Projects:

Pine Acres Fire Safe Project

The Pine Acres Fire Safe Project is an attempt to establish a defensible fuel zone between the community of Pine Acres and the Mokelumne River Canyon. This project has been on going for 8 years. The current phase is a Fire Safe Council Project. This year's work will consist of an herbicide application to kill the re-growth on previously treated lands. The crews from Pine Grove will then cut the dead vegetation in the fall.

The funding for this project is through a grant written by the Amador Fire Safe Council.

Cooperators / Collaborators

Amador-El Dorado-Sacramento-Alpine Unit, Amador County Fire Safe Council
BLM, and Local landowners

Omo Ranch Fire Safe Project

Omo Ranch Fuel Break is a defensible fuel zone/shaded fuel break along Omo Ranch Road in Amador and El Dorado Counties. The project begins at Highway 88 and progresses west to Road E16 near Mt. Aukum. This project also includes the Barney Ridge and Farnham Ridge fuel breaks. The primary purpose of the project is to establish a defensible fuel break to protect the interface communities of the area and to support fire fighting operations. The community of Omo Ranch is a small and relatively isolated community in southern El Dorado County.

CAL FIRE, Sierra Pacific Industries, and the USFS have completed most of the work. The next phase will be a maintenance program. All work to be completed by CAL FIRE is covered by a mitigated negative declaration and a VMP contract. All work on the National Forest lands was completed by the USFS.

Cooperators / Collaborators

Amador-El Dorado Unit
USFS
Amador Fire Safe Council
El Dorado County Fire Safe Council
Sierra Pacific Industries

Shake Ridge/Antelope Fire Safe Project

The primary objective of the project was to establish defensible fuel zones around the community near Amador Pines and provide assistance with fire safe clearances. The project also includes the areas of the Scott Creek and Fiddletown fuel breaks. This project includes prescribed fire, fire crew pre/post prescribed fire treatments, roadside clearance work, dooryard chipping, mastication, tree thinning, and enhanced fire safe inspections. All work on this project has been completed with a mitigated negative declaration and the State Vegetation Management Program.

This project has been on going for about 10 years. The work currently being done is construction of a shaded fuel break along Fiddletown Road. This phase is funded through the VMP program.

The Amador Fire Safe has a grant which is funding the continuation of the shaded fuel break in the Antelope Creek drainage south of the Rabb Park and Silver Lake Pines subdivisions.

Cooperators / Collaborators

Amador-El Dorado Unit

USFS

Sierra Pacific Industries

Amador Fire Safe Council & Local landowners

Pioneer Volcano Community Wildfire Protection Plan

This project is a joint effort between the Amador Fire Safe Council, the Local Government Fire Departments, community leaders, and CAL FIRE. Once complete, it will be a comprehensive plan which addresses, fuel reduction, ingress and egress, evacuation plans, community hazards, road signage, water supply, and any other wildfire related issues. This plan is part of the Amador County CWPP that was approved last year. Once complete, this CWPP will become the template for other CWPPs in the county.

This project is funded by a grant through the Amador Fire Safe Council. Currently Retired Cal Fire Unit Chief Jim Simmons is evaluating different communities in the CWPP for fire danger. He is using a model that looks at water supply, street signage, access, and other factors which would create hazardous situations during a wildfire.

Future Battalion 3 projects

Doakes Ridge Fuel Break

Develop a fuel break on Doakes Ridge and surrounding lands to tie the Antelope Fuel break in with SPI fuel breaks on Cooks ridge. This project will begin in the fall and will consist of mechanical work, crew work and broadcast burning. Most of the work will be on PG&E and SPI ground.

Pine Acres Fire Safe Project

Maintain a defensible fuel zone within and between the community of Pine Acres and the Mokelumne River Canyon.

Develop a Community Wildfire Protection Plan/Evacuation Plan for the Pine Grove/Pine Acres area.

Develop a Public Education Program (Including Public Information Mailer/Self-Certification*) for PRC 4291.

Shake Ridge/Antelope Fuel Break

Develop New and Maintain existing defensible fuel zone extending West on Shake Ridge towards Volcano.

Tiger Creek Fuel Break

Develop a defensible fuel zone extending west from the Antelope Fuel Break to the Tiger Creek Power Plant on the Mokelumne River.
Coordinate with other groups to facilitate ingress/egress route clearing.

Omo Ranch Fuel Break

Develop new and maintain existing defensible fuel zone/shaded fuel break along Omo Ranch Road in Amador and El Dorado Counties beginning at Highway 88 and progressing North-West to E-16 in Mt. Aukum.

Surrey Junction Fuel Break

Develop a defensible fuel zone extending North-East from Ridge Road, beginning in the vicinity of Bates Road, and following the 2000 foot contour line around the Surrey Junction and Tanyard Hill residential areas to Lupe Road.

Coordinate with other groups to facilitate ingress/egress route clearing.

Defender Grade Fuel Break

Develop a defensible fuel zone extending South from Highway 88 at Pioneer following ridges to Highway 26 and then to Mokelumne River Canyon.

Coordinate with other groups to facilitate ingress/egress route clearing.

Public Information Mailer/Self-Certification*

In order to achieve all of the potential benefits of Defensible Fuel Zones established and/or in progress, an aggressive public education program is required. This public information program will target developed properties within the community. The purpose of this public education program is to provide information about individual defensible fuel zones (defensible space) around property improvements.

In order to maximize the distribution of information to the community, it is the intent to utilize a public education mailer. The mailer will include information about defensible space, fire safety precautions and a self-certification process. The self-certification process will allow community members to interact with the department regarding:

1. The completion of defensible space work
2. Incomplete defensible space work/non-response
3. Questions regarding defensible space work

Information provided by the self-certification process will be mapped in ArcView for GIS evaluation of compliance and non-compliance/no response.

Battalion 3 Ignition Management Plan

Equipment Use:

Public Education within the primary market to include but not limited to:

1. Power Equipment Retailers
2. Public Events (County Fair etc.)
3. Public Information Mailer
4. Burn Permit Process
5. Print and Television Media

Arson: Aggressively pursue investigations where patterned or recurring behavior appears to account for fire starts.

Electrical: Work with PG&E and SMUD to inspect and maintain power transmission lines and facilities especially in regard to clearance.

Vehicles: Work with Caltrans and Amador County Road Department to more aggressively pursue roadside fuel reduction/abatement programs.

Battalion 4

Within Battalion 4 a strong emphasis is placed on projects which involve fire preparedness training. Logistical and training support is provided to the CAL FIRE Academy in Lone and to the AEU training program with the following projects:

Heavy Forestry Equipment Operations Training

Through the efforts of the AEU VMP Coordinator landowners who control strategically significant lands are placed under VMP contract to allow the HFEO class to practice their dozer operator skills. The land placed under contract is primarily that which is owned by cattle ranchers desiring to convert their brush covered lands to grazing lands. To enhance the effectiveness of this project CAL FIRE burns the resulting piles and the ranchers seed the treated land each fall. In this fashion there is mutual benefit to the rancher, in the form of additional/improved grazing land, and to the Department, in the form of trained and tested operators. A collateral benefit to CAL FIRE is significant fuels reduction within the training areas which are located primarily in Amador County.

Van Vleck and Nature Conservancy training sites:

Through VMP agreements, the Unit uses two sites in eastern Sacramento for training purposes. Each year the Unit burns between 500 and 700 acres of grass. We use this land to conduct Intermediate Firing Class and the FI 210 investigation class. This gives our unit personnel valuable training, while providing for range improvements and vernal pool habitat improvements.

River Pines Community Fire Safe Plan

This project is funded by a grant through the Amador Fire Safe Council. The work is being done by private companies through contracts with the Fire Safe Council. There are two phases to this project. The first phase is now underway. The contractors are assisting

community members in removing urban waste in the town. Junked cars, household appliances and other waste has created ingress egress issues, as well as fuel loading issues. The second phase is now being planned. It will provide a shaded fuel break around the perimeter of the town.

Jackson Rancheria Project

The Jackson Rancheria of Me-Wuk Indians has developed a gaming facility complete with a hotel and convention center. The Tribe has also purchased the 1000+ acre Caminetti Ranch property adjacent to the south boundary of the Rancheria. In addition to the gaming and lodging facilities described above there are new amenities being developed on the Caminetti Ranch portion of the property. A gas station and a one hundred space recreational vehicle park are now open. These amenities will potentially contribute to the wildland fire protection problems in the area. The Tribe is now creating fuel breaks along ridges and through drainages, which are designed to slow the spread of wildfire from and towards the commercial improvements.

Public Education Projects

There are two new public education projects within Battalion 4:

First, in conjunction with other Battalions in AEU, Battalion 4 would like to participate in an educational PRC 4291 project which would involve mailing defensible space literature to property owners within targeted high risk areas of the Battalion. These mailers would include educational material regarding PRC 4291 requirements and a process for residential property owners to complete LE 100 style inspections utilizing a self certification process. The program would also include a random follow-up inspection component to verify that the self certifications were accurate and that PRC 4291 objectives had been met.

Second, the fire prevention signs within Amador County are in a state of disrepair and the public education messages are dated. As a result, county residents drive past these signs on a daily basis and do not notice the signs nor the messages contained thereon. The objective in the Battalion is to repair and replace the signs with attention attracting features and relevant public education messages which will be noticed and embraced by the motoring public.

The following table shows the proposed signs:

LOCATION	PREVENTION MESSAGE BY PRIORITY	DIRECTIONAL VIEW
JVFPD Station 171 Quiver @ Curran Comanche	<ol style="list-style-type: none"> 1. Defensible Space 2. Equipment Use 3. Debris Escapes 4. Fireworks 	Two Sided Message
Plymouth @ south city limit, east side of Hwy. 49	<ol style="list-style-type: none"> 1. Defensible Space 2. Equipment Use 3. Debris escapes 4. Fireworks 	Single Sided Message
Fiddletown Road @ AmerCa	<ol style="list-style-type: none"> 1. Defensible space 2. Ingress/egress/addresses 3. Debris Escapes 4. Equipment use 	Single Sided Message
Highway 88 @ Dew Drop Bypass Road	<ol style="list-style-type: none"> 1. Defensible space 2. Ingress/egress/addresses 3. Debris escapes 4. Equipment use 5. Fireworks 	Single Sided Message. Reverse side is ENF Fire Danger Rating.
Highway 88 @	<ol style="list-style-type: none"> 1. Defensible space 2. Ingress/egress/addresses 	Two Sided Message

Pioneer Cemetery	3. Debris escapes 4. Equipment use 5. Fireworks	
Ridge Road @ Climax Road Pine Grove	1. Defensible space 2. Ingress/egress/addresses 3. Equipment Use 4. Debris escapes 5. Fireworks	Single Sided Message
Sutter Hill Fire Station, 11600 Highway 49	1. Defensible space 2. Equipment Use 3. Debris escapes 4. Ingress/egress/addresses 5. Fireworks	Two Sided Message

El Dorado County

Battalion 1

The fuels within Battalion 1 are diverse, and include approximately 18% timber, 33% brush, and 49% grass/oak woodland.

