

Amador El Dorado Unit Fire Management Plan 2005



Signature Page

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Executive Summary

The Unit Goal

“The Unit’s goal is to reduce loss of life, protect improvements, communities, and other assets at risk from wildfire while increasing the initial attack success and keeping cost to a minimum”

The Amador El Dorado Unit’s (AEU) Fire Management Plan assesses the fire potential within the unit. It identifies strategic opportunities for proactive project-based solutions identified by people who live and work within the fire threat areas as well as engaging the private land owners to take action. This plan coordinates CDF’s prefire activities with adjacent CDF Units, National Forests, and local collaborators. This plan is the foundation for planning, prioritizing, and funding the Unit’s projects.

Five major components will form the basis of an ongoing planning process to monitor and assess the Unit’s wildland fire environment:

1. **Wildfire Protection Zones:** To create wildfire protection zones that reduces the risks to citizens and firefighters.
2. **Initial Attack Success:** Assess the initial attack fire suppression successes of wildland fires on lands of similar vegetation type. This is measured in terms of a percentage of fires that are successfully controlled before unacceptable costs and losses occur. The analysis is used to determine the unit’s level of service. One of the Unit’s objectives it to contain all wildland fire to 10 acres or below.
3. **Assets Protected:** The plan assesses the relative degree of risk from wildfire. Collaborators with interests in each asset at risk are identified and their input is used to help guide CDF’s and other fire manager’s, including fire safe council’s efforts to reduce losses from wildfire.
4. **Fire Management Prescriptions:** Fire planning focuses on alternative means of protecting assets at risk. Projects include a combination of fuel modification, with emphases along state and county roadways that may be critical for public and firefighter ingress and egress, ignition management, fire-wise planning and education, and pre-development planning. Specific activities include but are not limited to land use planning and regulation, educational programs and public information, personnel training, ECC operations, forest health, and fuels management. Fire management prescriptions will also identify those who will benefit from such work and consequently, those who should share in the

project costs.

5. **Fiscal Framework:** The State Board of Forestry & Fire Protection, and CDF are developing a fiscal framework for assessing and monitoring annual and long-term changes in California's wildland fire protection systems

These are Fire Plan applications:

- Identify the state, federal, and local officials in those areas of concentrated assets at high risk.
- Engage the public and private property owners into taking responsibility for reducing and maintaining fuels on their lands.
- Allow CDF to create a more efficient fire protection system focused on meaningful solutions for identified problem areas.
- Give citizens an opportunity to identify public and private assets at risk and to design and carry out projects to protect those assets.
- Identify, before fires start, where cost-effective prefire management investments can be made to reduce taxpayer cost and citizen losses from wildfires.
- Encourage an integrated intergovernmental approach to reducing cost and loss.
- Enable policy makers and the public to focus on what can be done to reduce future cost and loss from wildfires.

Collaborators

Collaborators are defined as any persons, agencies, or organizations with an interest in the protection of assets from wildfire. AEU makes a concerted effort to involve collaborators in its planning process. AEU Battalion Chiefs and Foresters are essential in development and implementation of the collaborative process. Their involvement provides a community based approach by identifying collaborators and their interests at the battalion level. This is an ongoing effort which is evaluated continuously through the development of unit planning and prefire projects. It is a priority to involve as many collaborators as possible and to continually update planning effort with their input and support.

Primary collaborators within AEU

Private

- Residents of the Communities
- Sierra Pacific Industries
- Pacific Gas and Electric Company
- East Bay Municipal Utility District
- The Nature Conservancy
- El Dorado Irrigation District
- County Roads Department

Government

- United State Forest Service
- Bureau of Land Management
- Bureau of Reclamation
- Bureau of Indian Affairs
- Department of Fish and Game
- Blodgett Forest University of California
- Regional Water Quality Control Boards
- County governments
- Resource Conservation Districts
- CalTrans

Unit Fire Safe Councils

Alpine County Fire Safe Council

The Alpine County Fire Safe Council (ACFSC), in cooperation with the Resource Advisory Committee and concerned citizens was organized in 2003. The mission of the ACFSC is to reduce the risk to life and property in Alpine County from catastrophic wildfires. The ACFSC facilitates community efforts such as defensible space education, public outreach, fuels reduction projects, and FireWise planning. Through these community based efforts and partnerships with local public agencies, Alpine County residents can reduce the risk of wildfire damage.

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Amador County Fire Safe Council

The Amador Fire Safe Council (AFSC) was organized in 2001 as a small group of homeowners and agency personnel who were concerned about fire hazard reduction and safety in the central Sierra foothill county of Amador. The mission statement of the AFSC was established "to protect the people of Amador County and their property from the effects of catastrophic wildfire through education, cooperation, motivation, and action."

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El Dorado County Fire Safe Council

The El Dorado County Fire Safe Council (EDCFSC) was organized in 2001 and currently has over 150 individuals from the public and private sectors on the council. The Mission of the EDCFSC is to protect the citizens of El Dorado County and their property from the effects of catastrophic wildfire through education, cooperation, innovation, and action." The EDCFSC is committed to making El Dorado County more fire safe and helping residents become aware of their responsibilities for their property and to their community.

ECFSC sub-councils:

- *Auburn Lake Trails*
- *Cameron Park*
- *Chrome Ridge*
- *Grizzly flats*
- *Mosquito*
- *Rescue*
- *Volcano & Quinette*

[Vicki Yorty](#)

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Note: Within the three main Fire Safe Councils, there are a number of sub-group councils who have their own collaborators representing their community. These councils and sub councils are instrumental in council's bringing an assortment of collaborators to the table. Through this diversity, AEU is able to develop prefire and fire prevention projects that otherwise may never have been developed.

The Unit's Fire Safe Planning at a Glance

The Problem

The Unit has a unique wildland fire environment owing to its Mediterranean climate, highly combustible fuels, frequent interface 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 Mountain Range is experiencing explosive population growth. Most of this growth is occurring outside the incorporated cities - the same areas that contains the most hazardous fuels and most difficult terrain. Most of the manmade 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. Over 70% of the CDF's DPA contains high to very high hazard fuels (brush and timber). These areas contain steep, rugged river canyons that can limit accessibility except on foot. Fighting fires with bulldozers is difficult, if not impossible in some locations.

Key issues:

- Increasing life, property, resources, and ecological losses
- 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 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 CDF has contractually agreed to protect. These are usually federal lands where the federal government is fiscally and legally the protection agency but CDF resources are better positioned to provide protection. Federal agencies provide direct protection to SRA lands where the situation is reversed.

Fire History

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 business at risk - now small fires often create wildland/urban interface fire protection problems previously only found in the most densely populated areas of southern California. [Appendix "A"](#) contains the large fire history and the ten-year fire occurrence maps of the Unit. On these maps the fires shown prior to the 2002 fire season are 300 acres and larger. In 2002, CDF changed its fire mapping requirements to include the mapping grass fires 300 acres and over, brush fires 50 acres and over, and timber fires 10 acres and over, all wildland fires which destroy 3 or more structures or which cause \$300,000 or more in damage.

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

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. The normal summer weather pattern is an onshore flow (marine flow) which last several days followed by a northerly flow as the high-pressure system reasserts itself. As the marine flow moves through the Carquinez Straits, it pushes the warm valley air mass ahead of it. The resulting west winds are brisk and push fires in a west to east direction. The major canyons in the Unit are also orientated west to east. This orientation tends to channel wind into canyons in a way that increases its upslope velocity. This combination of terrain and wind creates the potential for fast moving fires running up canyon towards the areas of high hazard fuels and greater concentrations of structures at risk. If the marine flow is strong enough, it will bring cooler temperatures and higher humidity in a few hours thus reducing the timeframe where a large fire can occur.

Occasionally the marine flow is weak and overtaken by a quick reestablishment of a high-pressure system. If the high is located slightly north of its normal location a strong, dry, down slope, east wind develops. This is what drove the Rancheria Creek fire after its initial run to the east. It reversed itself in a matter of minutes and crossed over Highway 49 on its way to lone. It was also the primary factor in the spread of the Eight Mile Fire in El Dorado County. The fire history map shows several large fires coming off the national forest that have burn patterns that suggest an east wind presumably as a result of the high being slightly north of its usual location. The most recent fire following this pattern occurred in 2004. The Power Fire extended almost seventeen miles in an east to west direction from its point of origin.

What does all this mean? Simply put there are a few days each summer where weather will be the dominant factor in the spread of a wildfire. There are certain weather and terrain factors that combine to produce the potential for catastrophic losses. The threat is greatest in those identified high hazard areas of the Unit. The potential for large damaging fires is significantly less in the lower elevations where the fuels and wind patterns are different.

Geographic / Ownership

AEU is located in the Northern Central Sierras. It includes Amador, El Dorado, Alpine and portions of Sacramento and San Joaquin counties. AEU encompasses 2,667,860 acres of that the unit's DPA serves 903,803 acres. The United State Forest Service, 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 El Dorado and Toiyabe National Forest. Even with the USFS providing that protection the Unit is still actively engaged in pre-fire project outside of its DPA.

The major landowners within the AEU include:

- Private 1,530,600 acres
- State of California 50,974 acres
- United States Forest Service (USFS) 1,065,065 acres
- Bureau of Land Management (BLM) 32,921 acres
- Bureau of Reclamation (BOR) 4,432 acres
- Bureau of Indian Affairs (BIA) 700 acres
- US Military 9,892 acres

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 Sierras, and State Highway 89 in the Lake Tahoe Basin on the east side of the Sierras. 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 urban wildland interface.

AEU contains all or part of three major watersheds, the Middle and South Forks of the American, the North Fork of the Mokelumne, the Cosumnes River basin. Numerous water agencies and power companies utilize the resources of 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 Jackson to the Pioneer area.

County	Population²
Alpine	281
Amador	81,572
El Dorado	279,129
Sacramento	1,377,193
San Joaquin	281
Unit Total	1,738,456

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 harvest in the late fall.

With the easy access to the Lake Tahoe Basin and the many other recreational areas and summer homes, tourism and recreation are also major factors that influence the population during fire season. Even though most of these areas are located within the El Dorado National Forest, visitors must transit through the CDF's DPA to reach them. Since the majority of the fires are human caused, this increase in population usually results in more wildland fire ignitions.

The major industries that support the local economy includes 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 the west slope communities due to a closure of Highway 50 from the west county line to Echo summit.

² 2002 census data

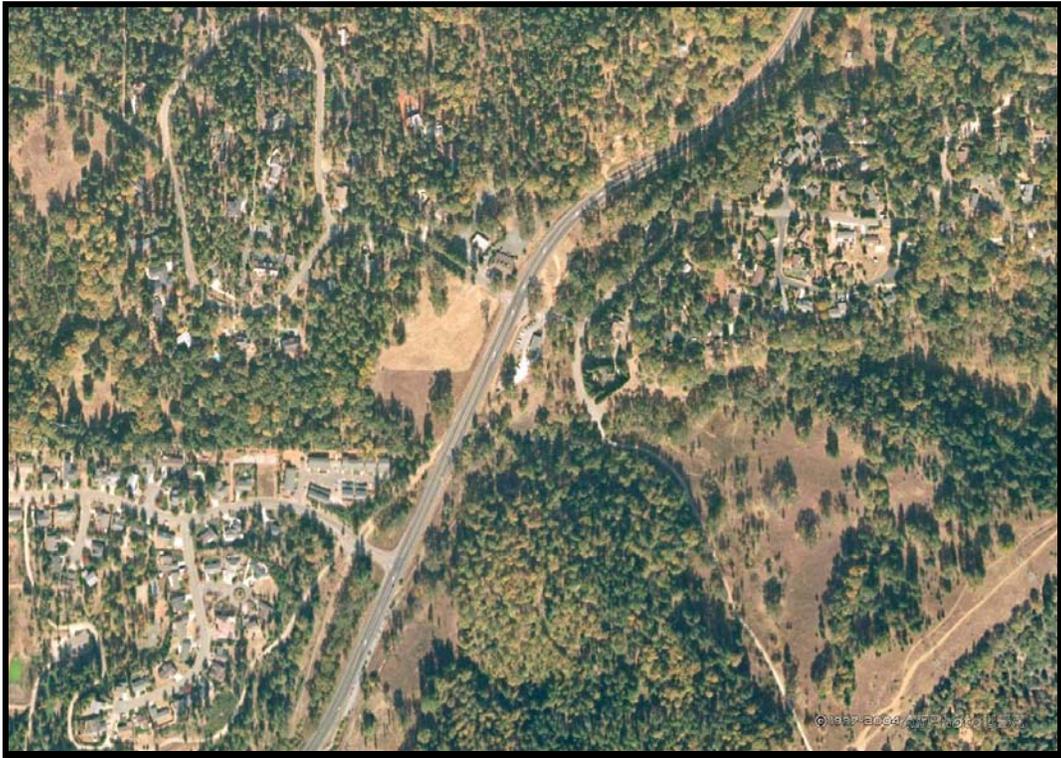
California Fire Alliance Communities at Risk

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 urban Wildland-Urban Interface situation the list of communities extends beyond just those on Federal lands.

AEU contains thirty-nine communities classified at risk from wildfire. Of those, thirty-three 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.



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
Tamarack	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
Wallace	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
Foresthill	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 Murieta	SACRAMENTO		3

AEU Action Plan



The Unit's Fire Management Plan was developed to address fire safe planning and hazardous fuel reduction concerns of federal, state, and local fire agencies, fire safe councils and other collaborators. The Fire Plan incorporates an across the board approach to reducing the occurrence and impact of wildland fire through a coordinated effort involving law enforcement, for instance PRC-4291 defensible

space requirements, education and information, community fire safe and evacuation planning and hazardous fuel reduction with emphasis upon the urban wildland interface and in particular the homeowner and creating defensible space.

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 civilians in and around communities.