Like many areas in the Sierra Nevada's the Battalion contains a significant wildland-urban interface problem. All communities within Battalion 1 SRA are evaluated using the following general and specific criteria to determine their Hazard/Target status:

- Potential for life loss
- Potential for property loss
- Potential for high community consequence (historical, environmental, infrastructure, etc.)
- Fuel types and fuel loading
- Ingress and egress
- Stakeholder collaboration

All communities within Battalion 1 meet the Target Hazard Criteria, some to a greater or lesser degree than others listed. According to FRAP data, approximately 95% of Battalion 1 is rated as high or extreme in SRA fire severity ratings.

Battalion 1 Vegetation Management Projects:

Sly Park Fire Safe Project

This project is a 1,200 acre fuels treatment project that prescribes the creation of a Defensible Fuels Zone/shaded fuel break between Park Creek Road and Sly Park Reservoir with the utilization of broadcast burning as well as hand treatment by CAL FIRE Growlersburg crews. This project provides a fuel break for the surrounding communities and natural resources around Sly Park Reservoir. Landowners, situated along the border of the project, will be allowed to participate in the Sly Park Fire Safe Project II by including their residential parcels in the fuel break.

This project has year round mitigation measures with handcrew work from Growlersburg Camp and is accelerated in the fall with prescribed fire use from Battalion 1 and 2 resources.

Cooperators:

CAL FIRE Amador-El Dorado Unit
El Dorado Irrigation District
Non-Industrial Private Landowners

Pine Hill Infrastructure Protection

This project provides defensible space to critical communications infrastructure on Pine Hill. The current communications site supports CAL FIRE, EDSO, CHP, DHS, and numerous private communications companies. In addition, CAL FIRE is responsible for the protection of the historical CAL FIRE lookout on Pine Hill. The top 80 acres of Pine Hill is owned by CAL FIRE and the communications site is managed by American Tower in cooperation with DGS.

The VMP project encompasses approximately 15 acres surrounding the immediate infrastructure and will be treated with initial hand piling and burning. Once the project is placed into a maintenance mode, there is support to increase the amount of VMP acreage and to incorporate additional types of treatments including prescribed fire.

Cooperators:

CAL FIRE Amador-El Dorado Unit
Department of General Services
Pine Hill Cooperators Local Agreement

Battalion 2

Auburn Lake Trails Fire Safe Project

The Auburn Lake Trails subdivision is situated at the rim of the American River canyon at the edge of the lake that would have been formed by the Auburn Dam. Exclusion of fire and the heavy public use below the subdivision create a very hazardous condition with respect to the potential for ignition. The topography, fuels, and significant numbers of homes create a combination of factors that will cause significant resource damage as well as a major risk to life safety within the community.

The primary strategy is to establish defensible fuel zones around and within the subdivision. CAL FIRE fire crews will conduct VMP project work on federal lands adjoining the subdivision. Private land owners will be asked to participate in the VMP so fuels reduction will continue on the private lands between homes and the federal lands project area. The property owner's association retains control of all the common area within the subdivision and is the primary partner with the Auburn Lake Trails VMP. Currently CAL FIRE has treated approximately 200 acres of federal and private lands

Battalion 2 Hazard/ Target Areas

The entire area covered within Battalion 2 would be considered a Target Area with significant potential. As noted earlier, the Divide has a significant fire history that has proven to challenge fire suppression efforts over the years. With the increase in population within the Divide, the potential for increased ignitions are ever growing. Some Target Areas include but are not solely limited to:

Community of Mosquito

Community of Garden Valley and surrounding communities

Community of Georgetown and surrounding communities

Auburn Lake Trails

Major travel corridors noted below

American River Drainage

Coloma State Park

Future Battalion 2 Projects:

Future projects within the boundaries of Battalion 2 should focus on the following areas:

Continued work on the ALT Fuels project including roadside clearing and ALT greenbelt/ common space areas.

VMPs with major landholders to reduce fire hazards and noxious weeds.

Roadside clearances along all major routes of travel on the Divide.

- Hwy 49 corridor
- Hwy 193 corridor
- Rock Creek Road
- Mosquito Road
- Sliger Mine Road
- Spanish Dry Diggings Road
- Wentworth Springs Road
- Marshall Road
- Bayne Road
- Shoo Fly Road
- Bear Creek Road
- Spanish Flat Road
- Rattlesnake Bar Road
- Salmon Falls Road

Fuel Break Projects in the Mosquito area to continue towards connecting with fuels projects already accomplished by the USFS.

Fuels reduction in the Shoo Fly/ Bear Creek Road areas to work towards connecting with the USFS Darling Ridge Fuel Break.

Opening and maintenance of the Truck Trail between Tim Mine Rd and Rock Creek Road allowing emergency equipment access between these two locations as well as providing a fuel break.

Continuous Defensible Space inspection program (PRC 4291)

FIRE PREVENTION BUREAU

*Battalion Chief Chris Anthony
Fire Captain Specialist Tom Oldag
Fire Captain Specialist Doug Ferro*

2012 Fire Incident Documentation Policy

It is the goal of the Unit to investigate all fires according to established procedures, quickly identify arson or potential civil cost recovery fires, and to staff and manage investigations adequately and cost effectively. Fire incident documentation is critical to the development of the Unit's Ignition Management Plan.

In 2012, the Fire Prevention Bureau updated the Unit's Fire Incident Documentation Policy. The new policy directive should streamline the reporting and investigation of vegetation fires.

All wildland fires require a full LE-66. A wildland fire is defined as any uncontrolled vegetation fire which threatens to destroy life, property or resources and is either:

- a. Unattended; or
- b. Attended by persons unable to prevent the spread of the fire.

Examples include vegetation fires burning uncontrolled whether attended or not; vegetation fires that are a threat to life, property or resources; a debris or control burn that has escaped the landowner's control; and any debris or control burn without an escape that was extinguished due to a *threat* to the wildland.

In addition, the Unit formalized the use of LE-38A's, Notice of Fire Hazard Inspection, for less complex investigations that do not warrant a citation by a public officer or peace officer. LE-38A's will be utilized as an educational and enforcement tool when there is a violation of a Public Resource Code, Health and Safety Code, California Code of Regulation, or Air Quality Requirement such as burning illegal material or burning on a no burn day. LE-38A's will be forwarded to the Fire Prevention Bureau Chief within 7 days so necessary follow-up actions can be taken.

2011 Fire Season Ignition Statistics

Wildland fire ignition statistics were tracked for the entire year of 2011. The Unit experienced 194 fires within its Direct Protection Area (DPA) for the year. This number represents an 11% increase from 2010 (174 fires), and a 27% decrease from the 10-year average (266 fires).

The Five Largest Fires In The Unit:

- 1) White Fire at 30 acres, \$2500 dollars of damage, cost to suppress estimated at \$20,000 and the cause was a motor cycle crash at the Prairie City OFF Highway Vehicle Park.
- 2) Tonzi Fire at 25 acres, \$1,650 dollars of damage, cost to suppress estimated at \$32,000 and the cause was an unknown vehicle.
- 3) Poppy Fire at 19 acres, \$2,000 dollars of damage, cost to suppress estimated at \$8,000 and the cause was burning cardboard.

4) Meiss Fire at 16 acres, \$1,500 dollars of damage, cost to suppress estimated at \$6,000 and the cause a blown SMUD Fuse.

5) Groovy Fire at 14 acres, \$10,000 dollars of damage, cost to suppress will be finalized in 2012, and the cause was an escape from burning logging slash piles.

2011 Five Largest Fires	Acres	Damage	Cause
White	30	\$2500	Vehicle
Tonzi	25	\$1,650	Vehicle
Poppy	19	\$2,000	Control Burning – Cardboard
Meiss	16	\$1,500	Electrical
Groovy	14	\$10,000	Control Burning – Piles

Approximately 262 acres burned in 2011 compared with the 10-year average of 1,302 acres. Damage caused by these fires in 2011 was estimated at approximately \$756,000. This includes 3 structures that burned due to hot ashes placed in the dry vegetation.

In reviewing fire causes during the 2011 season it was found that the five leading causes of vegetation fires in the Unit were:

- 1) **Control Burning (43 fires – 23%)**
- 2) **Vehicles (41 fires – 21%)**
- 3) **Miscellaneous (28 fires – 14%)**
- 4) **Equipment (22 fires – 11%)**
- 5) **Electrical (22 fires – 11%)**

The five leading causes accounted for 154 fires, or 70%, of all fires that occurred.