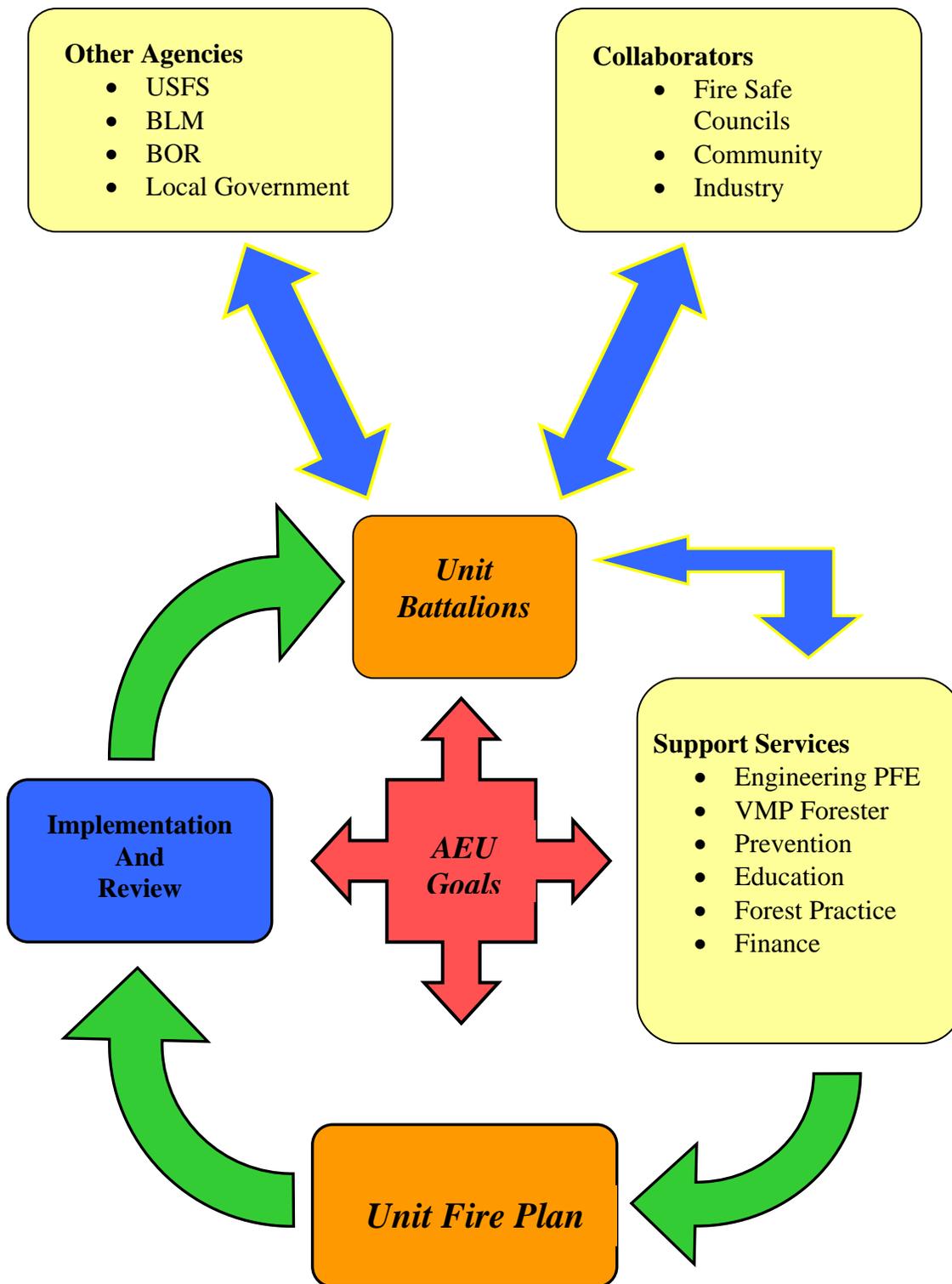
The Unit considers collaborator support extremely important. Lack of collaborators may eliminate otherwise important projects from consideration. To gain community support, the Unit works closely with the Fire Safe Councils, local governments, and Federal agencies. These Fire Safe Councils provide a 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.

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

The key to effective fire planning is the battalion's acting as community wildfire leaders. Consequently, as community wildland leaders, the battalions can only achieve the Unit and Department goals with support from the community. On the following page is a flow chart of this process.

Fire Plan Process



Summary of Projects

The following tables describe fuels reduction, fire safe project, and proposed projects for this planning cycle. These projects are categorized into five areas.

1. **Current:** Currently active
2. **Future:** In the planning process
3. **Past:** Inputted into the Unit's maintenance program
4. **Training / Range improvement**
5. **Prop-40 Projects**
 - a. Present
 - b. Pending approval
 - c. Planning- Future

Priority	Project Name	Funding	Year	Batt.	Cost
Current					
High	Independence Fuel Break	USFS	2002	1	\$150,000
High	Independence II	USFS	2004	1	\$100,000
High	Folsom Lake El Dorado Hills	WUI	2004	1	\$98,000
High	Auburn Lake Trails Fire Safe Project 2	Title III	2004	2	\$30,000
High	Auburn Lake Trails 2	WUI	2004	2	\$85,000
High	Omo Ranch Fuel Break	Title III	2004	3	\$60,000
High	Shake Ridge/Antelope Fuel Break	Prop 40	2005	3	\$26,000
High	Last Chance Fuels Reduction Project	USFS	2005	3	\$198,000
High	Pine Acres Fire Safe Project 2	WUI	2004	3	\$85,000
High	Cameron Park Fire Safe Project	Title III	2004	5	\$70,000
High	Cameron Park Fire Safe Project 2	Title III	2003	5	\$70,000
High	Cameron Park Fire Safe Project 3	WUI	2004	5	\$95,000
				Total	\$1,067,000

Priority	Project Name	Funding	Year	Batt.	Cost
Future					
High	Pine Acres III	WUI	2005	3	\$81,650
High	Sly Park II	WUI	2005	1	\$85,000
High	Shake Omo Ranch Fire Safe Project	WUI	2005	3	\$63,000
High	Divide Fire Safe Project	N/A	2005	2	\$300,000
High	Auburn Lake Trails III	WUI	2005	2	\$81,650
				Total	\$611,300

Priority	Project Name	Funding	Year	Batt.	Cost
Past					
Medium	Sly Park Fire Safe Project	Prop 204	1998	1	\$265,000
Medium	Auburn Lake Trails Fire Safe Plan	USFS	2002	2	\$22,000
Medium	Pine Acres Fire Safe Plan	USFS	2002	1	\$22,000
Medium	Amador Pines Fire Safe Project	Prop 204	2000	3	\$265,000
Medium	Sutter Highlands	FEMA	1999	3	\$130,000
Medium	El Dorado Fire Safe Council Chipper	FSC	2002	1,2,5	\$63,000
Medium	Auburn Lake Trails Fire Safe Project	WUI	2002	2	\$44,088
Medium	Folsom Lake El Dorado Hills Fire Safe Project	Title III	2003	1	\$60,000
Medium	Cameron Park Fire Safe Project	Title III	2005	5	\$35,000
Medium	Pine Acres Fire Safe Project	WUI	2002	3	\$44,562
				Total	\$950,650

Priority	Project Name	Funding	Year	Batt.	Cost
Training / Range improvement					
High	Cosumnes River Preserve / VMP	n/a	All	4	n/a
Medium	HFEO dozer training / VMP	n/a	All	4	n/a
Low	Prairie City training / VMP	n/a	All	1	n/a

Prop-40 Projects:

Priority	Project Name	Funding	Year	Value
Present				
High	CFIP 04-CSR-AEU-High8(Antipa)	Prop 40	Fiscal 04	\$48,935
High	CFIP 04-CSR-AMA 2High (Genovesio)	Prop 40	Fiscal 04	\$15,079
High	CFIP 04-CSR-AMA-22 (Magee)	Prop 40	Fiscal 04	\$18,605
High	CFIP 04-CSR-ELD-24 (Trevarthen)	Prop 40	Fiscal 04	\$49,972
Med	CFIP 04-CSR-AEU-19(Stewart Union hill)	Prop 40	Fiscal 04	\$27,656
Med	CFIP 04-CSR-ELD-23 (Buchholz)	Prop 40	Fiscal 04	\$49,932
Med	CFIP 04-CSR-AMA-25 (DuBois#2)	Prop 40	Fiscal 04	\$19,797
Low	CFIP 04-CSR-AEU-20(Lewis)	?	Fiscal 04	\$27,614
			Total	\$257,590

Priority	Project Name	Funding	Year	Value
Pending Approval				
High	CFIP 04-CSR-ELD-26 (McMinn)	Prop 40	Fiscal 04	\$49,860
High	CFIP 04-CSR-ELD-27 (Hempling)	Prop 40	Fiscal 04	\$48,114
High	CFIP 04-ELD-30 (Ramey)	Prop 40	Fiscal 04	\$24,990
High	Mosquito Fire Safe Council	Prop 40	Fiscal 05	\$141,865
High	El Dorado RCD - Sly Park Pre-Fire Mgmt Area II	Prop 40	Fiscal 05	\$19,000
High	El Dorado RCD - Sly Park Pre-Fire Mgmt Area II	Prop 40	Fiscal 05	\$41,000
High	El Dorado RCD - Uncle Toms Pre Fire mgmt area I	Prop 40	Fiscal 05	\$50,000
High	AFSC Fiddletown #1	Prop 40	Fiscal 05	\$49,999
High	AFSC Fiddletown #2	Prop 40	Fiscal 05	\$49,999
High	AFSC Rams Horn #1	Prop 40	Fiscal 05	\$49,999
High	AFSC Rams Horn #2	Prop 40	Fiscal 05	\$49,999
High	AFSC Rams Horn #3	Prop 40	Fiscal 05	\$49,999
High	AFSC Shake Ridge 2	Prop 40	Fiscal 05	\$49,999
High	AFSC Shake Ridge 3	Prop 40	Fiscal 05	\$49,999
High	Auburn Lake trails	Prop 40	Fiscal 05	\$47,996
			Total	\$772,818

Planning-Future				
Priority	Project Name	Funding	Year	Value
High	CFIP 05-CSR-ELD-01 (Ehman)	Prop 40	Fiscal 05	\$49,312
High	CFIP 05-CSR-ELD-02 (Throne / Hayden)	Prop 40	Fiscal 05	\$31,388
High	CFIP 05-CSR-ELD-03 (Fiekens/Miller/Hallmark/Ruiz/Haydem)	Prop 40	Fiscal 05	\$49,710
			Total	\$130,410

Funding:

FSC = Fire Safe Council funding
 Management Agency
 WUI = Western Urban Interface funding
 CFIP = California Forest Improvement Program

FEMA = Federal Emergency
 Prop 40 = State grant funds
 Title III = Federal funds



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

Computer based Geographic Information Systems (GIS) is used to assess and rank fire hazard. 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) fire plan assessments have been made at the Q81 level. For instance, each Q81st in Unit has a ranking applied to it for Assets at Risk (AAR), Level of Service (LOS), and Fuel Hazard Ranking.

In addition, the unit is using a fifth component:

- Residential Density (parcel based)

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.

Assets at Risk

Assets at risk refer to real and societal values that have the potential to be burned or damaged by wildfire. Seventeen 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

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 allocated, 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.

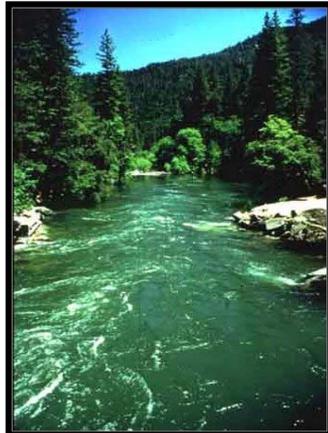
Thus, as part of the overall fire plan process, assets were addressed at two levels. First, generalized assets at risk were estimated to indicate what areas contain high valued assets. Second, the input of collaborators further refined this assessment.

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.

See [Appendix "B"](#) for the assets map.

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				



Residential Density

This data is a point 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 the LE-38 program. Utilizing parcel maps in target areas helps the field personnel quickly and accurately complete their inspections. See [Appendix "C"](#) for the residential density map. (Sacramento & San Joaquin county data not available)



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 not problem fires. Problem fires are the few that exceed suppression organization capabilities and cause damage or are costly to control.

CDF 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. See [Appendix "D"](#) for the LOS maps.

$$\text{SUCCESS RATE} = \frac{\text{Annual number of fires that were small and extinguished by initial attack}}{\text{Total number of fires}}$$

AEU's initial attack (I.A.) success & failures for 1991 to 2004

PLANNING BELT	I.A. FAILURE	I.A. SUCCESSES	SUCCESS RATE
BRUSH	19	1367	99%
WOODLAND	9	684	99%
GRASS	24	690	97%
TIMBER	46	1352	97%
URBAN OR AGRICULTURE	19	178	95%

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. See [Appendix "E"](#) for the fuels maps.

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

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. See [Appendix "F"](#) for the severe fire weather map.

Severe Weather Analysis Parameters

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

STATION	OWNER	LAT	LOX	ELEVATION	WX-SCORE	WX-RANK
Ben Bolt	CDF	38.586	-121.017	840	0	L
Esperanza	CDF	38.243	-120.514	2512	1	L
Green Springs	CDF	37.834	-120.502	1000	2	L
Pilot Hill	CDF	38.833	-120.009	1250	0	L
Mt Zion	CDF	38.394	-120.650	2960	0	L
Secret Town	CDF	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 are not in a state in which the 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

Priority Areas

The fire plan assessment process utilizes a W.A.F.L. calculator to combine the four fire plan assessments (Weather, Assets at Risk, Fuel, & Level of Service) in to an aggregate score which can be used to help target critical areas and prioritize projects. The W.A.F.L. score however, does not take in to consideration subjective factors critical to achieving on the ground fuel reduction. Fire plan assessments aside, it is extremely difficult if not impossible to achieve fuel reduction on the ground without community involvement, whether that be in the form of a community fire safe council, homeowners association or other organized forum.

The W.A.F.L., in [Appendix “G”](#) indicates that there is a significant need throughout the foothills, especially in the urban interface areas of El Dorado and Amador County and various parts of Alpine County for hazardous fuel reduction.

The five battalions have submitted pre-fire projects that they consider important to achieving their goals of reducing the potential and impact of catastrophic fire. Each Battalion is assigned a relative ranking by combining the four Fire Plan assessments, the W.A.F.L. score, Severe Fire Weather, Total Assets at Risk, Fuel Hazard Ranking, Level of Service (Workload) with subjective factors including Fire History and Community Involvement. Values are assigned by looking at the Fire Plan Assessment maps and interpolating the assessment output, which best represents each battalion. Values are assigned on a scale of (1 to 3). The following table illustrates the assigned values and total battalion score.

	Battalio n 1	Battalio n 2	Battalion 3	Battalio n 4	Battalio n 5
Fire Plan Assessments					
Weather	0.9	1	1.3	0.8	0.9
Assets at Risk	1.6	2.2	1.8	1.1	1.6
Fuel Rank	1.7	2	2.2	1.4	1.7
Level of Service	0.5	0.5	0.4	0.3	0.5
Average of W.A.F.L	1.175	1.425	1.425	0.9	1.175
Fire History	3	2	2	3	3
Community Involvement	2	3	3	2	2
Total Score	6.175	6.425	6.425	5.9	6.175

Theoretically, the battalion with the highest score would have the first priority for funding of any given project or other pre-fire program. However, there are a number of circumstances where other than the highest priority battalion would be given preference for a pending project. Circumstances when this might occur include the following:

- Battalion's current commitment to an existing pre-fire project
- Community participation necessary to complete a project
- Feasibility of instituting the project
- Project type
- Funding availability

Each Battalion submitted, via map format, their priority areas. These areas are generalized and are to be looked at for future potential project implementation. See [Appendix "H"](#) for future project map.

Projects by Battalion

Battalion 1

Battalion 1 spans from the Sacramento County line the USFS CDF DPA border. The total area off the battalion is 309,544 acres ranging from 14% timber, 33% brush, and 49% oak woodland/grass.

Like many areas in the Sierra Nevada's, the Battalion contains a significant wildland interface fire problem. There exist numerous large, and well populated, subdivisions which are at risk for a catastrophic fire.

The facilities in battalion 1 consist of two CDF Schedule B stations, Station 20 with two engines, and Station 43 with one engine and a dozer. In addition, the Unit headquarters and the Unit ECC are located within the battalion.

Seven local agency fire districts lie, at least partially, within the battalion. These fire districts are; Pioneer, El Dorado Hill, Cameron Park, Diamond Springs, Latrobe Fire, Rescue, and El Dorado County Fire. A close working relationship is maintained with each district as well as with the USFS.

Current Projects

1. Folsom Lake/El Dorado Hills Fire Safe Project

The proposed project includes the establishment of a defensible fuels zone at the boundary of the Folsom Lake State Recreation Area and the private parcels that have homes with inadequate set-back. The intent is to provide defensible fuel zones that start at structures on private lands and extend approximately 100-300 feet into the Folsom State Recreation Area. The pre-fire strategy is to construct defensible fuels zones which provide adequate protection to fire personnel and residents in the event of wildfire originating within the Folsom Lake State Recreation Area.

An additional component will be an emphasis on the continued property inspection program that is currently conducted by El Dorado Hills Fire Department. To enhance this program the cooperators will work towards community chipping programs to provide disposal alternatives for materials generated during clearance work around structures.

Currently CDF has submitted several applications for funding. The first application was through the Western States WUI grant process that is

administered through CDF. The proposal was for \$98,400. An additional funding mechanism will be \$60,000 of Title III funds from the El Dorado Fire Safe Council. These funds are utilized to staff the project with administrative personnel and support.

Project Administrator or Manager

El Dorado County Fire Safe Council
El Dorado County Board of Supervisors
Battalion 1

Project activities will be covered under the State VMP Program

Cooperators / Collaborators

CDF
El Dorado Hills Fire Department
United States Department of the Interior
Bureau of Reclamation
California Department of Parks and Recreation
El Dorado County Fire Safe Council

2. Independence Fuel Break

Federal and state defensible fuels zone/shaded fuel break project for the protection of the Pollock Pines area in the vicinity of Forbay Road. This project is a collaborative effort to treat federal lands while creating an opportunity to treat private lands that are isolated between the Federal lands. The El Dorado National Forest has been conducting thinning and prescribed fire operations on the Independence Fuel Break as a high priority for their new fuels management strategy. CDF was approached by the USFS to assist in project implementation for the private lands that lie within the federal lands project. The federal agencies are unable to directly conduct work on private lands; however, they are able to provide funding sources.

CDF chose to utilize the California Forest Improvement Program (CFIP) for project implementation. CFIP provides the statutory framework to conduct the type of work required to fulfill the project objectives and has an excellent mechanism to manage the administration of the project work. CFIP is currently an unfunded program; however, there is the ability to move Federal grant funds through the CFIP program.

The Unit has been awarded two National Fire Plan Grants to fund project work through the use of the California Forestry Improvement Program (CFIP). The grants total \$212,000, which is administered through the already in place CFIP mechanism. A retired CDF forester funded by the grant is conducting on the ground coordination for the project.

Project Administrator or Manager

Battalion 1

CDF VMP

Cooperators / Collaborators

USFS

CDF

Non-Industrial Private Landowners

Planning & Past projects

1. Sly Park Fire Safe Project II

This project is primarily a 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 CDF fire 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 went into the maintenance phase starting the fall of 2004.

This fuel break project is considered complete however; continued maintenance is required to ensure the project remains in tact. Maintenance will require some minor fire crew work and understory burning.

Project Administrator or Manager

CDF Battalion 1

Cooperators / Collaborators

Sly Park Recreation Area

El Dorado Irrigation District

Non-Industrial Private Landowners

USFS

SPI

CDF

Battalion 2

The Battalion 2 lies primarily on the Georgetown Divide in northern El Dorado County. The total area off the battalion is 128,454 acres ranging from 19% timber, 54% brush, and 27% oak woodland/grass.

As with all of the Central Sierra, the Battalion has a significant urban interface/intermix problem. The majority of the construction took place prior to current defensible space standards. This problem was confirmed with the loss of fourteen homes in the 1994 Kelsey fire.

The battalion consists of two CDF Schedule B stations and one un-staffed lookout. Both Station 50 and Station 70 are two engine stations and a shop facility is maintained at station 70. Additionally, Growlersburg Conservation Camp lies within the battalion.

Five local agency fire districts lie, at least partially, within the battalion. 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 U. S. Forest Service, Georgetown Ranger District.

Current Projects

1. 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 fuels zones around and within the subdivision. CDF 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 CDF has treated approximately 100 acres of federal and private lands.

The Unit was awarded a \$22,000 planning grant for a comprehensive fire

safe plan, biomass utilization plan, and community emergency evacuation plan. The fire safe plan is complete and has been distributed to the community of Auburn Lake Trails.

Project Administrator or Manager

Battalion 2
CDF VMP

Cooperators / Collaborators

CDF AEU and NEU
ALT Firesafe Council and ALT Homeowners Association
California Department of Parks and Recreation
United States Department of the Interior, Bureau of Reclamation

Planning & Past projects

Greater Georgetown Divide Fire Safe Project

Greater Georgetown Divide Fire Safe Project is a coordinated and comprehensive L.E.-38 inspections program targeting areas with recent fire history and potential for loss. This program will utilize a Limited Term FAE and 3 Seasonal Firefighters to inspect homes and educate homeowners within the high hazard communities.

Project Administrator

Battalion 2

Cooperators / Collaborators

CDF
Local Government Fire Departments
El Dorado County Fire Safe Councils
Community

Battalion 3

Battalion 3 is 185,062 acres encompassing two counties Amador, and El Dorado. The fuels, in the Battalion range from approximately 45% timber, 48% brush, and 7% oak woodland/grass.

Like many areas in the Sierra Nevada's of California, the Battalion contains a significant wildland interface fire problem. There exists several large, and well populated, subdivisions which are at risk for a catastrophic fire occurrence. As a result of public awareness efforts by Battalion staff a heightened awareness of the citizens of Amador County now exists, with regards to the wildland fire potential

The battalion consists of two CDF Schedule B stations, one un-staffed lookout, State forest, and CYA Camp. Station 80, located in Pine Grove and Station 10 located 10 miles east of the community of Pioneer. During the fire season, two engines are operated out of the Station 80. Station 10 is kept open year-round, as an "Amador station" with one engine. Also during the declared fire season, the El Dorado National Forest (Amador District) operates a fully-staffed engine out of the Dew Drop Station. In addition Mt. Zion State Forest (160 acres) and Pine Grove CYA Camp is located in Pine Grove.

There are two local Volunteer Fire Departments (AFPD and Lockwood) that provide structure protection and emergency medical services for the area. The close working relationship between local government resources and the California Department of Forestry and Fire Protection provides competent and reliable assistance on all initial attack wildland fires in Amador County.

Current Projects

1. Pine Acres Fire Safe Project 2

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. All of the fuels reduction work is being conducted by CDF fire crews on private property bordering the subdivision and on the Mt. Zion State Forest.

A WUI grant in the amount of \$85,000 is currently the funding source for this project.

The Unit was awarded a \$22,000 planning grant for a comprehensive fire safe plan, biomass utilization plan, and community emergency evacuation

plan. CDF contracted with a consultant to complete the work. The project is complete and the fire safe plans, as well as the other existing documents, have been distributed to the community of Pine Acres.

Project Administrator or Manager

Battalion 3
CDF VMP

Cooperators / Collaborators

CDF
BLM
Amador County Fire Safe Council
Local landowners

2. Omo Ranch Fuel Break

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. The primary purpose of the project is to establish a defensible fuel break for fire fighting operations and to protect the interface communities of the area. The community of Omo Ranch is a small and relatively isolated community in southern El Dorado County.

CDF, Sierra Pacific Industries, and the USFS have completed approximately one third of the project. Work on the middle third of the zone started in 2004. All work to be completed by CDF is covered by a mitigated negative declaration and a VMP contract. All work on the National Forest lands was completed by the USFS.

Funding for this project has traditionally been through the Unit's Prefire Program as a standard Vegetation Management Project. AEU was awarded \$60,000 of Title III funding by the El Dorado County Fire Safe Council to conduct work on the middle third of the project, especially around the Indian Diggin's Elementary School in the town of Omo Ranch. AEU will utilize Proposition 40 watershed protection funding to continue project work into the near future.

Project Administrator or Manager

Battalion 3
CDF VMP

Cooperators / Collaborators

CDF
USFS

El Dorado County Fire Safe Council
Sierra Pacific Industries
Local landowners

3. Shake Ridge/Antelope Fuel Break

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 includes prescribed fire, fire crew pre/post prescribed fire treatments, roadside clearance work, dooryard chipping, mastication, tree thinning, and enhanced LE-38 inspections. All work on this project was completed with a mitigated negative declaration and the State Vegetation Management Program.

The original project described above was funded through a \$150,000 Proposition 204 Watershed Protection Grant proposal that was awarded to CDF in 1999. The proposal was conducted over a four-year period and allowed CDF to hire a Fire Captain Grant Coordinator to manage the day-to-day operations of the project work. The fundamental foundations of this project were established during the early planning phases of the Proposition 204 period.

For the next three years, AEU will utilize Proposition 40 watershed protection funding to continue the project.

Project Administrator or Manager
CDF VMP

Cooperators / Collaborators
CDF
USFS
Sierra Pacific Industries
Amador Fire Safe Council & Local landowners

4. Last Chance Fuels Reduction Project

Federal and state defensible fuels zone/shaded fuel break project for the protection of the community of Grizzly Flats within the Cosumnes River watershed. This project is a collaborative effort to treat federal lands while creating an opportunity to also treat private lands that are isolated between the Federal lands. The El Dorado National Forest has been conducting thinning and prescribed fire operations on the Last Chance Fuel Break as a high priority for the Federal fuels management strategy. CDF was approached by the USFS to assist in project implementation for the private lands that lie within the federal lands project. The federal agencies are unable to directly conduct work on private lands; however,

they are able to provide funding sources.

CDF chose to utilize the California Forest Improvement Program (CFIP) for project implementation. CFIP provides the statutory framework to conduct the type of work required to fulfill the project objectives and has an excellent mechanism to manage the administration of the project work. CFIP is currently an unfunded program; however, there is the ability to move Federal grant funds through the CFIP program.

The Unit has been awarded National Fire Plan Grant funding to conduct project work through the use of the California Forestry Improvement Program (CFIP) in cooperation with small non-industrial landowners. The grant total is \$198,000, which is administered through the already in place CFIP mechanism. A retired CDF forester funded by the grant is conducting on the ground coordination for the project.

Project Administrator or Manager

Battalion 1
CDF VMP

Cooperators / Collaborators

USFS
CDF
Non-Industrial Private Landowners

Future Projects

Pine Acres Fire Safe Projects “On going”

- Develop a Community Evacuation Plan for the Pine Grove/Pine Acres area.
- Develop a Public Education Program for PRC 4291

Amador Pines Fuel Break/Fire Safe Project

- Develop a defensible fuel zone between the community of Amador Pines and the drainages west of said community.
- Develop a Community Evacuation Plan for the Amador Pines/Pioneer area.
- Develop a Public Education Program for PRC 4291

Shake Ridge/Antelope Fuel Break

- Develop a 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

Omo Ranch Fuel Break “On going”

- Continue with the expansion of the 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 northeast from Ridge Road, beginning near Bates Road, and following the 2000-foot contour line around the Surrey Junction and Tanyard Hill residential areas to Lupe Road

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

Battalion 4

Battalion 4 is 367,996 acres encompassing three counties Amador, Sacramento, and Jan Joaquin. The fuels, in the Battalion range from 14% timber, 33% brush, and 49% oak woodland/grass.