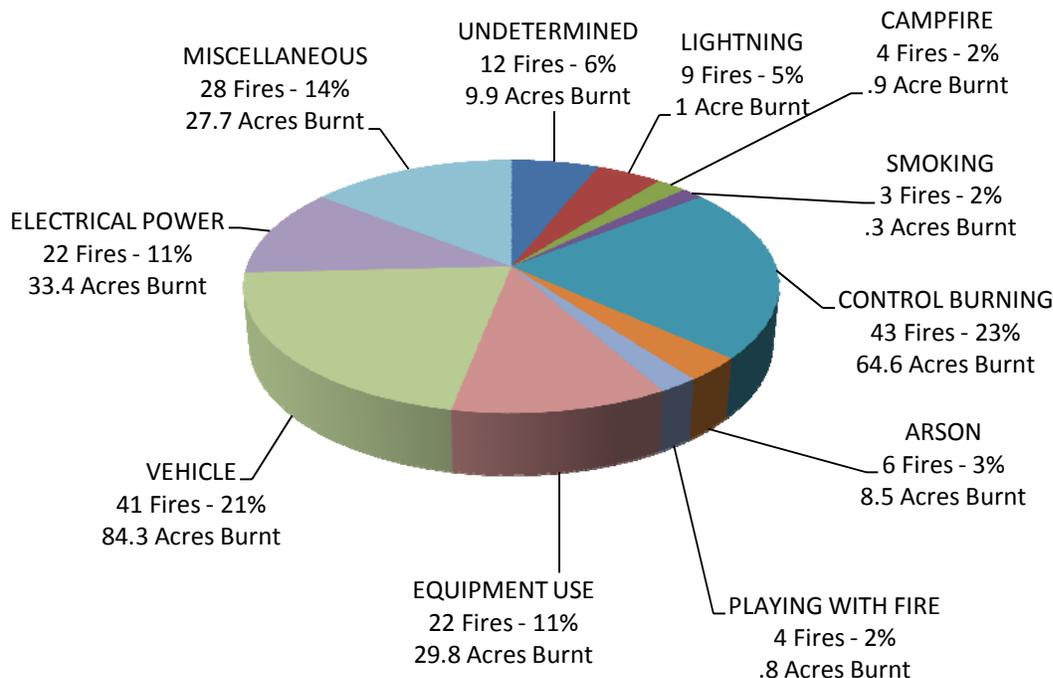
The remaining causes of fires in the Unit were:

- 6) **Undetermined (12 fires – 6%)**
- 7) **Lightning (9 fires – 5%)**
- 8) **Arson (6 fires – 3%)**
- 9) **Playing with Fire (4 fires – 2%)**
- 10) **Campfire (4 fires – 2%)**
- 11) **Smoking (3 fires – 2%)**
- 12) **Railroad (0 fires).**

In 2011, the only two categories increased over the 10 year average were lightning and miscellaneous caused fires. All other categories decreased from the 10-year average. Ignitions causing the most acreage loss were vehicle at 84.3 acres, control burning at 64.6 acres, and electrical power at 33.4 acres. When analyzing data for the whole year, the reason for the rise in miscellaneous caused fires was due to the unseasonably dry months of November and December.

2011 AEU Fires by Cause / Percentage Burnt

194 Fires - 261.2 Acres Burnt



Fire activity for 2011 was up in the Unit by 20 fires from 2010 but down from the 10 year average. In order to better address ignition management in the Unit, a more detailed analysis of the fires in each major cause classification was conducted.

1) Control Burning (debris burning) accounted for 43 fires or 23% of the total fires in the Unit. Escaped control burns resulted in 64.6 acres being burned or 25% of the Unit's total. This cause saw a 10% decrease from the 10-year average of 48. The decrease can be explained by the Unit's concerted effort in promoting an educational program along with the elimination of control burning during unfavorable conditions (June through November). The number of fires would have been significantly lower if there was normal precipitation during the months of November and December. 16 fires occurred during that time. Public education and public awareness has substantially limited the number and severity of these fires. 911 calls occur quickly when smoke is seen resulting in fire equipment arriving at scene sooner. The number one cause of escaped control burns was escapes due to winds, followed by lack of clearance and old control burns re-igniting (coming back to life). Unattended control burns also contributed to the totals. All fire departments in Amador and El Dorado Counties are assisting the Unit in handing out legal notices (LE-38's) on all control burn caused fires. These legal notices serve to educate the public and put them on notice that their next escape will result in a citation. This cooperation has proven to continually keep total numbers and acres lost below the 10 year average.

In addition, the Unit Fire Prevention Bureau works closely with the local Air Quality Management Districts in the event that debris burns violate air district ordinances. Violations typically include landowners burning debris piles larger than four feet by feet in size without a valid air quality permit, landowners burning illegal materials, and landowners burning on a no-

burn day. Potential violations of air quality rules are forwarded to the local air district office on a LE-38 for potential action. Monetary fines typically ranged from \$40.00 to \$500.00, or more, depending on the violation.

Coordination between air district offices and the Unit Fire Prevention Bureau is important in order to reduce the number of unwanted debris burn escapes and illegal debris burns. In addition, the air district offices have enforcement options not available to CAL FIRE Officers. The fines assessed by air quality help prevent future debris burn escapes and also help to reduce the number of fire department responses to these types of fires.

2) Vehicles accounted for 41 fires or 21% of the total ignitions in the Unit. This represents an 18% decrease from the 10-year average of 50 fires. Vehicle caused fires resulted in 84.3 acres being burned or 32% of the Unit's total. This represents a 79% decrease in acres burnt by vehicle from the 10 year average of 404 acres. This category has been one of the leading causes of fires in the Unit for the past several years. The majority of these fires occurred along the major traffic corridors of Hwy 16, 49, 50, 88, and 124. Catalytic Converter failure and other maintenance issues continue to be the leading cause of fires caused by vehicles. With the current economic conditions there appears to be less maintenance done on vehicles. In addition, there appears to be an increase in the number of older vehicles on the road.

In 2011, Cameron Park Fire/CAL FIRE Battalion Chief Mike Webb used historical vehicle caused fire data to enlist El Dorado County's assistance in clearing vegetation along Cameron Park Drive. Cameron Park Drive has seen numerous fires caused by failed catalytic converters in the past several years. In 2011, a dramatic reduction in vehicle caused fires along Cameron Park Drive was evident due to vegetation clearance along the road.

3) Miscellaneous causes accounted for 28 fires or 14% of the total ignitions in the Unit. This cause class saw a 14% increase from the 10 year average of 24. Miscellaneous caused fires resulted in 27.7 acres burned or 10% of the Unit's total. Acres burnt by miscellaneous caused fires saw an 82% decrease from the 10 year average of 159 acres burnt. This classification includes causes such as spontaneous combustion, fireplace ashes deposited in the wildland, barbequing, cooking fires, and fireworks. Ashes deposited in dry vegetation caused the majority of fires during the winter months. Unseasonably dry conditions and strong winds aided in spreading these fires. Personal habits like dumping fireplace ashes into an "ash pile" led to 9 fires in November and December. Three of those fires damaged or destroyed residences.

4) Equipment accounted for 22 fires or 11% of the total ignitions in the Unit. Equipment caused fires resulted in 29.8 acres being burned or 11% of the Unit's total. This represents a 40% decrease from the 10-year average of 37 fires. Equipment caused fires burnt 29.8 acres compared to the 10 year average of 157 acres. Historically, this classification has been one of the top causes of wildfire starts in the Unit. Through continued use of informational displays and education programs (handouts and the 4291 Program), we hope to continue a downward trend in this cause category.

The main cause of equipment fires continues to be mower fires. These fires were due to mower blades striking rocks and friction igniting chaff collected around the belts and pulley systems. Ironically, most of the mower caused fires occurred as a result of residents trying to clear their property for fire safety; however, the residents were clearing during the hottest part

of the day- usually between the hours of 10:00 AM and 6:00 PM. Grinding and welding are the next leading cause of equipment fires.

5) Electrical power accounted for 22 fires or 11% of the total ignitions in the Unit. Electrically caused fires resulted in 33 acres burned or 12% of the Unit's total. Electrically caused fires decreased by five from the 10 year average of 27. Most of these fires resulted from trees, branches, or birds into the power lines.

6) Undetermined accounted for 12 fires or 8% of the total ignitions in the Unit. Undetermined caused fires resulted in 10 acres being burned or 4% of the Unit's total. This category saw a 33% decrease of the 10 year average of 18. Continued hard work and dedication of the Unit's Fire Prevention Staff and the company officers who conduct thorough origin and cause investigations aid in the declining number in this cause class. Every year the unit hosts a Fire Investigation (FI) 110 and 210 class to train state, local, and federal co-operators in wildland fire investigation techniques and awareness. Thorough origin and cause investigations also assist in determining fire patterns which may be reduced by public education and or enforcement.

7) Lightning accounted for 9 fires or 5% of the total ignitions in the Unit. Lightning caused fires increased by 33% from the 10-years average of 6. Lightning caused fires burnt 1 acre compared to the 10 year average of 14. Not much can be done to prevent or alter this category. In anticipation of predicted dry-lighting events, the Unit will activate its Lightning Plan in order to reduce the number of acres burned due to lightning.

8) Arson accounted for 6 fires or 3% of the total ignitions in the Unit. Arson caused fires decreased by 78% from the 10-year average of 28. Arson caused fires resulted in 9 acres burned or 3% of the Unit's total. The 9 acres burnt represents a 93% decrease from the 10 year average of 138 acres burnt.

Past years arrests of serial arsonists and a proactive approach in seeking out and prosecuting arsonists and public awareness have caused the decrease in this cause category. In addition, the continued working relationships between all fire and law enforcement agencies within the Unit is definitely aiding in successful apprehension and prosecution of arsonists. The importance of a thorough origin and cause investigation plays a key role in identifying fire patterns early as well as timely reporting of LE-66s into the Prevention Bureau. Apprehending and prosecuting of arsonist is a team approach that depends on everyone.

9) Playing with Fire accounted for 4 fires or 2% of the total ignitions in the Unit. This was a 73% decrease from the 10 year average of 15. Playing with Fire resulted in 1 acre burned or less than 1% of the Unit's total. In 2011 several juveniles were caught playing with fire by CAL FIRE Officers and went through a Juvenile Fire Setter Class.

10) Illegal campfires and campfire escapes caused 2 fires or 2% of the total ignitions in the Unit. A total of 1 acre was burnt from campfire caused fires. Campfire caused fires remained 1 fire under the 10-year average of 5. Most of the small fires were located at homeless camps.

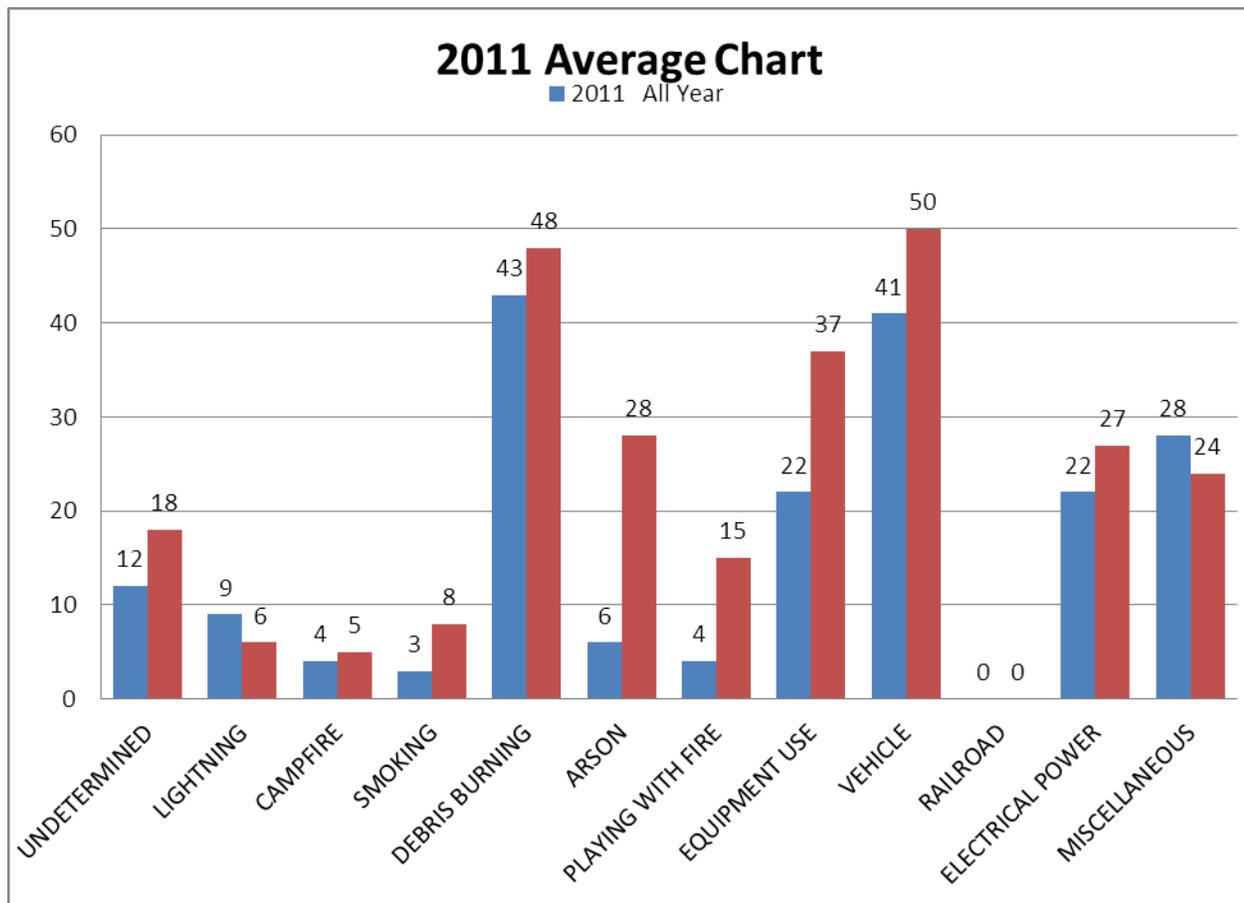
It is important to note that when burning is suspended due to proclamation by the Unit Chief, campfires are not prohibited under Public Resources Code Section 4423.3. However, in Amador and El Dorado County an ordinance is triggered when burn permits are suspended by

proclamation that restricts the use of campfires in State Responsibility Areas. These local ordinances provide CAL FIRE staff the ability to abate campfires that could threaten SRA.

11) Smoking accounted for 3 fires or 2% of the total ignitions in the Unit. This was a 62% decrease of the 10 year average of 8 fires. Smoking caused fires resulted in 0 acres burned in the Unit’s total. Thicker grass due to the spring rains and higher relative humidity greatly affects this cause category of fire causes.

12) Railroad accounted for zero fires in 2011. Amador County has one active commercial railroad in the western portion of the county and one small scale tourist train in the Pine Grove Area. A private historical train is beginning to operate in the Shingle Springs / Diamond Springs Area. .

The following chart (next page) compares the 2011 primary causes compared to the 10-year average.



2011 primary causes compared to the 10-year average.

Below is the 2011 Arrest, Citation and Conviction data for all law enforcement actions within the Unit:

ADULT				JUVENILE			
	Arrest	Citation	Conviction		Arrest	Citation	Conviction
Infraction				Infraction			
Traffic	0	3	1		0	0	0
4291	0	0	0				
Misdemeanor				Misdemeanor			
Fire (PRC)	0	2	1	Fire/Other	0	1	1
Forest Practice	0	3	2	Forest Practice	0	0	0
Traffic	0	0	0				
Felony				Felony			
Arson	0	0	0	Arson	0	0	0
Other	0	1	1				
Total	0	9	5	Total	0	1	1

**The above numbers do not reflect felony arrests made as part of serial arson investigations in other Units.*

Cost Recovery

In 2011 the Unit Fire Prevention Bureau collected \$7112.00 in civil cost recovery monies. The majority of this money was from cases involving electrical CAL FIRE's from Sacramento Municipal Utility District. The Unit continues to work closely with SMUD to reduce electrical caused fires.

There are currently three outstanding civil cost recovery fires from 2011. The first is the Borders fire in El Dorado Hills at \$4247.00. This fire is currently in juvenile court.

The second is the Forni fire at \$1438.00. This case has been filed by the El Dorado County DA's office and is expected to be heard in El Dorado County Superior Court in March 2012.

The third is the El Dorado Complex. This investigation is on-going and will be sent to Region for further follow-up.

10-C Requests

Unit personnel responded to a total of seven 10-C requests in 2011 totaling approximately 210 personnel hours of investigative time. These requests are either in the form of assistance to local government or fire investigations at State buildings where the Department has investigative responsibility. Below is a listing of 10-C requests responded to by Fire Prevention staff:

INCIDENT #	UNIT	LOCATION	JURISDICTION
AEU 006469	AEU	12505 Steiner Rd., Fiddletown	Amador Fire
AEU 015783	AEU	525 Pleasant Valley Rd, Markleeville	Markleeville FD
AEU 020254	AEU	DMV 7775 La Mancha Way, Sac	Sac City Fire Dept
AEU 024177	AEU	CSUS 6000 J St, Sac	Sac City Fire Dept
AEU 027601	AEU	Cal Expo 1600 Exposition Blvd, Sac	Sac City Fire Dept
AEU 008331	AEU	CSUS 6000 J St. Sac- Draper Hall	Sac City Fire Dept
AEU 007384	AEU	CSUS 6000 J St. Sac- Bench Fire	Sac City Fire Dept

Cadres/Workgroups

In 2011 Unit Fire Prevention staff assisted with the following special workgroups, cadres and committees:

1. Northern Region FI-210 cadre
2. Unit FI-210 cadre
3. Fire Prevention Advisory Committee
4. California Wildland Fire Coordinating Group- Fire Prevention Committee
5. Statewide Forms Committee
6. Statewide Evidence Program
7. 4291 Defensible Space Workgroup
8. Patrol Rifle Training
9. PIO/ECC Training at the Fire Academy
10. Unit Peace Officers provided security at Board of Forestry and Fire Protection meetings in Sacramento.

2011 Highlights include:

•By the end of 2011 there were a total of 49 media releases and 1 fact sheet generated by the Unit. This was the most media releases in the Unit's history. One of the media releases became a Hot Topic on the statewide CAL FIRE webpage (Is Your Vehicle Fire Safe?). This media release dealt with the multiple vehicle caused wildland fires in the Unit (catalytic converters, transmissions, etc.). The media release was issued to educate the public about potential fire issues connected to poorly maintained vehicles.

•Two incidents which drew television and radio interest in the Unit were the Lightning Complex and El Dorado Complex (Wind event). The Unit received heavy television coverage as a result of these incidents. A third incident which drew television and radio coverage was a Federal fire complex in late December; however, due to the lack of available USFS staff, CAL FIRE staff handled the majority of the media for the USFS.

- Prior to the 2011 fire season, the Unit's Conservation Camp conducts its annual Spring Readiness Exercise. This event drew a Sacramento television station. The news broadcast emphasized the upcoming 2011 fire season as well as the cooperative efforts between CAL FIRE and CDCR. In addition, the Unit PIO worked with the CAL FIRE Sacramento Communication Office to film the Readiness Exercise for 'b-roll' used by CAL FIRE TV.
- Prior to fire season, live fire training for returning seasonal personnel presented an excellent opportunity for fire photos and media attention. The live fire training was part of the Chance VMP and drew Sacramento Associated Press personnel and a CAL FIRE Sacramento Communications photographer.
- AEU staff worked with CAL FIRE Sacramento Communications staff to prepare a DVD project for the El Dorado County Building Department. This DVD is comprised of CAL FIRE TV videos and will loop for all customers waiting for appointments at the Building Department. The video will further educate the public on seasonal fire and life safety issues.
- Unit staff did two interviews on Amador County's local cable TV station, TSPN, and one ride-along with the Sacramento Bee.
- AEU created a Unit Website. The website will be the first completed Unit website accessed via the CAL FIRE internet webpage. This project took over one year to complete. Unit staff worked closely with Sacramento Communications staff on the design elements of the website.
- In the Fall of 2011, the Unit PIO began assisting CAL FIRE Communications on updating the Public Education Program handbook. The update of this handbook is set for statewide release in mid 2012.
- The Unit, in conjunction with CAL FIRE PIO Daniel Berlant, hosted a Fire Safety training for the Media in June 2011. Television and newspaper reporters, photographers and videographers attended the 3 hour training. CAL FIRE Nomex was loaned to journalist as part of the safety element of the training. The CAL FIRE Nomex will provide greater exposure of the Department during media coverage.
- Unit personnel hosted 37 French firefighters and fire officers for 2 days educating the French firefighters about CAL FIRE.

In 2011 the Unit logged approximately 900 public education hours associated with Unit level programs.

LE 100 Defensible Space Program

In 2011 there was no funding to hire CAL FIRE firefighters on April 1st to begin inspecting high hazard areas within each Battalion. The lack of staff early in the year accounts for the drop in the overall number of inspections in the Unit. By year's end, there were **2239** inspections completed by Battalions 1,2,3,4,5, and 8. This exceeded the overall goal of the Unit of 1,750 inspections on an annual basis. Federal and Local government agencies (El Dorado County Fire, El Dorado Hills Fire, Latrobe Fire, Mosquito Fire, City of South Lake Tahoe, Meeks Bay Fire and Jackson City Fire) completed a combined **4223** inspections, and the two Fire Safe Councils (Amador Fire Safe Council and El Dorado County Fire Safe Council) completed **1447** inspections. The total number of inspections completed in the Unit were **7,909 inspections**.