Like many areas in the Sierra Nevada's, the Battalion contains a significant wildland interface fire problem. There exist numerous large, and well populated, subdivisions which are at risk for a catastrophic fire.

The facilities in battalion 4 consist of two CDF Schedule B stations, Station 60 with two engines and a dozer, and Station 30 with one engine. Station 60 and 30 are kept open year-round with one engine each, as "Amador plan stations."

Eleven local agency fire districts lie, at least partially, within the battalion. These fire districts are "by county":

- Amador County
 - AFPD
 - Jackson FD
 - Lone FD
 - Sutter Creek FD
- Sacramento Co.
 - Sac Metro
 - Herald FD
 - Wilton FD
 - Galt FD
 - Elk Grove FD
- San Joaquin
 - Clements FD
 - Liberty FD

Current Projects

1. HFEO Academy Training

The CDF Fire Training Academy in Lone annually conducts the Heavy Fire Equipment Operator class, which includes the use of 10-18 bulldozers of varying sizes. AEU provides the locations where the ten-day practical field training for the class is conducted. AEU identifies willing landowners that own property in strategic topographic locations and are willing to allow CDF to operate dozers. Landowners are typically livestock ranchers so there is a mutual benefit through range improvement for the landowners

while providing strategic fuels reduction. All of the dozer work is planned to be completed in the spring and the resulting piles are burned in the fall. Ranchers are strongly encouraged to artificially seed following the treatment of the vegetation.

Project Administrator or Manager

CDF AEU
CDF Academy

Cooperators / Collaborators

Private Land Owners

Future & Past Projects

1. Sutter Highlands Fire Safe Project

With the cooperation and support of the Sutter Highland homeowners and the Amador Resource Conservation District, CDF was able to conduct roadside fuels reduction for the Sutter Highlands community above Sutter Creek. A significant number of homeowners participated in the VMP by allowing CDF fire crews to clear hazardous fuels around homes and roadways.

The funding for this project was originally secured from a Federal Emergency Management Agency Hazard Mitigation Grant in the amount of \$130,000. Two years of work has been completed and future funding has not been secured to continue the project. Prefire staff with the cooperation of the local battalion chief will continue to assess the future of this project.

Project Administrator or Manager

Battalion 4
CDF VMP

Cooperators / Collaborators

CDF
Sutter Highlands homeowners

2. Cosumnes River Preserve

The Nature Conservancy is maintaining vernal pool habitat with the utilization of prescribed fire. CDF with the participation of the Nature Conservancy, Sacramento City Fire Department, and Sacramento Metro Fire utilize this VMP project as a pre fire season live fire training exercise. The project consists of approximately 500 acres of vernal pool and oak woodlands burning every year. Battalion and Prefire staff are currently working towards a long-term management plan for the entire 12,000-acre project area. This project allows CDF and other fire agencies to do live fire training within a controlled environment. With this type of training fire agencies, increase their skills in wildland fire suppression.

Project Administrator or Manager

Battalion 3
Battalion 6 "Training"
CDF VMP

Cooperators / Collaborators

The Nature Conservancy
Sacramento County Fire Departments
Private Land Owners
CDF

Battalion 5 Cameron Park Fire Department

The most 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 in the Oakland Hills in 1990. The Oakland Hills fire burned less than 3 square miles (1600 acres) and destroyed 2,900 homes in one day.

The Cameron Park Fire Department in Cooperation with the California Department of Forestry and Fire Protection proposed to implement 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 necessitates that it be approached by a coalition of public and private collaborators including but not limited to:

- Fire Department officials
- El Dorado County government and agency officials
- Community Services District officials
- Utility company representatives
- Environmental groups
- Insurance industry representatives
- Real estate industry representatives
- Homeowners associations
- Large land owners
- General public

The project must be 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 have yet been established for the completion of this project. Progress will be dependant upon the cooperation and initiative of the collaborators, and the success in securing project funding through grants or other sources. Three critical element areas have been identified for the project.

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
- Chipper Program
- Vegetation Management Program
- Fire Resistant Planting Program
- Curbside Landscaping

Public Education:

- Volunteers in Prevention
- Public Displays
- Demonstration Lots
- Web Page
- Public Recognition
- Hazard Awareness

Planning Element Description

Cameron Park Fire Safe Bureau: The Cameron Park Fire Department will establish a Fire Safe Bureau to coordinate the Districts' efforts towards minimizing costs and losses associated with wildfire emergencies. The Fire Safe Bureau will be located at Cameron Park Fire Station 88. All of the personnel permanently assigned to Station 88 will be members of the Fire Safe Bureau. The Fire Safe Bureau will work with the Cameron Park Fire Safe Council to implement the Cameron Park Fire Safe Project. Establishing a Fire Safe Bureau will re-focus the efforts and priorities of 25% of the fire department personnel and resources directly on the wildland-urban interface problem.

Cameron Park Fire Safe Council: A fire safe council will be established in the community to build a partnership between the fire department and the community for addressing the local wildfire hazard. The fire safe council will be a coalition of public and private sector collaborators 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 will meet monthly. One member of the Cameron Park Fire Safe Council will represent the community at the El Dorado County Fire Safe Council. An active Fire Safe council will be one of the critical elements for project success.

Fire Safe Development Plans (PRC 4290): A Fire Safe Plan will be prepared and submitted with project applications for new construction and development in the community. The Fire Safe Plan will provide 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, fuel modification, and defensible space.

Cameron Park Wildfire Preplan: A preplan for managing wildfire emergencies in and around the community will be developed. The preplan will incorporate 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. will be developed for a variety of wildfire scenarios. The pre-plan will be distributed to local firefighters for training and made available to the public for educational purposes.

Community Hazard and Risk Assessment: A hazard and risk assessment will be done for the entire community. The hazard and risk assessment will quantify 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 will be considered. The hazard and risk assessment will be a critical planning tool for directing the efforts of the Fire Safe Bureau.

Fuel Reduction Element Description

Residential Lot Clearing Requirements (PRC 4291): Based on the community hazard and risk assessment, residents will be 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 will make initial inspections. Failure to comply may result in a misdemeanor citation.

Vacant Lot Clearing Requirements (H&S 14875 – 14922): Based on the community hazard and risk assessment, vacant lots will be required to remove flammable vegetation under the authority of the fire district's weed abatement ordinance. The weed abatement ordinance was established in 1999, by the Board of Directors, under the authority of Health and Safety Code § 14875. Fire department personnel and volunteers will make initial inspections. Failure to comply may result in the fire department contracting for the abatement work and a lien on the property.

Chipper Program: The district will seek funds to establish a chipper program to support the residential and vacant lot clearing efforts. A chipper program will provide a cost effective alternative and incentive for property owners to cooperate with the district's fuel reduction efforts. A commercial chipper and tow vehicle will be required. 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.

Vegetation Management Program (VMP): Large lots and open tracts of land threatening many structures may qualify for the VMP administered by CDF. A contract between the property owners and CDF authorizes the State to perform fuel reduction work through a cost sharing agreement. Qualification and priorities for utilizing a VMP program will be based on the community hazard and risk assessment.

Fire Resistive Plants: Ornamental trees, shrubs, and groundcovers that are fire resistive and perform well in the local soil and weather conditions will be identified. Property owners will be encouraged to replace native flammable vegetation with fire resistive ornamental plants. Sponsoring nurseries will be sought to offer discounted plants for this program. Cost matching grant funds will be sought to further reduce the costs to the property owner.

Curbside Landscaping: The District will work with the County Department of Transportation to identify guidelines for property owners desiring to landscape road easements fronting their properties.

Public Education Element Description

Volunteers in Prevention (VIP): The District will establish Volunteers in Prevention program to assist with administration of the Cameron Park Fire Safe Project and with public education. The VIP program is administered by CDF. VIP's may be utilized for a variety of fire prevention activities including office support, inspections, and public education programs.

Demonstration Lots: Demonstration Lots will be established around the district featuring two types of fire safe landscaping. One type will demonstrate how to thin and prune native vegetation (primarily oak woodland) to reduce its fire danger potential. The other type will include fire resistive ornamental plants that can be used to replace or enhance native plant species.

Public Displays: Public education materials will be displayed at community events attended by the fire department and/or the Fire Safe Council.

Web Page: The District's web page will be updated to provide a complete overview of the Cameron Park Fire Safe Project.

Public Recognition: Streets and neighborhoods in the District will be recognized for achieving "Fire Safe" status. "Fire Safe" status will be

granted when the street or neighborhood meets guidelines for fire safety established by the Cameron Park Fire Safe Bureau. Recognition may be in the form of local press releases, listing on the district's web page, and/or neighborhood or street signs.

Hazard Awareness and Prevention: Public education materials will be 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 may 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.

Support Bureaus

Vegetation Management Program (VMP) F-4517

During the past 10 years, the Unit has treated an average of 1000 acres annually under the Vegetation Management Program (VMP). Currently the Unit has treated approximately 19,825 acres since 1982, with an estimated 1500 additional treated acres by the end of the year. Many of the projects undertaken in the Unit have been within the wildland-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 wildland/urban intermix area. Future projects will concentrate on densely populated areas with high assets at risk.

Engineering

Prefire engineering is a critical part of the unit fire plan. By using GIS mapping to analyze the fire environment helps unit managers make key decisions for on the ground prefire 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 AAR 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

AEU's data layer validation schedule by priority:

PRIORITY		STATUS	LAST UPDATED
1	Fuels Flags	50% done	1998
2	Sever Fire Weather	Need total review	1998
3	Assets at Risk	30% done	1998-2002
4	Ignition Workload Analysis	Done every year	2004
5	Fire History	Done every year	2004

Fire Prevention B-4520

The 2004 fire season in the Amador/El Dorado Unit began May 3rd and lasted through November 7th. The Unit experienced 296 fires within its Direct Protection Area (DPA) during that period. This number represents a 16% decrease from the 2003 season, and a 6% decrease over the 9-year average.

The five largest fires in the unit were:

1. Scott Fire at 700 acres, \$140,000 dollars of damage, and cost to suppress estimated at \$200,000
2. Wilson Fire at 163 acres, \$38,000 dollars of damage, and cost to suppress estimated at \$14,000
3. Powerhouse Fire at 115 acres, \$11,000.00 dollars of damage, and cost to suppress estimated at \$750,000
4. Hollow Fire at 48 acres, \$700,000 dollars of damage, and cost to suppress estimated at \$250,000
5. Miller Fire at 43 acres, \$8,600 dollars of damage, and cost to suppress estimated at \$25,000

Five largest fire in 2004	Acres	Total Cost	Cost Per Acre
Scott	700	\$340,000.00	\$485.71
Wilson	163	\$52,000.00	\$319.02
Powerhouse	115	\$711,000.00	\$6,182.61
Hollow	48	\$725,000.00	\$15,104.17
Miller	43	\$33,600.00	\$781.40

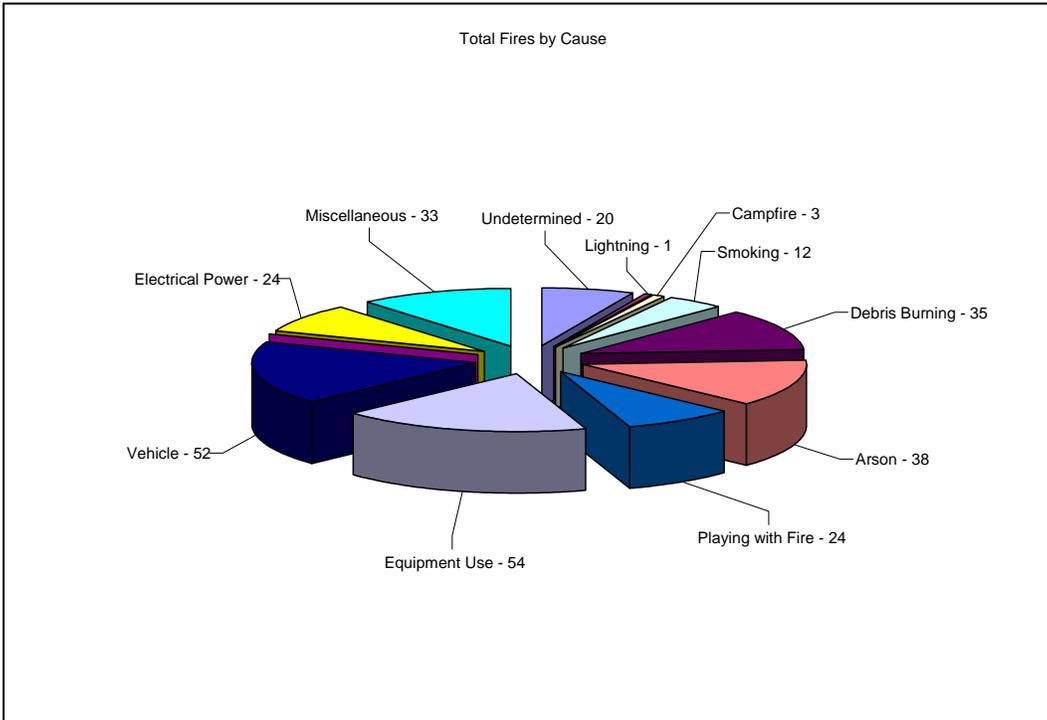
Approximately 1,574 acres burned in 2004 compared with the 9-year average of 2,788. The most significant change in the last 9 years has been the increased growth and recreation in the Unit causing a steady increase in vehicle, equipment, and juvenile activity caused fires. In reviewing fire causes during the 2004 season, it was found that the four leading causes of vegetation fires in the Unit were:

- Equipment use
- Vehicle
- Debris burning
- Arson / playing with fire

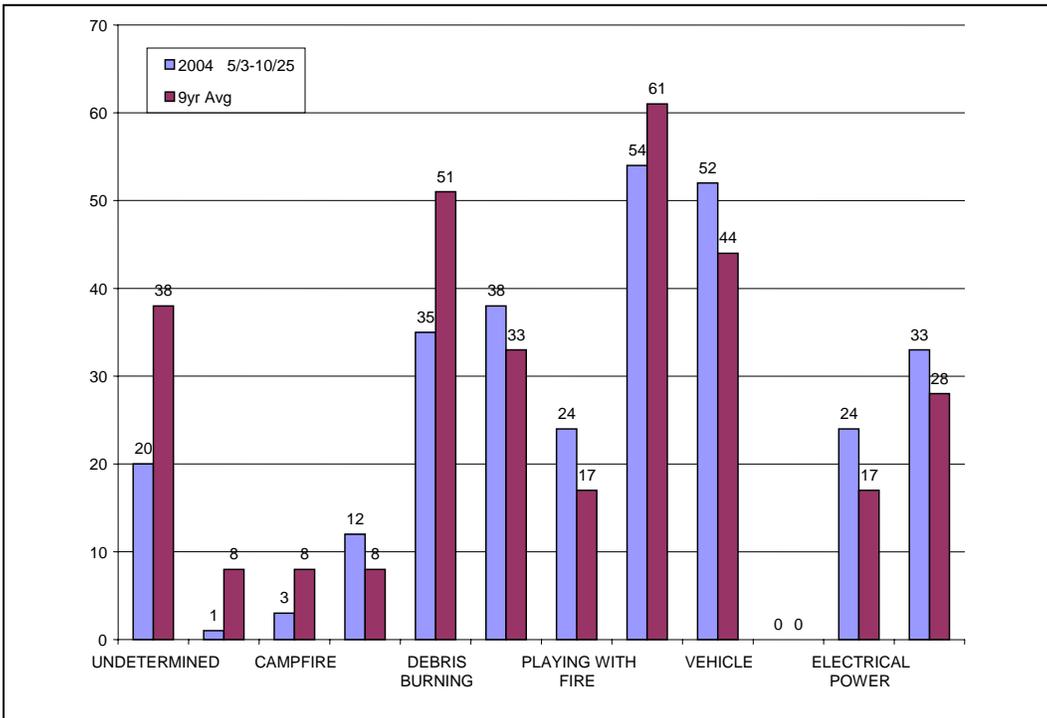
The rise in arson cases was because several juveniles playing with fire cases were handled as arson cases. These accounted for 69% of all fires that occurred. These were followed in order by: miscellaneous, electrical power, undetermined, smoking, campfire, lightning, and railroad. Fire

occurrences on the increase from the 9-year average were vehicle, playing with fire, electrical power, arson, miscellaneous, and smoking with all others on the decrease. Ignitions causing the most acreage loss were equipment use at 906 acres and electrical power at 336 acres. All other causes of fire were less than 100 acres.

The following chart compares the 2004 primary causes compared to the 9-year average.



Amador - El Dorado Amador / El Dorado 2004 Ignitions Compared to the 9-year Average



In order to better address ignition management for the Unit, a more detailed analysis of the fires in each major cause classification was conducted.

1. **Equipment use** accounted for 54 wildland fires or 18% of the total ignitions. This represents an 11% decrease from the 9-year average. Historically, this classification has been one of the top causes of wildfire starts in the Unit. Equipment use and debris burning were heavily targeted this year. Through continuing displays and education programs, we hope to continue a downward trend. In reviewing the specific causes within this classification, approximately 45% are due to the misuse of mowers and weed-eaters. Welding or grinding without adequate clearance caused 10% of the fires with approximately 25% caused by the operation of heavy equipment. The majority of the heavy equipment caused fires occurred in the El Dorado Hills Area. These fires were all quickly extinguished. Over 90% of the mower fires were due to the mower blades striking rocks or exhaust and friction belts igniting collected chaff around them. Ironically, most of the mower caused fires occurred as a result of residents trying to clear property for fire safety, but doing it during the hottest part of the day, usually between the hours of 10:00 AM and 6:00 PM. Equipment use caused the largest fire in the unit in 2004, the Scott Fire that burnt 700 acres in the Rancho Murieta Area.
2. **Vehicle use** accounted for 52 wildland fires or 18% of the total in 2004. This represents an 18% increase from the 9-year average. 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 and Hwy 16, 49, 50, 88, and 124. 30% of the vegetation fires were exhaust/converter related, 20% of the fires were caused by vehicles on fire, 20% were caused by accidents, 15% by vehicles driving in the wildland, and most of the remainder was miscellaneous caused.
3. **Debris burning** accounted for 35 fires or 12% of the total fires. This cause saw a 31% decrease from the 9-year average. We believe a concerted educational program along with the elimination of debris burning during several months of declared fire season; (June through October) substantially limited the number and severity of these fires. 25% of these fires were before the burning band went into effect and just after the band was lifted. Lack of clearance is the #1 cause for the escape burns. 70% of the 35 fires were illegal burning during the burning ban. The remaining control burn escapes are due to old control burns re-igniting (coming back to life) after a weather change. Unattended control burns also

contributed to the totals. All fire departments in Amador and El Dorado County are assisting us in handing out legal notices (LE-38's) on all debris caused fires. These legal notices serve to educate the public and put them on notice their next escape would result in a citation. The new air pollution laws banning burn barrels have aided by getting rid of a potential ignition sources.

4. **Arson and Playing with Fire** accounted for 62 fires or 21% of the total fires in 2004. Arson accounted for 38 fires or 13% of the fires. This was a 1% increase over the 9-year average. Playing with fire accounted for 24 fires or 8 % of the fires in 2004. This was a 30% increase over the 9-year average. The increase in the arson cases is attributed to several juveniles caught playing with fire being cited / arrested for arson. There is a fine line between the playing with fire to arson or experimentation to recklessly causing a fire. Nine of the, playing with fire, cases were given to the district attorney offices for convictions.

Currently there are 5 open arson cases from 2004. These cases involve 4 adults and several juveniles. The Fire Prevention Bureau handled a total of 78 juveniles in 2004. 14 juveniles were sent to the Prevention Bureau for intervention / education by county's court systems. Over the last couple of years, we have had a growing concern over the increasing number of severely challenged juveniles that we have been the initial contact for. The Hollow Fire, which burnt 48 acres through the outskirts of Placerville, caused approximately \$700,000.00 damage to various utility companies and private properties was caused by juveniles playing with fire. 2004 saw an increase in young girls and groups of juveniles being responsible for starting fires. Juveniles between the ages of 9 – 13 were very active in 2004. Various diagnosed diseases due to alcohol, drug, and genetic disorders play a role in the juvenile problem. Past physical, sexual, and emotional abuse of the juveniles also plays a strong role into why those juveniles play with fire or intentionally light fire. The families (all within the foster care system) are working with County Social Services to handle these juveniles.

Due to the above concerns, a sub-committee was formed out of the El Dorado County Fire Prevention Officers Association in 2003 to write a standardized protocol for the Juvenile Fire Setter Program in El Dorado County. The handbook (including database) is near completion and will be distributed throughout the Unit and parts of the state.

Another major concern is that many of the juveniles (aged 12-17

years) are well aware of their wrongful acts, but simply don't care and figure they will not get caught. When they get caught, often times the parents are apathetic or in denial about their child's activities. The Law Enforcement, County Social Services, Probation Department, District Attorney, and Courts within the respected county hopefully can help make a difference in the life path the juvenile decides take.

5. **Miscellaneous causes** accounted for 33 fires or 11% of the fires in 2004. This classification includes causes such as spontaneous combustion, fireplace ashes deposited in the wildland, interior fires such as wiring, flue fires, barbequing, cooking fires, fireworks, and electrical wiring on the user side of the meter. This category saw a large increase to because of closer report analysis. Model rockets along with the usual unintentional firework start caused five fires this year. Several spontaneous combustion fires and structure fires, which spotted to the wildland helped, contributed to this category.
6. **Electrical power** accounted for 24 wildland fires or 8% of the 2004 fires. Although this is a 29% increase from the 9-year average, most of these were the result of a PRC violation, (poor maintenance) or pruning company mistakes; cost recovery was initiated for most of these violations. The USFS was heavily affected by this cause category. Three fires were caused when vehicles crashed into power poles and three other fires were caused when RVs backed into low branches, which struck power lines. None of these fires were larger than a spot.

The two largest electrical caused fires, the Wilson Fire – 163 acres and the Powerhouse Fire – 115 acres were caused by poor maintenance, no trees were involved. The biggest problem we noticed is that even though the trees are being pruned to required distance from lines, PG&E and SMUD contract crews are not always pruning vertically, leaving a tunnel effect of the trees growing over the power lines.

7. There were 20 **undetermined** fires or 7% of the fires in 2004. This is a 46% decrease from the 9-year average of 38 and the continued downward trend is due to the hard work and dedication of the Units Fire Prevention staff and the company officers who conduct thorough origin and cause investigations.
8. **Smoking** caused 12 fires. The majority of these fires were carelessly discarded cigarettes along our roadways. However, several bark and planter box fire were directly attributed to

smoking. The potential for a high dollar loss fire is very possible if a planter is next to the business.

9. **Illegal campfires and campfire escapes** caused 3 fires and burnt a total of 16 acres in 2004. The largest of these fires was the Gold Fire at Gold Beach in El Dorado County. An abandoned campfire along the Cosumnes River caused the fire.
10. **Lightning** caused on fire in the Unit in 2004. It was reported to be only a spot.
11. **Railroad** accounted for zero fires in 2004. No active rail lines are working in either Amador or El Dorado Counties at this time. Sacramento County contains very few working rail spurs in the SRA.

2004 Proposed Projects

The ignition management projects proposed for 2004 focus primarily on preventable ignitions that have had an increase in recent years, or historically have produced large damaging fires in targeted areas of the Unit. These projects dovetail with the Unit's Fire Plan projects in both ignition reduction and loss mitigation. These projects are in addition to various other fire prevention projects and programs routinely carried out each year. These routine activities include fire safe maintenance inspections, school team teaching, fire investigation and follow up, fire prevention, public education, etc.

Nine focused ignition management projects have been identified for 2004. These are outlined in the chart below in their order of priority. Priorities were set based on potential for resource/property loss, ignition preventability, prior historical data, and recent trends.

Priority chart giving general time frame for implementation.

PRIORITY	PROJECT	TYPE	DESCRIPTION	LOCATION	TIME FRAME
1	Arson & JFS	Targeted	Task Force	Unit	Year Around
2	4 th of July Patrols	Targeted	Patrol	Unit	7/1 to 7/10
3	Burn Permit Administration	Targeted	Enforcement	Unit	4/1 to 11/15
4	Small Equipment Inspection	Targeted	Inspection	Unit	5/1 to 7/1
5	Public Education	Indirect	Education	Unit	2004
6	Campground Inspections	Targeted	Inspection	Unit	5/1 to 7/1
7	PG&E Contractor Inspection	Targeted	Inspection.	Unit	6/1 to 7/1
8	Power line Inspections	Mint.	Inspection	Unit	Fire Season
9	Holiday, Red Flag, Lighting	Targeted	Patrol	Unit	Fire Season

Education and VIP

The AEU VIP Program assists the Unit in a variety of Fire Prevention Activities. The VIPs support the Headquarters Office and fire stations, school programs, public education events (fairs, displays, parades, fire patrols) and fire information centers on an immediate need basis. The VIPs are active year round in Amador, El Dorado, Alpine, and Sacramento Counties.

Juvenile Firesetters

The JFS Program is initiated when a juvenile who have been experimenting with fire. The juvenile and parents /caregivers are assessed utilizing the FEMA JFS assessment program. Following the assessment, the family will view one or two videos specifically designed for JFS. If further assistance is needed, the referrals are processed through the juvenile justice system.

In excess of 70 juveniles were seen in 2004, the highest number to date. Assessments are done in cooperation with the US Forest Service and local fire districts.

Objectives:

- Identify juvenile firesetters
- Assess the juvenile firesetters needs
- Provide life skill training and education
- Provide referrals to family counseling
- Evaluate firesetters and program progress

Training B-4516

The CDF-AEU Training Bureau exists to provide mandatory and career enhancement training to CDF employees so that they can carry out the mission of the Department effectively and safely.

The CDF-AEU Training Bureau is currently staffed with a Battalion Chief and Fire Captain. The Training Bureau oversees the training for all permanent and seasonal Fire Protections employees as well as employees in Resource Management, the Emergency Command Center, Administration, and our Schedule "A" contract with the Cameron Park Community Services District.

In 2005, the Unit Training Bureau hosted a total of 12,000 hours of training. This training included courses on the Incident Command System, Wildland and Structural Firefighting, Emergency Medical System and

Hazardous Materials Incidents. Additionally, AEU employees participated in over 5,000 hours of Statewide and Regional Training primarily focused on courses related to the Incident Command System and fulfilling the CDF Mission.

Training and the Fire Plan

The Training that is provided through the AEU Training Bureau supports the Unit's Fire Plan. A well trained work force will not only perform more safely on a wildland fire, but will also more effectively mitigate and/or prevent major wildland fires from occurring. Training in the Incident Command System as well as refining basic company officer skills in prevention and suppression will complement the mission of the Fire Plan.

Emergency Command Center B-4509

The Amador El Dorado Interagency Emergency Command Center (CICC) provides the Command and Control for SRA, LRA, and FRA, of Amador, Alpine, and El Dorado counties.

AEU and ENF are located in CICC's dispatch center at Camino. This co-location 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 interface wildfires, structure fires, and medical emergencies. Dispatchers are cross-trained to perform each other's duties. They function without regard to agency jurisdiction. It is not unusual to see an ENF dispatcher handle an Amador County local fire department medical aid, nor is it unusual to see an AEU dispatcher handle a wildland fire in the ENF area.

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

In 2004, the CICC processed 22500 Incidents with the call volume for the CICC increasing by 5% from the previous year.

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 Lake Tahoe Basin 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.