The Unit recognizes the value of working with our cooperators to increase the overall effectiveness of defensible space inspections.

Conclusion

The year 2011 clearly showed a reduction in the number of fires as compared to the 10 year average within the Unit, but a slight increase from 2010. In 2011, the Unit successfully engaged in all aspects of Fire Prevention including public education, engineering, and law enforcement. In addition, the Unit was able to support two out-of-unit law enforcement assignments while maintaining twenty-four hour, seven-day a week, prevention coverage within the Unit.

It is the intent of the Amador-El Dorado-Sacramento-Alpine Unit in 2012 to continue to actively seek ways to reduce unwanted wildland fires, aggressively pursue criminal or civil action against violators of forest and fire laws, enhance the law enforcement skills of all of its Officers through on-going training, increase the visibility of CAL FIRE through media outlets, engage local jurisdictions in land use policy and planning decisions, and continue to provide support to the Regions and Sacramento on out-of-unit assignments. The Unit plans to build on past successes while seeking ways to improve processes internal to the Unit.

A. ADDITIONAL UNIT SPECIFIC GOALS AND OBJECTIVES

APPENDICES D-Z

OPTIONAL – Change to BLACK

Appendix D

Daily Operations

ECC Operations

0900 hrs.	Review WIMS for forecasted indices, review Notification Matrix for possible notifications to users.
1000 hrs.	Broadcast Weather Forecast and Last Night's Predicted Indices with Morning Report over AEU Local Net
1030 hrs. observation*)	First Dispatch Level Calculation (Use latest observation*)
1230 hrs.	Second Dispatch Level Calculation
1330 hrs.	Edit the 1200 Observation in WIMS for all stations in AEU and make third Dispatch Level Calculation.
1530 hrs.	Fourth Dispatch Level Calculation (1400 Observation)
1600 hrs.	Tomorrow's Predicted Indices Should be Available in WIMS. Review thresholds and Notification Matrix. Begin Notifications for tomorrows predicted Adjective Ratings.
Sundown + 2 Hours Tomorrow)	Last Dispatch Level Calculation (Reset for

* If the observation has not arrive in WIMS than use the latest available observation. Data transmission times for AEU RAWs are all after the 58th minute of the hour. Therefore the 1200 hr. observation is actually transmitted to the satellite at 1258 hrs. This makes 1200 hr. observation the closest observation to the 1300 hour, which is the target time for NFDRS. Always remember the observation time is rounded DOWN to the whole hour.

Daily Dispatch Level and Adjective Rating Data Sheet

Date: _____

Forecasted Indices and Adjective Ratings (WIMS forecast from yesterday, read with morning weather)

NFDRA Dispatch Zone	Temp	RH	Wind Sp/Dr	IC	SC	BI	Adjective Rating	Dispatch Level
EAST Pilot Hill RAWS 042609								
WEST Ben Bolt RAWS 042612								

1200 Hr. Observation From WIMS

NFDRA Dispatch Zone	Temp	RH	Wind Sp/Dr	IC	SC	BI	Adjective Rating	Dispatch Level
EAST Pilot Hill RAWS 042609								
WEST Ben Bolt RAWS 042612								

Afternoon Supplemental Calculations

WIMS Ob Time:

NFDRA Dispatch Zone	Temp	RH	Wind Sp/Dr	IC	SC	BI	Adjective Rating	Dispatch Level
EAST Pilot Hill RAWS 042609								
WEST Ben Bolt RAWS 042612								

Supplemental Dispatch Level and Adjective Rating Data Sheet

Date: _____

WIMS Ob Time:

NFDRA Dispatch Zone	Temp	RH	Wind Sp/Dr	IC	SC	BI	Adjective Rating	Dispatch Level
------------------------	------	----	---------------	----	----	----	---------------------	-------------------

EAST Pilot Hill

RAWS 042609

WEST Ben Bolt

RAWS 042612

WIMS Ob Time:

NFDRA Dispatch Zone	Temp	RH	Wind Sp/Dr	IC	SC	BI	Adjective Rating	Dispatch Level
------------------------	------	----	---------------	----	----	----	---------------------	-------------------

EAST Pilot Hill

RAWS 042609

WEST Ben Bolt

RAWS 042612

WIMS Ob Time:

NFDRA Dispatch Zone	Temp	RH	Wind Sp/Dr	IC	SC	BI	Adjective Rating	Dispatch Level
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EAST Pilot Hill

RAWS 042609

WEST Ben Bolt

RAWS 042612

Appendix E

WIMS State of the Weather and Wet Flag Definitions

State of the Weather Codes for WIMS

Code Associated State of Weather

0	Clear (less than 1/10 of the sky cloud covered.)
1	Scattered clouds (1/10 to 5/10 of sky cloud covered).
2	Broken clouds (6/10 to 9/10 of sky cloud covered).
3	Overcast (more that 9/10 of sky cloud covered).
4	Foggy
5	Drizzling (precipitation of numerous fine droplets, misting).
6	Raining
7	Snowing or sleet
8	Showering (in sight of or occurring at station).
9	Thunderstorms in progress (lightning seen or thunder heard within 30 miles of observation site).

State of the Weather Codes 5, 6, & 7 Set Wet Flag to YES

State of the Weather Selection in WIMS

This section has been created to demystify the issue of State of the Weather selection in the WIMS system and the other issues that have to be considered as one selects one of the 10 State of the Weather codes. State of the Weather code selection is important for two reasons: to evaluate the effect of cloud cover on fire fuels and the level to which fuels have been wetted by precipitation. State of the Weather selection will assign the appropriate values in the NFDRS calculations to model the impact of cloud cover and associated moisture on fire fuels. State of the Weather is the condition that exists over the RAWS itself. This can vary between RAWS due to differing weather conditions over the Unit.

State of the Weather will have to be selected for each station each time a selected observation is to be utilized by the NFDRS calculations. This will be the normal afternoon "O" observation as well as the interval observations "S" that will be necessary to calculate the Adjective Ratings and the scheduled NFDRS indices, as well as dispatch levels. The selected State of the Weather code can cause wild swings in NFDRS indices if the incorrect code is selected. This is especially true with Codes 5, 6, & 7.

State of the Weather Codes 5, 6, & 7 will cause the Wet Flag setting to switch to "Yes" (the Wet Flag setting can be found at the far right side of the WIMS page where observations are edited). The Wet Flag setting of "Yes" or "No" refers to whether the fuels are so saturated with precipitation moisture to the level that a handful of the fuels will produce noticeable quantities of water when squeezed or swung. That's a lot of moisture. This is important because most NFDRS indices will automatically get driven to 0 when the Wet Flag is tripped to "Yes". During the winter months this isn't much of a problem, but during Fire Season this is a major problem because we are trying to model the NFDRS indices to accurately reflect fire danger. Driving the indices to zero during the Fire Season will cause wild swings within index values for the remainder of the fire season. Furthermore, it's almost impossible to accumulate enough rainfall during the fire season to cause wild swings in the actual fire danger and risk of ignition

is only slightly reduced for a short period. Thunderstorm precipitation isn't adequate to change the overall fire danger picture. Minor day to day variations are normal however wild swings back and forth are not. Only what is described as a "Season Ending Event" would cause this.

So, between May 1st and the first MAJOR fall rains, don't use State of the Weather Codes 5, 6, & 7. Use one of the other codes that will reflect rainfall without tripping the Wet Flag to "Yes". The Unit Fire Weather Coordinator will make the determination when the season ends within the NFDRS models in WIMS.

One additional issue with respect to the Wet Flag needs to be clarified for the Zion RAWS. The issue revolves around the treatment of snow over fuels. As long as there is snow on the fuels the Wet Flag must be tripped manually. For example, the sun is shining bright however the fuels are covered in two inches of snow. The State of the Weather Code will be a 0 or 1, however the Wet Flag will need to be manually tripped to Yes to ensure the models know the fuels are covered in snow. This may sound trivial, however in late fall when early snows can be followed by dry spells, the unit needs to accurately model the fuels that are impacted by persistent snow.

In Summary:

1. State of the Weather is entered in WIMS to model the affect of cloud cover and precipitation over fire fuels.
2. State of the Weather must be entered for all observations used in NFDRS.
3. State of the Weather Codes 5, 6, & 7 are not to be used after May 1st.
4. Manually trip the Wet Flag to Yes if the fuels are covered in snow, if it does not trip automatically (5, 6, & 7).
5. State of the Weather represents conditions over or near the RAWS as described above in the Codes Description. Not over or near the ECC.
6. The Unit Fire Weather Coordinator will determine when the Fire Season ends in the WIMS NFDRS models. This relates to the use of the 5, 6, & 7 State of the Weather Codes.

Amador-El Dorado-Sacramento-Alpine Unit 2012 Lightning and Complex Incident Plan



Background

The Amador El Dorado Unit Lightning, and Complex Incident Plan, has been created to guide Unit operations, and support personnel, during lightening, and other complex incidents. Lightning events are an example of an incident that can become especially overwhelming for the Unit and the Emergency Command Center (ECC). Lightening complexes can tax the daily ECC operations as the complexity of the event increases. The intent of this plan is to establish, and maintain, a seamless flow of resource dispatching, ordering and accountability. Preparation of this plan was originally prepared with the intent of managing lightning incidents; however it is recognized that it can be activated for any incident that presents similar demands on the Unit and ECC. This plan is designed as an outgrowth of the Incident Command System (ICS) using the standard organizational elements to cover geographic areas that are impacted by lightning or any other emergency incident that exceeds the operational control of the Unit ECC.

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Activation of the Plan

Phase I – Prediction and Planning

Phase II – Modified Response Plan

Phase III – ICA and Area Command Activation

- Area Definition and Reporting Responsibility
- Naming Convention
- Detection
- Dispatch
- Escaped Fires
- Deactivation

Attachment I – Lightning Activity Level descriptions

Activation of the Complex Incident Plan

The AEU Complex Incident Plan consists of three phases. The complexity of the predicted or actual situation dictates when each successive phase is implemented. Phases are not intended as hard fast rules of operation, but as guidelines for a smooth and orderly transition into an expanding organization required by increased incident work load. In addition, this Complex Incident plan also allows for a smooth transition out of a complex incident organization back to the local control of normal operations.