Resources Management

West Slope

The State Forest Practice Act and Forest Practice Rules govern the harvest of timber from private lands in California. The Rules require a landowner who harvests timber for commercial purposes (i.e.: you sell, barter or trade logs or milled lumber to another party) to submit an exemption notice or timber harvesting plan document with the California Department of Forestry and Fire Protection. Some of the notices or plans that are required may require the services of a Registered Professional Forester. Below we have listed the most common documents required by the state and the conditions under which each is appropriate.

1. **Less than 3 acre Conversion Exemption** - For the harvesting of trees which is a single conversion to a non-timber growing use (orchard, house, pasture etc.) on parcels less than 3 acres. The conversion requires that 100% of the slash be removed; these strict slash removal requirements were designed to minimize fuels in and around residences.
2. **Emergency Notice of Operations** - This emergency allows for the harvest of dead and dying trees to capture fire salvage in addition to insect and disease killed trees.
3. **Fuel Hazard Reduction Emergency** – This emergency, adopted in 2004, allows for the immediate harvest of trees where high, very high or extreme fuel hazard conditions, the combination combustible fuel quantity, type, condition, configuration and terrain positioning, pose a significant fire threat on private timberlands. Cutting and removal of hazardous fuels, including trees, shrubs and other woody material, is needed to eliminate the vertical and horizontal continuity of understory fuels and surface fuels for the purpose of reducing the rate of fire spread, fire duration and intensity, fuel ignitability and to achieve a flame length under average severe fire weather conditions that is less than 4 feet in the treated areas.
4. **10% Dead & Dying Exemption** – This exemption allows for the immediate harvest of dead, dying or diseased trees of any size, fuel wood or split wood products, in amounts less than 10% of the average volume per acre
5. **Fire Safe Exemption** - This exemption allows for the removal of ladder fuels and thinning of trees within 150 feet of a permitted

structure. All slash be treated within 45 days. This activity is encouraged to further the intent of Public Resource Code (PRC) 4290.

6. **Modified Timber Harvest Plan** - This plan allows for the harvest of trees on an ownership 100 acres or less.
7. **Timber Harvest Plan (THP)** – A plan addressing the harvest of timber on more than 3 acres that is beyond the scope of a modified THP. An approved THP acts as the functional equivalent of an Environmental Impact Report as required by the California Environmental Quality Act (CEQA).
8. **Non-industrial Timber Management Plan (NTMP)** - A long-term timber harvesting plan with no termination date for a timberland owner with less than 2500 acres.

Timber Harvesting Plans (THP)

Timber harvest Plans are required to go through a multi-agency environmental review and most require a pre-harvest inspection to determine whether potential environmental impacts are adequately mitigated prior to harvest activities. The potential for creating or reducing fire hazards from timber harvesting is evaluated during the THP review. In Amador-El Dorado Unit, Area Foresters contact the Battalion Chiefs in the area where the harvesting will occur and solicit their input on THPs that pose potential fire hazards. Any concerns the Battalion Chiefs and Area Foresters have with regard to reducing the fire hazard will be incorporated into the THP as additional mitigations. Foresters preparing a THP must show how the proposed harvest will meet maximum sustained production of wood products. Demonstrating maximum sustained production includes addressing the health and productivity of the residual stand. Fuels treatments are considered in this process, fire resilience is a key component of a healthy and productive stand.

Occupied residences and public and private roads are required to comply with the Forest Practice rules that address hazard reduction. Additionally where logging occurs in and adjacent to subdivisions and residential developments the Area Forester may require that the THP include slash treatments above and beyond the requirements of the Forest Practice Rules.

While logging is active on THP's the Area Forester will make compliance inspections to ensure that the loggers have the required fire fighting tools and equipment on site. Loggers are also required to leave all logging roads passable at the end of each workday.

The Region Office builds and maintains a GIS database of all THP's; this database is provided to the Area Foresters on an annual basis. The THP database is a valuable tool that could be used in identifying recently logged areas that may require different firefighting strategies.

Area Foresters encourage consulting Foresters, to utilize Special Prescriptions to reduce stocking to levels lower than that allowed in the general forest in order to create a more open, fire resistant stand of trees. The use of special prescriptions is the primary means by which fuels are modified to create Community Fuelbreaks. Community Fuelbreaks such as the Omo Ranch shaded fuelbreak in El Dorado County cross over Federal lands, industrial timberlands and non-industrial ownership and fuels treatments are consistent over all ownerships. Landowners are encouraged to create Community Fuelbreaks where:

- Residential developments abut industrial timberlands and /or Federally managed lands,
- On ridges in and adjacent to Communities at Risk,
- On a ridge that will provide for wildlife and watershed protection
- Adjacent to major highways, haul routs and evacuation routes
- Around isolated residence surrounded by timberland
- Where the Area Forester and Battalion Chief agree

Community Fuelbreak Implementation through the THP Process

One of these Special Prescriptions is the Fuelbreak/Defensible Space Prescription. The Rules specify it can be applied where; some trees and other vegetation and fuels are removed to create a shaded fuel break or defensible space in an area to reduce the potential for wildfires and the damage they might cause. Additionally the Rules ask the RPF to describe in the plan specific vegetation and fuels treatment, including timing, to reduce fuels to meet the objectives of the Community Fuelbreak area. Area Foresters provide the following guidelines to RPFs to aid them in the application of the Fuelbreak Prescription.

The purpose of a Community Fuelbreak is to create a defensible fuel zone that provides wildfire protection for wildland urban interface communities, watersheds, and firefighters engaged in fire suppression operations. The fuelbreak treatments are intended to protect communities from fires that originate in the wildlands as well as minimizing the spread of fires that originate in urban areas. The fuelbreak is not intended to stop the fire but should be a place where the vegetation has been modified, giving firefighters a safe place to initiate suppression activities. The vegetation will be modified so that the horizontal and vertical continuity of forest fuels are broken up. The extent of vegetation modification will vary depending on topographic features and vegetation condition, slope, aspect, and

urban environment. The seven objectives listed below may be implemented through the THP process if they are included in the pre-harvest inspection recommendations. Depending on the timing and complexity of the project, the objectives may be implemented through the Units VMP or CFIP Program.

1. The optimum width for a defensible zone is at a minimum 500' or wider depending on topography and resources at risk. If the defensible zone is along an existing road or ridge it should extend a minimum of 150 feet from the edge of the road or the center of the ridge. Road passage will be a primary goal, where a well developed private or public road lies within the Fuelbreak, for evacuation, tactical, and operational access.
2. Crowns of the overstory trees should be separated, leaving canopy cover ranging between 30% and 50%.
3. A minimum of 80% of the ladder fuels shall be removed if ladder fuels are left (as in the form of regeneration) the lower branches shall be pruned so that they do not provide continuity between the surface fuels and the canopy. Trees over 6 inches DBH will be pruned to 10 feet above the ground.
4. The residual trees shall meet a minimum of the following criteria:
 - a. The tree must be alive and healthy
 - b. The tree must have at least 1/3 of its length in live crown as a ratio of total tree height.
 - c. The tree must be a commercial species from a local seed source or a seed source, which the registered Professional Forester determines, will produce commercially trees physically suited for the area involved.
 - d. Leave tree species preference is ponderosa pine, sugar pine, Douglas-fir, incense cedar, black oak, and true fir in that order.
5. Tree removal targets understory trees, with primarily healthy dominant and co-dominant trees retained.
6. Surface and ground fuels shall be treated so that they do not function as ladder fuel to the residual stand. A minimum of 80% of the activity generated non-merchantable material (slash) shall be treated, piled and burned, chipped or removed from the site.
7. Regeneration will be allowed for where it does not act as ladder fuel.

Service Forestry

The Area Foresters are also required to provide forestry advice upon request to private landowners. This advice includes, but is not limited to, recommendations for fuels management and fire safe activities that can be applied to residents. Many times service forestry calls are related to bark beetle activity in pine trees. Landowners are encouraged to immediately remove the bark beetle killed trees and treat the slash.

Cost Share Programs

Both federal and state cost share programs exist to assist private timberland owners in the management of their lands; CDF 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.

Proposition 40 Fuel Reduction Program

The goal of the CDF 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, administrative costs, 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.

CDF is using the VMP program, the Community Assistance Grants 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. While there may be an argument that the "rearrangement" of fuels from vertical to horizontal may cause a change in fire behavior, empirical evidence shows that both the trees and soil sustain considerable damage when a fire goes through these types of treated areas.

In 1999, CDF 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.

In selecting projects for approval or for initiating our projects, we are considering the overall objective of CDF's Proposition 40 Fuels Reduction Program.

- On a case-by-case basis, fuels generated by the project activities must be removed or otherwise reduced to levels that will not be detrimental to the soil viability and the survival of the targeted, post-treatment tree cover should wildfire occur in the project.
- This level of fuels treatment is expensive and the present slash disposal cap rate of \$150/ac. is inadequate to accomplish this alone. Until we expand the rate to include a variety of slash disposal intensities, the combination of practices, e.g. PCT and release on the same acre, is allowable.

East Slope/Lake Tahoe

Timber Harvesting Plans and Timber Harvesting Exemption Notices

Forest health is paramount to maintaining the water quality of Lake Tahoe, and efforts to prevent loss by catastrophic wildfire and other pathogens precipitate landowners' decision to plan and prepare harvesting documents in the Tahoe Basin. Field recommendations by CDF staff regarding slash treatment, and silvicultural treatments are thoroughly discussed and recommendations developed, which furthers the goals of the Prefire Management Plan.

In general, most tree removal activities within the Tahoe Basin are conducted on small, developed lots less than 3 acres in size. Such landowners commonly elect not to commercialize the small amount of product generated. Therefore, such non-commercial projects do not require a harvesting document be submitted to CDF for review and approval. On larger, mostly undeveloped ownerships, such as the California Tahoe Conservancy lands, tree removal is commonly elected for commercial use as the higher amount of wood generated from the ownerships is sold as fuelwood to the public, especially in the South Lake Tahoe vicinity where more the highly desirable Lodgepole Pine fuelwood is available.

Very few large (over 10 acres) non-federal ownerships exist within the Tahoe Basin. Consequently, very few Timber Harvesting Plans for areas located within the Tahoe Basin are submitted to CDF and commercial tree removal operations are generally conducted under Timber Harvesting Exemptions. However, regardless of whether or not a landowner elects to engage in a commercial tree removal venture, other agencies within the

Tahoe Basin, such as the Tahoe Regional Planning Agency and the Lahontan Regional Water Quality Control Board, require the landowner to comply with additional and generally more stringent regulations regarding tree removal on non-federal lands. The Lahontan Region Water Quality Control Board and the Tahoe Regional Planning Agency each review very closely all harvesting activities occurring within the Tahoe Basin.

In May 2005, the State Board of Forestry and Fire Protection adopted emergency rule language regarding allowing the removal of live trees within Watercourse and Lake Protection Zones (Stream Environment Zones as defined in TRPA ordinance) within the Lake Tahoe Basin non-federal lands by amending Title 14 CCR §1038 and §1038 (f) and is anticipated to become effective by June 2005. The primary emergency nature of the regulation change was to provide regulatory relief for fuels reduction activities for summer 2005 relative to permitting live tree thinning in Watercourse and Lake Protection Zones/Stream Environment Zones for fuel hazard reduction. Due to the discussions resulting from this rule change, the Board of Forestry and Fire Protection now acknowledges and understands the Forest Practice rules inconsistencies and complications related to exemption rules in Lake Tahoe and fully intends on considering Unit suggestions regarding permanent rule change.

California Tahoe Conservancy

The California Tahoe Conservancy (CTC) conducts fuel reduction projects throughout the Lake Tahoe Basin through their Urban Land Management Program. The California Tahoe Conservancy, through contract, funds CDF personnel to perform various professional forestry duties, including those duties required to implement fuel breaks. In addition, the CDF provides professional forestry advice and services, including but not limited to, preparation and implementation of THPs, Exemptions and vegetation management projects on California Tahoe Conservancy properties. The CDF also works with the California Tahoe Conservancy Forest Habitat Enhancement Program on fuel reduction, forest health and wildlife habitat enhancement projects located within the urban interface and general forest areas.

In January 2005, CDF was authorized approximately 40 million dollars of Proposition 40 funds over 5 years by the legislature for fuels reduction projects which would result in improvement and protection of watersheds and their water quality and assets at risk. Approximately \$600,000 was allocated to CDF expressly for authorizing its use to the California Conservation Corp for fuels reduction projects on California Tahoe Conservancy lands.

Service Forestry

The Tahoe Regional Planning Agency (TRPA) requires a TRPA Tree Removal Permit to be issued by a TRPA Registered Professional Forester (or their designee through an MOU such as the case with the California Tahoe Conservancy and some Tahoe Basin fire districts), for the removal of any green tree six inches DBH or greater from all ownerships located within the Tahoe Basin. The requirement for this permit applies to both non-federal and federal lands.

A Memorandum of Understanding (MOU) between the CDF and TRPA was established in the 1980's to better serve the public and facilitate the tree removal process. The CDF Area Foresters, at the request of an individual landowner, inspected, marked, and issued the TRPA Tree Removal Permit. During the time CDF assisted with the program, no permit fee was charged to the landowner for this service.

Due to funding problems and liability concerns, the CDF discontinued their role in the TRPA Tree Removal Program permit process in 2002. The TRPA now requires California residents to pay a \$50.00 fee per site visit to the TRPA to cover the cost of a TRPA forester to provide this service.

Tahoe ReGreen Project

The Tahoe ReGreen Project was organized in 1995 using the Incident Command System structure to address the urgent Basin-wide need to quickly remove the increasing amount of tree mortality due to bark beetle infestation. Thirty-three public and private agencies/organizations from Nevada and California joined the effort to modify the available fuels by facilitating the quick removal of infested trees. The local fire protection districts identified priority areas, and activities were concentrated within these areas by the land management agencies managing them, including the USFS, California Tahoe Conservancy (CTC), Nevada Division of Forestry (NDF), and California Department of Parks and Recreation.