One of the keys to implementation of the phases in this Complex Incident plan is to start using the planning cycle throughout each operational period. This would include morning and evening briefings and/or conference calls, cooperators notifications, planning meetings to validate objectives and an incident action plan for the following operational period.

Phase I – PREDICTION and PLANNING

Parameters for Establishing Phase I of the Complex Incident Plan are as follows:

- A predicted LAL of 3 or higher by the NWS Sacramento (Fire Weather Forecast, Fire Weather watch or warning)
- Information gathered by Unit personnel of thunder cells moving towards the Unit. Example: monitoring other Unit or Forest frequencies, Command Nets, and the State Intercom. Patterns detected on the BLM Lightning Page indicating approaching cells to AEU SRA
- Prediction of an event that can cause a large number of incidents requiring a modification of the dispatch level to maintain sufficient available resources. (Winter wind event, heavy snow or freeze, possible flooding etc.)

Actions

- Positive Notification to Unit Duty Chief; page all Chief Officers and Cooperators. [Initiate Planning Cycle](#)
- Chief Officer conference call.
- Contact affected cooperators and agencies to obtain a briefing on their situation, needs and resources. (PG&E, SPI, County Public Works, OES etc.) Based on the information provided consider advising them to establish a mission number for CAL FIRE resources.
- Initiate authorization of staffing pattern. Consider [planning for, or ordering](#) the following resources:
 - ✓ Staff lookouts as needed
 - ✓ Open Expanded ECC and/or staff as needed in ECC
 - ✓ Staff support positions (RESL, SITL, PIO, PSC, LSC, GISS, FSC)
 - ✓ Staff additional operational positions (DIVS, BC's)
 - ✓ Staff additional Fire Prevention Positions
- ✓ Hire local government equipment into State Fire Stations (WT's / Type III Engines)
- ✓ Regional requests for resources based on unit drawdown
- ✓ Coordination with ENF as to aircraft availability and predicted commitment of those aircraft.
- ✓ Initiate AEU aircraft plan including ATGS platform and CWN helicopter
- ✓ Coordinate aircraft implementation with neighboring state AAB's
- The Unit Duty Chief, ECC Chief, and Duty Field Battalion Chiefs will evaluate the situation throughout the operational period and evaluate the forecast. This evaluation will determine moving into Phase II.

Phase II – MODIFIED RESPONSE PLAN

Parameters for establishing Phase II of the Complex Incident Plan are as follows:

- Visual observation of active cells or down strikes on CAL FIRE Direct Protection Areas or adjacent DPA's and a forecast for activity to move onto CAL FIRE DPA shortly
- The ECC receives reports of event related incidents.

Actions

- The ECC will notify the Unit and all local cooperators that the Unit Complex Incident Plan is in effect at Phase II.
- Modify the IA Dispatch from full response to a level that considers incident complexity.
Recommended dispatch a lightning incident would be:
 - ✓ 1 CAL FIRE Overhead
 - ✓ 2 CAL FIRE Engines
 - ✓ 1 Hand Crew or Dozer
 - ✓ 1 Local government AHJ engine
- The Unit Duty Chief, ECC Chief, and Duty Field Battalion Chiefs will evaluate the situation status, forecast and impact to the operational organization. This evaluation will be largely based on call volume and fire numbers and will determine moving into Phase III.
- ECC Chief should consider moving to a separate command frequency to manage command operations. Initial dispatches will take place on AEU local net.

Phase III – ICA and AREA COMMAND ACTIVATION

Parameters for establishing Phase III of the Complex Incident Plan are as follows:

- Phase III will go into effect when incident volume and continued forecasted activity has the potential to or is overextending the ECC capabilities.
The decision to activate an ICA will be made by the Unit Duty Chief, ECC Chief, Unit Duty Officer and affected Field Battalion Chief(s).

Actions

- Area Command will be formed at Camino Expanded ECC and will include:
- Area Commander (Unit Duty Chief)
- Plans Chief
- Logistics Chief

- Finance Chief
- PIO
- Liaison to Local Government Cooperators
- Consider requesting an agency representative from cooperators that have involvement Unit wide. For example SPI during a winter wind event.
- Area Command Positions will function at a unit level to support the management and control objectives of Area Command and ensure resources, support, and information is coordinated through the Area Commander.
- Individual ICA's (Incident Coordination Areas) will be formed by the responsible Battalion Chief using the parameters described below:

ICA Definition and Reporting Responsibility

- The Area Command and the ICA IC will develop specific geographical boundaries for any area of the Unit impacted by lightning, referred to as an Incident Coordination Area (ICA).
- A transition time will be established and agreed on by the Area Command and the ICA IC to take over dispatching of event related incidents for the area.
- Each ICA will have a geographic name and the ICA ICP will be determined by the IC. The IC for each ICA will report to the Area Command. Each IC will establish an appropriate ICS organization for the ICA.
- IC's are responsible to provide all command functions within their respective ICA's. Recommended organizational staffing is:
 - ✓ Incident Commander
 - ✓ Incident Dispatcher
 - ✓ Resource Status
 - ✓ Situation Status
 - ✓ Logistics
 - ✓ Field PIO
 - ✓ Division Group Supervisors or Branch Directors

Naming convention

- **The IC will be responsible for naming incidents within the ICA** and will work with the ECC to ensure that individual incident numbers are assigned. The IC will determine who will be responsible for the fire report and report all information to the ECC
- **Each fire will be given a geographic name.** Each fire will be tracked using GPS coordinates and established on a mapping system to be tracked at the ICA and relayed to the Area Command and ECC prior to each operational briefing.
- Each ICA is responsible for submitting 209 information to the Area Commander and ECC Chief by 0600 and 1800 each day.

Detection

- Lookouts will report all smokes to the ECC or the ICA upon direction from Area Command.
- Reconnaissance flights will be coordinated by Area Command. All flights associated with an ICA will be tracked on AFF by the ECC.
- Reconnaissance flights will report new smokes to the ECC, unless directed by the Area Command to report directly to the ICA's

Dispatching of ICA Incidents

- New incidents that are reported to the ECC will be relayed to the appropriate ICA IC or communications. The ICA IC will assign resources as appropriate.
- The ICA IC will be responsible for informing the ECC of any new incidents that are discovered within the ICA and will assign resources as appropriate.
- The ICA IC will make requests to the ECC for additional resources and maintain a sufficient number of resources in reserve for new incidents.
- The ECC will retain all dispatching responsibilities for non event related incidents and for all incidents in areas of the Unit not designated as an ICA. The ECC may request resources from an ICA to assist with non event related incidents.

Extended Attack Fires

- If a fire grows into the extended attack phase and exceeds the capability of the ICA resources, the ICA IC will request the Area Command take the incident back over
- A transition will take place once the Area Command has a command organization in place.

Deactivation

- The deactivation of an ICA will be a joint decision by the Area Command and the ICA IC (s). The following should be used as guidelines:
 - ✓ Most fires should be contained and in patrol status
 - ✓ Sufficient IA resources will be available to the ECC
 - ✓ All information pertaining to incidents in the mop-up or patrol stage will be given to the ECC
 - ✓ Activity in adjoining ICA's and Unit activity will be taken into consideration
 - ✓ Employee responsible for CAIRS, LE-66 and Preliminary reports will be reconciled

Attachment I

Lightning Activity Levels

LAL 1:

No thunderstorms.

LAL 2:

Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning very infrequent, 1-5 cloud to ground strikes in a 5 minute period.

LAL 3:

Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6-10 cloud to ground strikes in a 5 minute period.

LAL 4:

Scattered thunderstorms. Moderate rain is commonly produced. Lightning is frequent, 11-15 cloud to ground strikes in a 5 minute period.

LAL 5:

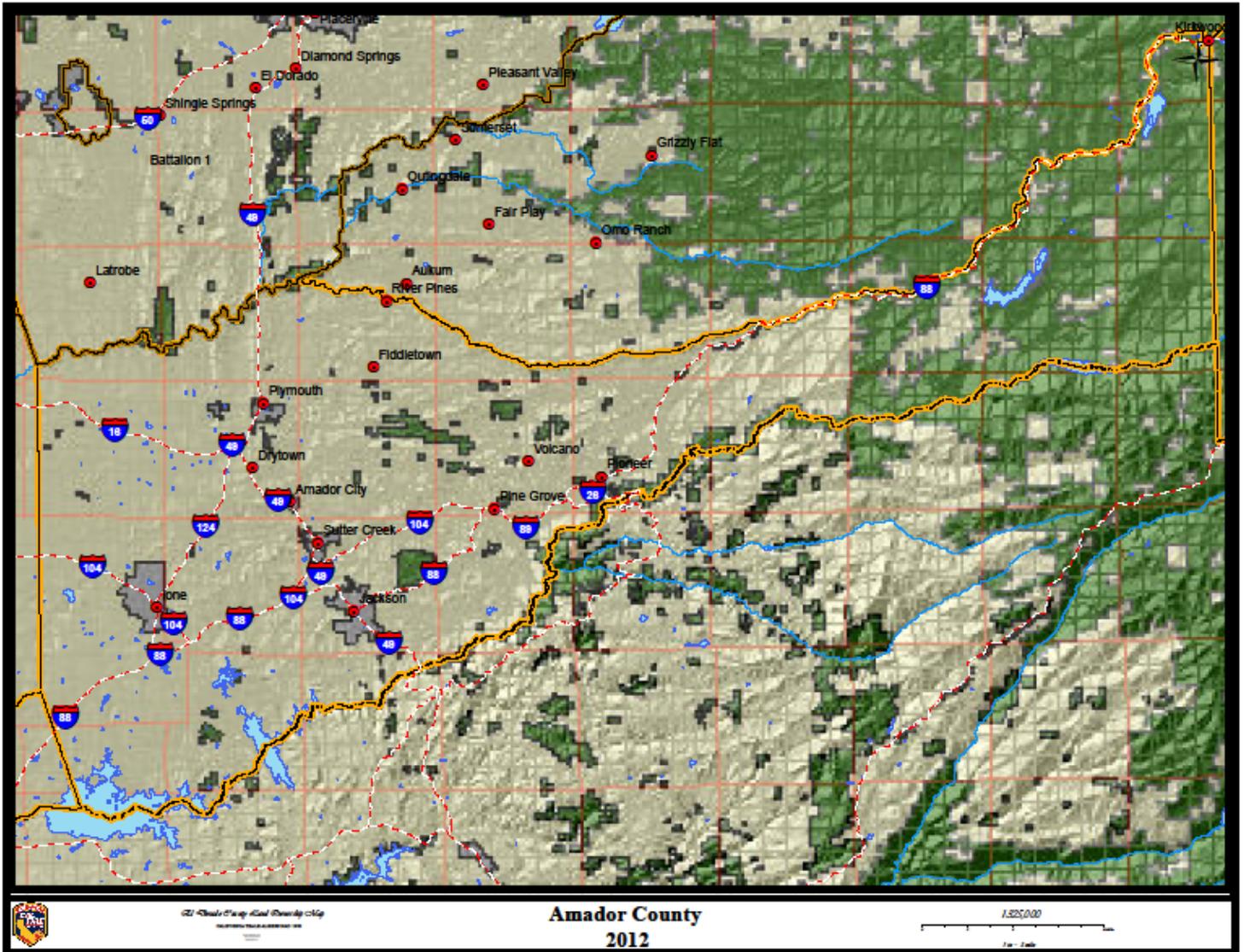
Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a 5 minute period.

LAL 6:

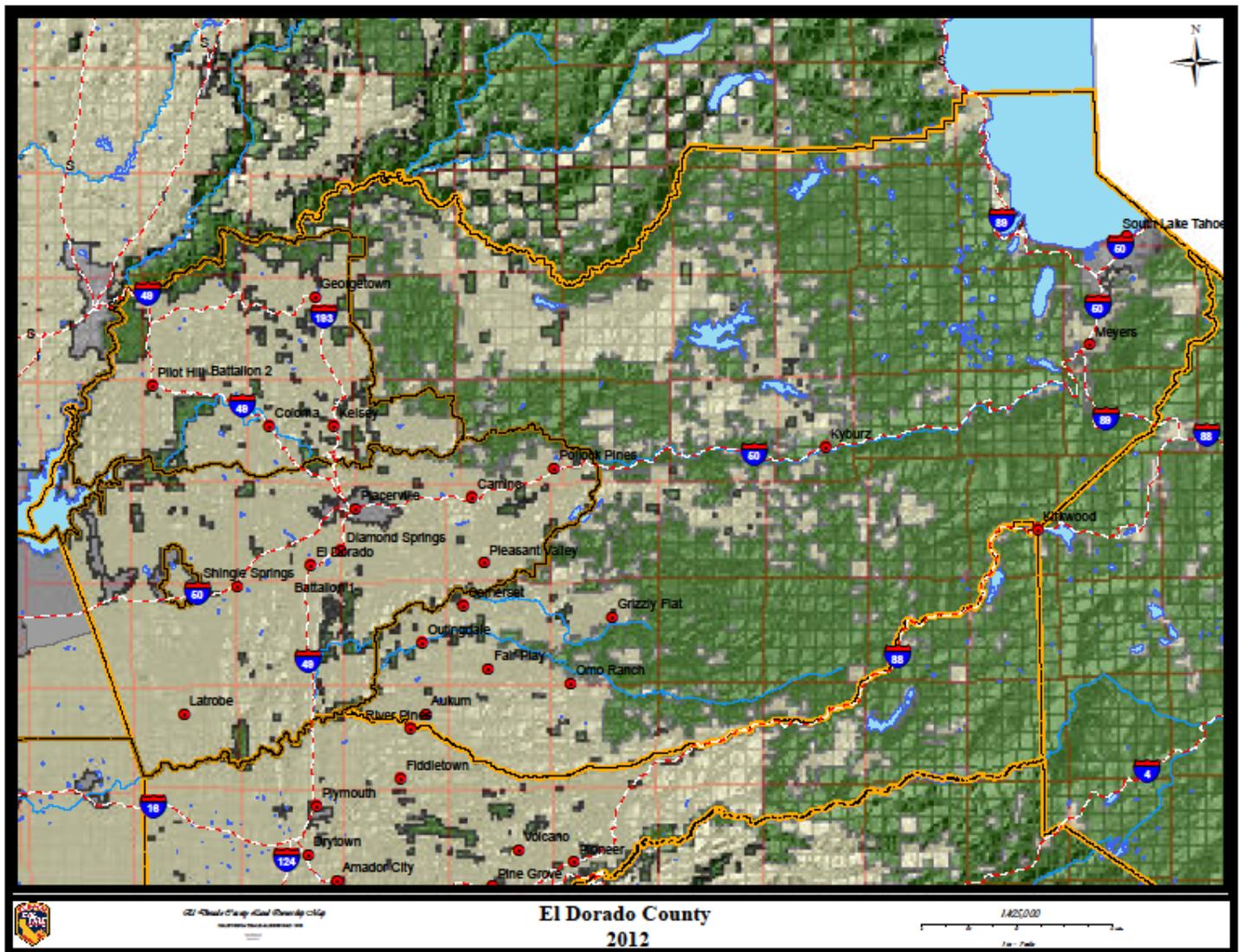
Same as LAL 3 except thunderstorms are dry (no rain reaches the ground). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning.

Figure A: Unit Map

Amador DPA Map



El Dorado DPA Map



Vegetation Type Map

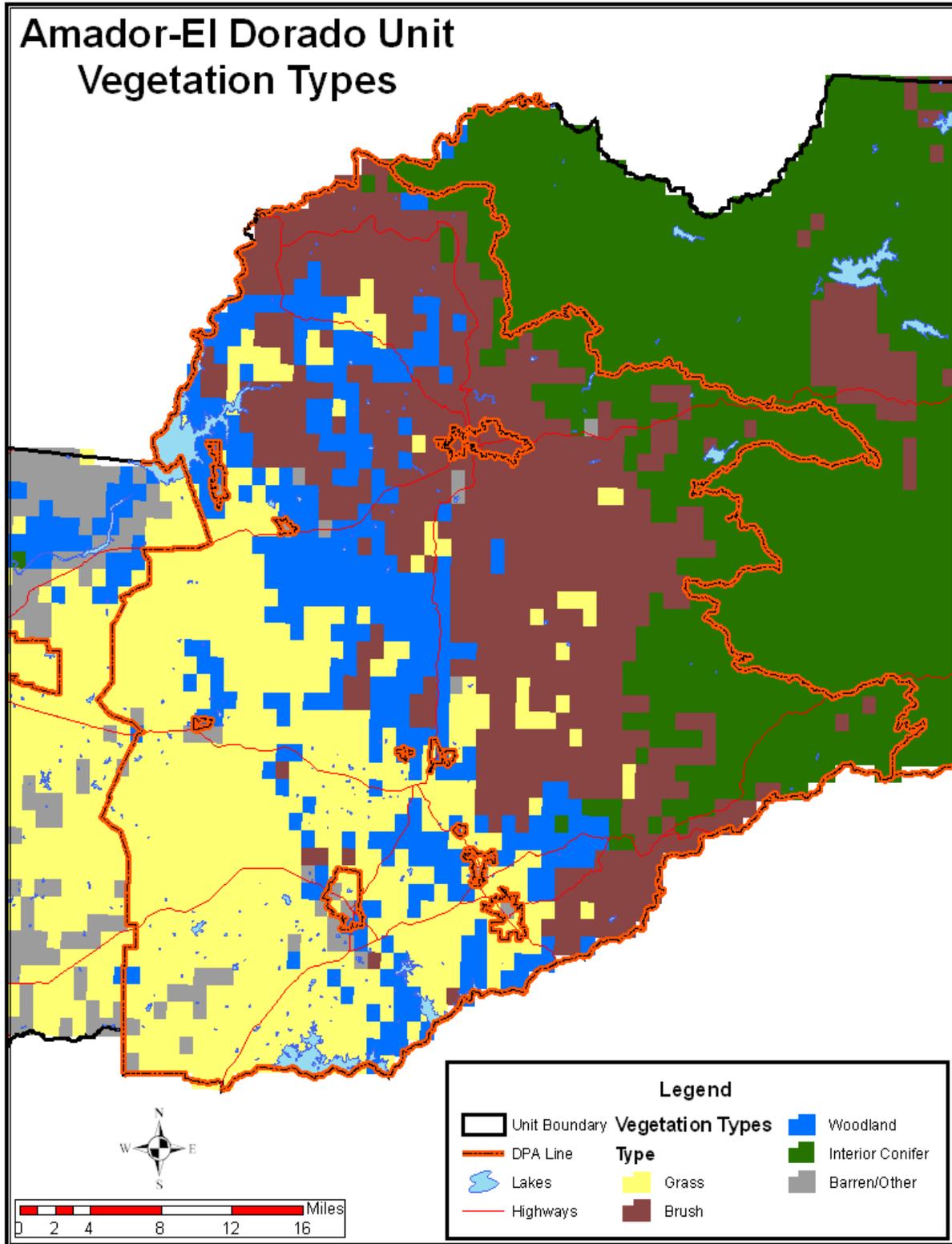
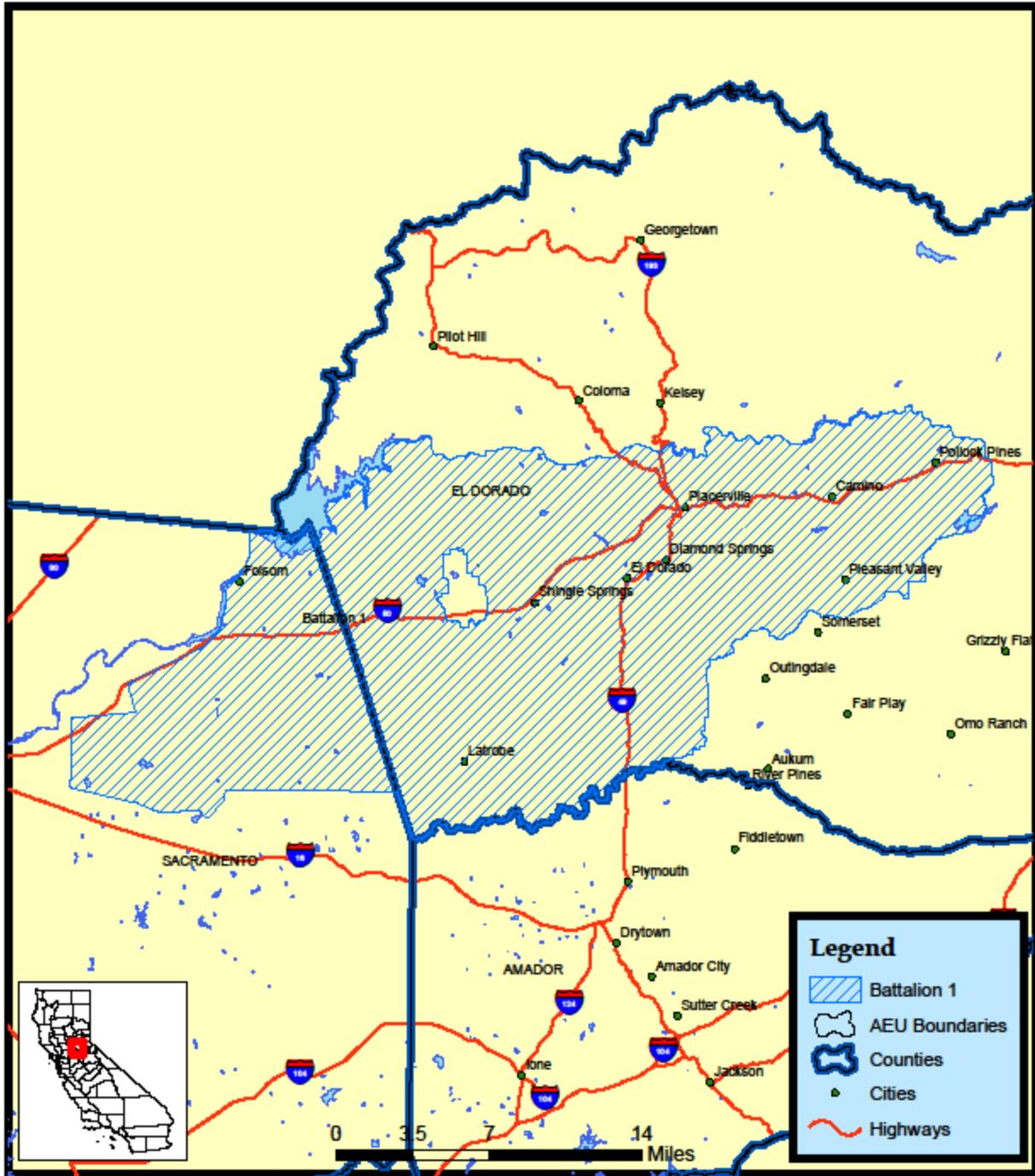