Funding for the Tahoe ReGreen Project was provided by the CDF Forest Resource Improvement Fund. The project lost this funding in 2001, although the program's name and function has been retained by the Department of Finance. Upon the loss of funding, the ReGreen Incident Managers met and agreed to transform the project into a Fire Safe Council function.

In January 2005, CDF was authorized approximately 40 million dollars of Proposition 40 funds over 5 years by the legislature for fuels reduction projects which would result in improvement and protection of watersheds

and their water quality and assets at risk. Approximately \$600,000 was allocated to CDF expressly for authorizing its use to the California Conservation Corp for fuels reduction projects on California Tahoe Conservancy lands. This special allocation is referred to as the resurrected ReGreen Project.

Forest Planning Advisory Group

The Forest Health Consensus Group was formed October 1993 to gather input from all segments of the Basin population and advise the Tahoe Regional Planning Agency of any suggested changes to its Regional Plan regarding the forest ecosystem. The mission statement of the group was as follows:

1. Define the desired future conditions of the ecosystem.
2. Develop an ecosystem management strategy that provides guidance for attaining the desired future conditions identified by the Consensus Group.
3. Recommend an on-going system for monitoring and evaluating the condition of the forest ecosystem and the long-term effectiveness of the management strategies and adopting them to new information and changing conditions.

The Basin was organized into management intensity zones with the intent to achieve the mission statement for each of these zones. Progress reportable in the first mission statement is a document referred to as the "Green Sheet," which describes the Desired Future Conditions (DFC) in a general way as "Pre-European Settlement Conditions"; with the understanding that urbanization has irrevocably modified many of these conditions. The general description strongly encourages re-introduction of prescribed fire into as many of these ecosystems as possible and as soon as possible.

In 2001, the group abandoned the consensus concept and became the Forest Planning Advisory Group. This group is made up of forest management professionals from around the lake. The focus of the group is to advise TRPA on issues regarding fire hazard reduction, defensible space, and forest management. This group appears to be once again incarnated into yet another group, the Pathway 2007 group.

PATHWAY 2007

The Tahoe Regional Planning Agency (TRPA) is a bi-state agency created by the states of Nevada and California in order to lead the cooperative effort to preserve, restore, and enhance the unique natural and human

environment of the Lake Tahoe basin. The TRPA regulates land use, rate of growth and impacts to the scenic environment among other things. The TRPA's Regional Plan, adopted in 1987 is due to be updated by 2007.

This document guides all land use decisions in the Basin and is the basis for all of TRPA's ordinances and environmental codes.

The TRPA is joining forces with several other Lake Tahoe public agencies, including CDF, in a process called Pathway 2007. It is a collaborative effort between TRPA, the US Forest Service, the Lahontan Regional Quality Control Board, and the Nevada Division of Environmental Protection. These agencies are working together to update each of their respective environmental regional planning documents for the Lake Tahoe Basin. Given three major public agencies in Lake Tahoe (TRPA, US Forest Service, and Lahontan) in the process of updating regional plans, it was thought to make sense to coordinate these efforts. The TRPA will be evaluating all nine of its thresholds, which are the environmental standards outlined in the bi-state Compact that governs TRPA. New research and science will help formulate the Pathway 2007 process over the next few years.

PATHWAY 2007 is an effort to ensure coordination between different public agencies and to share resources and expertise while inviting public participation. Working together, the goal for 2007 is to have each agency's regional plans completed and to be consistent with one another. PATHWAY 2007 is providing the public with an unprecedented opportunity to help create a vision for the Tahoe Basin.

PATHWAY partner agencies include the Tahoe Regional Planning Agency, USDA Forest Service, the Lahontan Regional Water Quality Control Board, and the Nevada Division of Environmental Protection. The agencies are working together to update important resource management plans by 2007 for the Lake Tahoe Basin. These regional plan updates will guide land management, resource management, and environmental regulations over the next 20 years.

The plans will address many areas, including the following:

- How much additional development will take place at Lake Tahoe by the year 2027. What kind of growth is on the horizon?
- What will be the state of lake clarity, forest health, water quality, and recreation by 2027?
- How will regional plans address the threat of catastrophic wildfires in the Lake Tahoe Basin?
- How will Lake Tahoe agencies revise their long-range plans to create a unified vision for Tahoe's future?
- How will Lake Tahoe's startling beauty be preserved while maintaining quality of life for those who live and visit here?

Technical Work Groups are managed by the PATHWAY 2007 Steering

Team and staff of the four PATHWAY 2007 agencies: the Lahontan Regional Water Quality Control Board, the Tahoe Regional Planning Agency, the US Forest Service, and the Nevada Division of Environmental Protection. AEU staff is participating at both the TAC and Forum (via State Agency Advisory Group) levels regarding forestry and fire issues.

Lake Tahoe Basin

The Lake Tahoe Basin is administered by two CDF units. The north shore vicinity, which includes Placer and Nevada Counties, is administered by the Nevada-Yuba-Placer Unit headquartered in Auburn. The El Dorado County area, located on the south and west shores of Lake Tahoe is administered by the Amador-El Dorado Unit. The AEU staff is located in South Lake Tahoe and includes one Division Chief whom also serves as Agency Representative during emergencies, one Forester I, one Forestry Assistant II, and three Forestry Aides. Staffing level changes at the Forestry Assistant and Forestry Aide level may increase in 2006 due to increase workload created by the interagency agreement between the California Conservation Corp (CCC) and CDF for Proposition 40 funding for fuels reduction to be performed by the CCC on California Tahoe Conservancy lands.

Through the statewide Four-Party Agreement, the USFS has been given the authority to act on CDF's behalf as the wildland fire response entity for State Responsibility Area (SRA) lands within the Lake Tahoe Basin. Locally driven, specific terms of this agreement are addressed in an Annual Operating Agreement between the USFS Lake Tahoe Basin Management Unit and the CDF Amador-El Dorado Unit. This agreement includes, but is not limited to, information such as tactical frequencies, wildland fire response notification procedures, apparatus and their staffing levels, facilities, prescribed burning procedures, and inspection and enforcement of PRC 4291. Therefore, due to this agreement, CDF does not have engine stations within Lake Tahoe Basin where the USFS has SRA lands within its Direct Protection Area (DPA).

Tahoe Basin Fire Safe Council

In March 2001 AEU, staff in the Tahoe Basin submitted a grant proposal in the amount of \$72,000 to the Community-Based Wildfire Prevention Grant Program and was awarded those funds to establish a Fire Safe Council for the California portion of the Tahoe Basin. The requested grant was awarded and since then the Tahoe Basin Fire Safe Council has become fully functional, including acquiring non-profit corporation status, various grants, and final completion in spring 2005 of the Tahoe Basin Community Wildfire Protection Plan to which AEU staff provided response.

In January 2005, the Tahoe Basin Fire Safe Council merged with the (Northern) Nevada Fire Safe Council based in Carson City, Nevada. However, the Tahoe Basin has retained its original administrator who now acts as the Tahoe Basin Coordinator for the Nevada Fire Safe Council, and continues to retain an office in South Lake Tahoe. The Tahoe Basin Fire Safe Coordinator for the Nevada Fire Safe Council has been active in securing various grants, in addition to conducting routine business of the council.

Tahoe Basin Fire Departments

The Tahoe Basin area fire departments are located within both California and Nevada, and work very closely together regarding fire and EMS service issues. Local Tahoe basin- area fire departments in California include Fallen Leaf, Lake Valley, Meeks Bay, Squaw Valley, Alpine, City of South Lake Tahoe, Northstar, Truckee, and North Tahoe, as well as CDF and the USFS Lake Tahoe Basin Management Unit. Local Tahoe basin area fire departments in Nevada include North Lake Tahoe and Tahoe Douglas Fire Departments. In addition, local, state, and federal fire departments from nearby Washoe and Carson Valleys in Nevada and Alpine County in California participate in the Tahoe Regional Chiefs Association. These fire departments include the Reno Fire Department, Sparks Fire Department, Carson City Fire Department, East Fork Fire Department, Markleeville Volunteer Fire Department, Woodsford Volunteer Fire department, Bear Valley Volunteer Fire Department, Kirkwood Volunteer Fire Department, Humboldt-Toiyabe National Forest, and the Nevada Division of Forestry.

Due to recent fires including the 2002 Gondola Fire near Heavenly Valley Ski Resort and the 2004 Waterfall Fire northwest of Carson City, the fire departments within the Tahoe Basin have been working aggressively to perform fuel reduction efforts within their districts and to increase public awareness of the necessity of defensible space clearing. Subsequently, the Amador-El Dorado Unit chose to fund three fuels reduction projects using Proposition 40 grant monies for FY 04-05 and 05-06 to the Tahoe area fire departments. The Lake Valley Fire Department, whose district is located primarily on the south shore of Lake Tahoe, was awarded \$45,180 for a community-wide chipping program as well as \$43,221 for the Christmas Valley 3 Fuels Reduction Project (fuel break construction). The volunteer-based Fallen Leaf Fire Department, under the direction of the Fallen Leaf Community Services District Board, was awarded a Proposition 40 grant monies in the amount of \$42,000 to fund the Fallen Leaf Fire and Homeowners Association fuels reduction project.

Additional fuels reduction efforts include the hiring of fire department-employee crews to perform fuels reduction efforts within the North Lake

Tahoe Fire Protection District located in the Incline Village area, and the North Tahoe Fire Protection District located in California near the Brockway area adjacent to the California-Nevada state line. The Lake Valley Fire Protection District is also hiring crews as fire department employees to perform fuels reduction work, including for the Proposition 40 projects.

Alpine County

Alpine County is located primarily within the CDF Amador-EI Dorado Unit and has approximately 4% of its lands designated as State Responsibility Area. The remaining lands are managed by the Humboldt-Toiyabe National Forest located within Region-4 of the United States Forest Service and the Bureau of Land Management. The AEU staff is located in South Lake Tahoe and includes one Division Chief whom also serves as Agency Representative during emergencies, one Forester I, one Forestry Assistant II, and three Forestry Aides.

Through the statewide Four-Party Agreement, the USFS has been given the authority to act on CDF's behalf as the wildland fire response entity for State Responsibility Area (SRA) lands within Alpine County. Locally driven, specific terms of this agreement are addressed in an Annual Operating Agreement between the USFS Humboldt-Toiyabe National Forest and the CDF Amador-EI Dorado Unit. This agreement includes, but is not limited to, information such as tactical frequencies, wildland fire response notification procedures, apparatus and their staffing levels, facilities, prescribed burning procedures, and inspection and enforcement of PRC 4291. Therefore, due to this agreement, CDF does not have engine stations within Alpine County where the USFS has SRA lands within its Direct Protection Area (DPA).

Alpine County Fire Safe Council

The Alpine County Fire Safe Council was begun in 2001 when Alpine County was awarded a grant through the Community-Based Wildfire Prevention Grant Program to support the development of an Alpine County Fire Safe Council. In 2003, the Alpine County Resource Advisory Committee (RAC) allocated funds to the Fire Safe Council in the form of Title II funds to further assist in development of a Fire Safe Council. As a result, in 2003 the Alpine Fire Safe Council was formally established through these two aforementioned cooperative efforts between the County Board of Supervisors and the Alpine County Resource Advisory Committee. The Amador-EI Dorado unit has provided technical assistance through the development of the Alpine Fire Safe Council.

The Alpine FSC is now currently in place, pursuing, and obtaining grants,

and is very active in countywide fire protection issues, such as pre-fire development concerns and enforcement and Public Resource Code 4291 compliance. Specific accomplishments of the Alpine Fire Safe Council include creation of educational kiosks located at key county government locations; courtesy fire safe ordinance review of proposed developments; completion of the Manzanita Lane Fuel reduction project in 2004, and facilitation of the creation of the Fire Services Ad-Hoc Committee, which is a collaborative effort with the County Board of Supervisors, public, and fire and EMS personnel to address the issues surrounding county volunteer fire suppression resources.

In addition, a major accomplishment of the Alpine County Fire Safe Council is the completion of the draft Alpine County Community Fire Plan. The Alpine County Fire Safe Council received a grant from Region 4 of the USFS in 2004 to provide grant funding for completion of a Community Fire Plan. The Alpine Fire Safe Council prepared their Community Wildfire plan in 2004 and distributed the draft for public review in December 2004, to which Unit staff provided response. The Alpine County Fire Safe Council is seeking to finalize the plan during summer 2005. The Community Fire Plan is an important document with which to augment county planning efforts regarding fire protection planning, especially as Alpine County is experiencing a significant increase in large-scale development as nearby Lake Tahoe becomes increasingly populated, difficult, and expensive within which to develop. Therefore, the Alpine County Fire Safe Council, in conjunction with the Alpine County Board of Supervisors, established an Ad-Hoc Committee in 2004 to address fire protection issues within Alpine County. The Ad-Hoc Committee has identified a lack of implementation and enforcement of the State Responsibility Fire Safe Regulation regarding new development. The 2005 Proposition 40-funded AEU Division Chief stationed in South Lake Tahoe is addressing responses to new development regarding the SRA Fire Safe Regulations and is attending Alpine County Board meetings, Alpine County Fire Safe Council meetings, and is on the County Technical Advisory Committee for new development.

The Alpine County Community Fire Plan identifies and prioritizes areas within Alpine County, which are at risk of catastrophic fire. The Shay Creek Subdivision located adjacent to Hot Springs Road near Markleeville is rated "High." Consequently, the Alpine County Community Fire Plan identifies the Hot Springs Road Roadway and Utility Access Fuel Reduction Project as Project #1 for treatment. The Alpine County Fire Safe Council submitted to the FireWise Grants Clearinghouse in January 2005 its proposal to request grant funding to reduce the fuels within the Hot Springs Road Roadway and Public Utility Access Fuels Reduction Project. The Amador-El Dorado Unit chose in March 2005 to award the Alpine Fire Safe Council with Proposition 40 funding in the amount of

\$45,500 for the proposed Hot Springs Roadway and Utility Access Fuels Reduction Project for FY 04-05 and 05-06.