Figure B: Battalion Maps

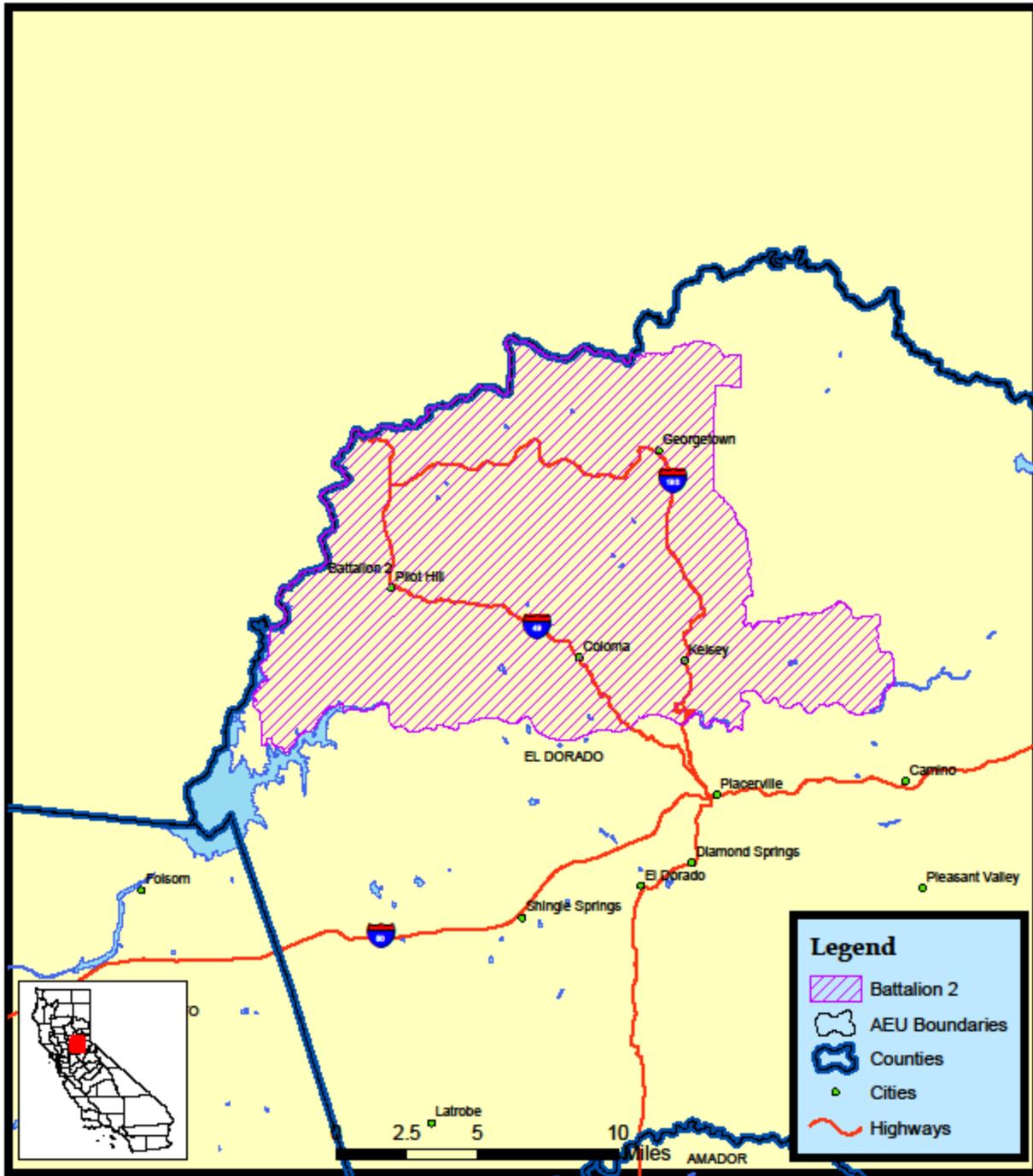


Amador-El Dorado-Sacramento-Alpine Unit Battalion 1





Amador-El Dorado-Sacramento-Alpine Unit Battalion 2



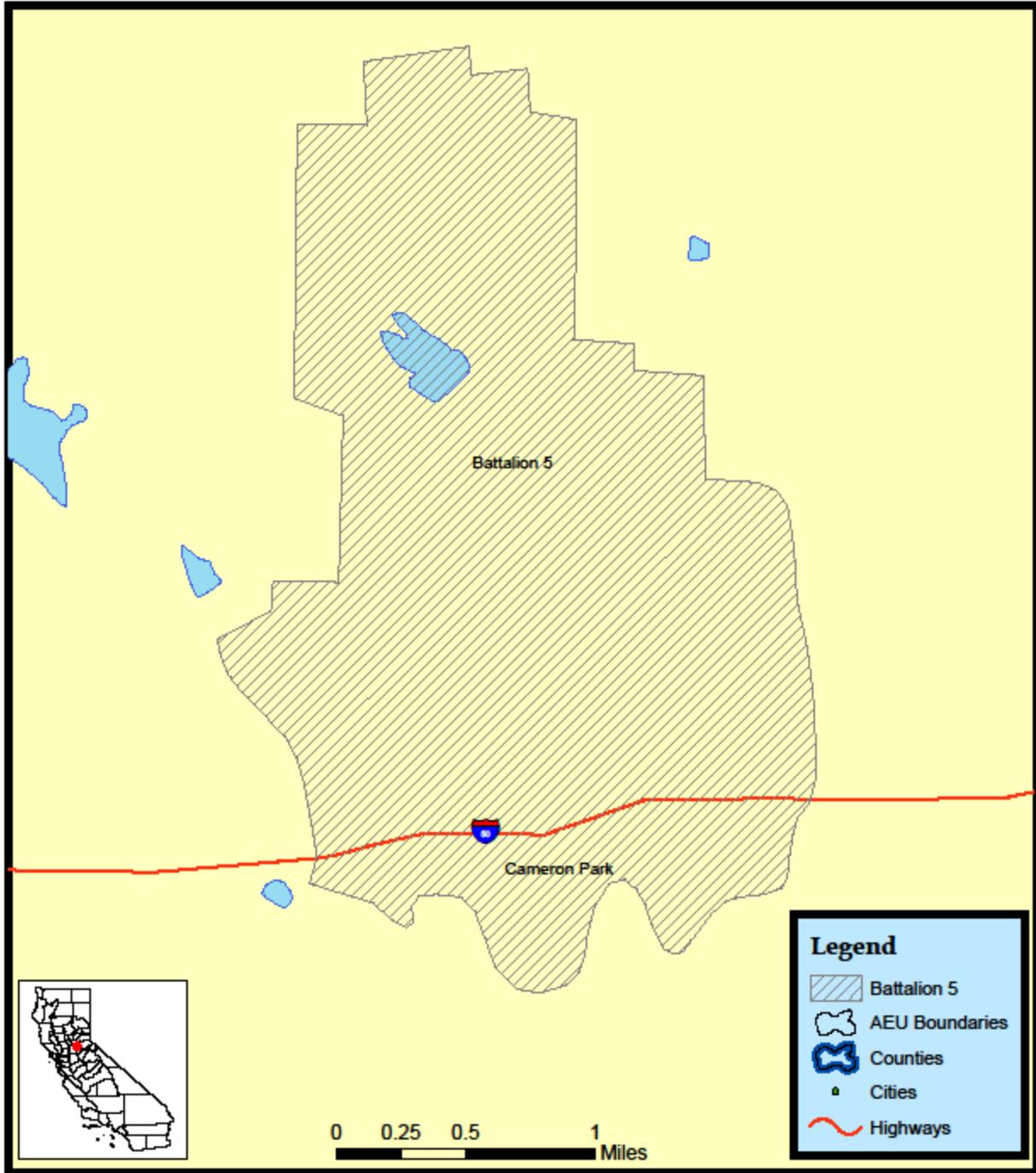


Amador-El Dorado-Sacramento-Alpine Unit Battalion 4





Amador-El Dorado-Sacramento-Alpine Unit Battalion 5





Amador-El Dorado-Sacramento-Alpine Unit Battalion 8