Alpine County Fire Departments

Alpine County is composed of four Planning Areas: Woodsford, Markleeville, Bear Valley, and Kirkwood. These four Planning Areas correspond to not only to watersheds, but to the four local fire protection jurisdictions. All four fire protection entities are volunteer based and are dispatched by the Alpine County Sheriffs Department. Woodsford and Markleeville Volunteer Fire Departments are not within a taxed district and are struggling financially. In May 2005, the Ad-Hoc Committee of the Alpine County Board of Supervisors and the Fire Safe Council recommended to the County Board the consolidation of the Woodsford and Markleeville Fire Departments into the Eastern Alpine County Fire Department. The consolidated fire departments would have one full-time paid chief and would be under the direction of the Alpine County Board of Supervisors. However, each department would retain their unique geographic identities and history through retention of each department's station name and volunteers. The two areas would be referred to as the Markleeville Division and the Woodsford Division. This proposed consolidation, not yet approved by the County Board, would result in the two fire departments becoming stronger financially and therefore more successful in obtaining grants, training, equipment, etc. In addition, the consolidation would result in the fire departments having a stronger, more unified voice in county fire protection and Emergency Medical Services issues.

WOODSFORD

Fire protection is provided by the Woodsford Volunteer Fire Department and has an Insurance Services office (ISO) Rating 10. The Woodsford Volunteer Fire department is not within a district. Currently, volunteer staffing levels are at a critical low. Hydrants do not exist within the response area and the nearest drafting source is the Carson River.

MARKLEEVILLE

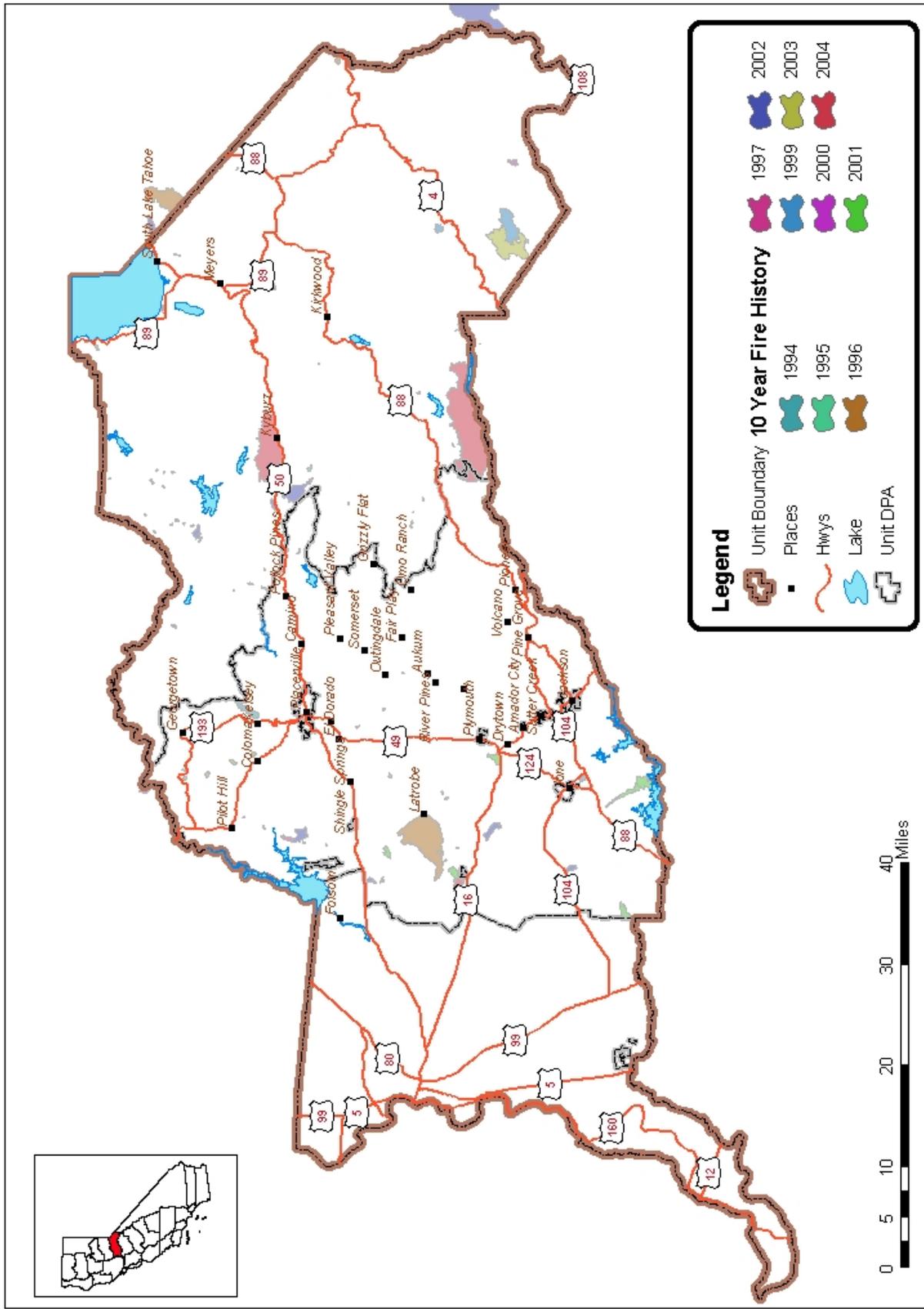
Fire protection is provided by the Markleeville Volunteer Fire Department and is not within a district. Markleeville Volunteer Fire Department has one station and has an ISO Rating 6 where hydrants exist and an ISO Rating 8 in areas without hydrants but is located within 5 miles of the Markleeville Fire Station.

BEAR VALLEY

Fire protection for Bear Valley is provided by the Bear Valley Volunteer Fire Protection District, and is funded through assessment fees. The Bear Valley Fire Protection District has an ISO Rating 5.

KIRKWOOD

Fire protection for Kirkwood is provided by the Kirkwood Volunteer Fire Protection District, and is funded through assessment fees. The Kirkwood Volunteer Fire Protection District has an ISO Rating 4.



Legend

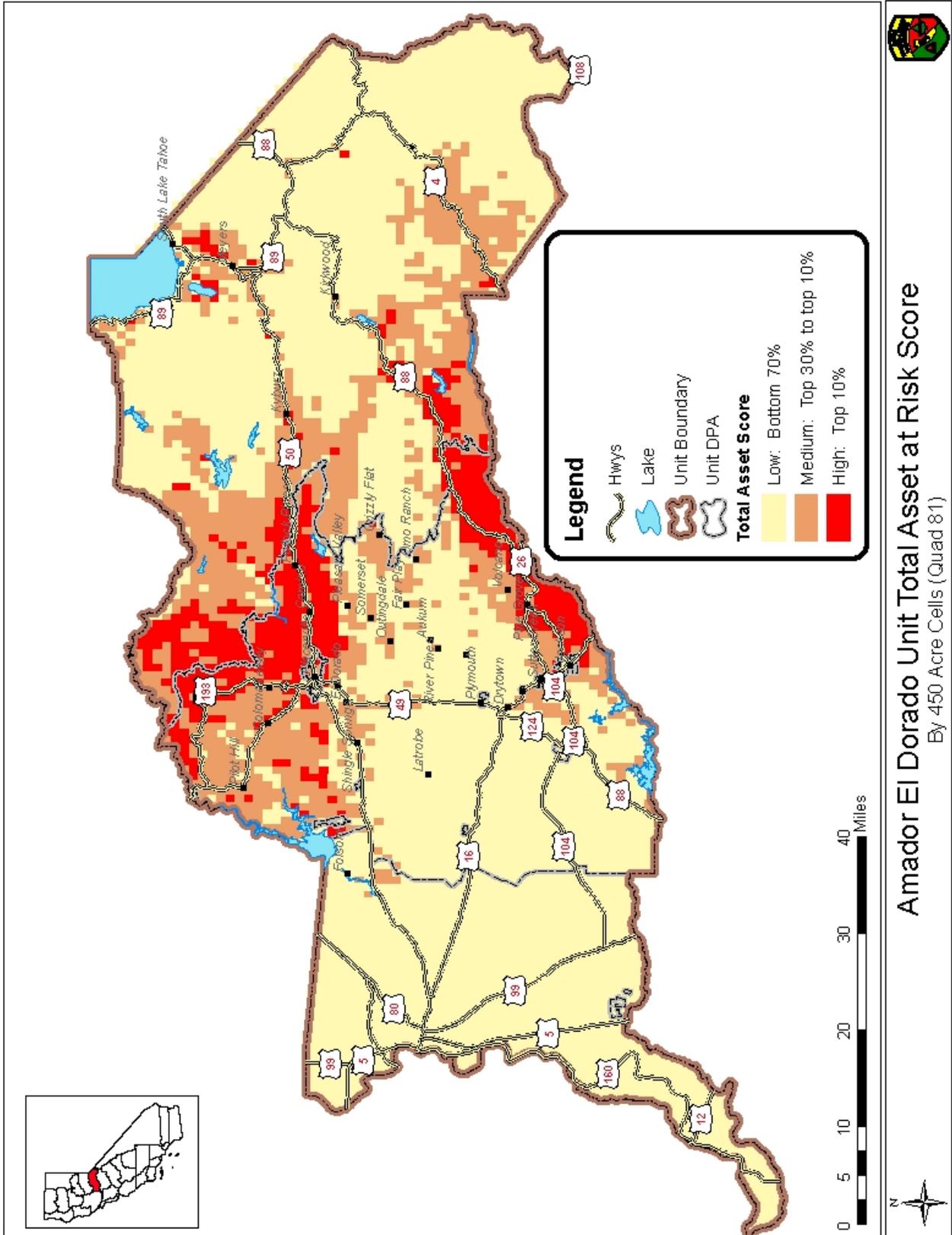
- Unit Boundary
- Places
- Hwys
- Lake
- Unit DPA
- 1997
- 1999
- 2000
- 2001
- 1994
- 1995
- 1996
- 2002
- 2003
- 2004



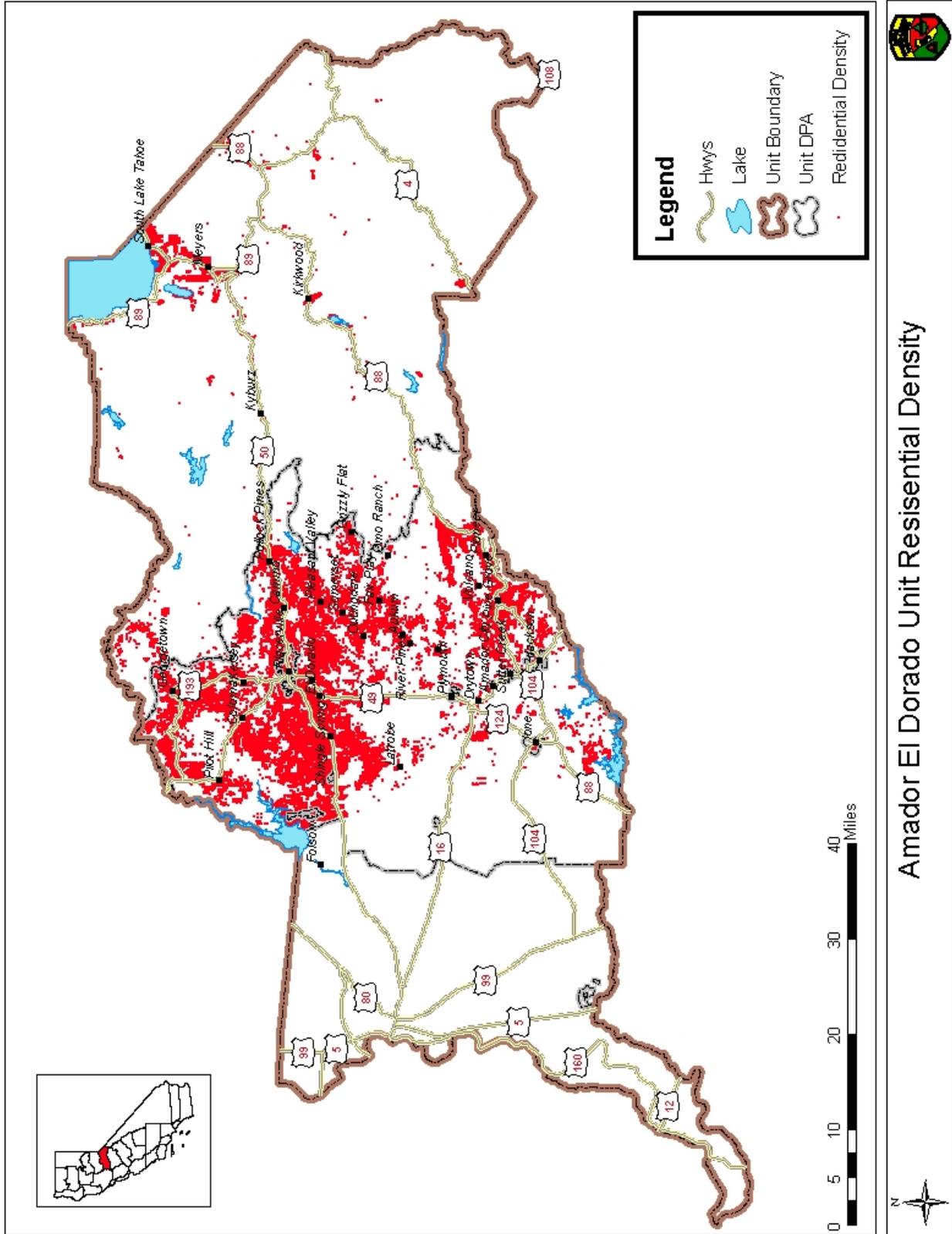
Amador El Dorado Unit Ten Year Fire History
CDF & USFS



Appendix B

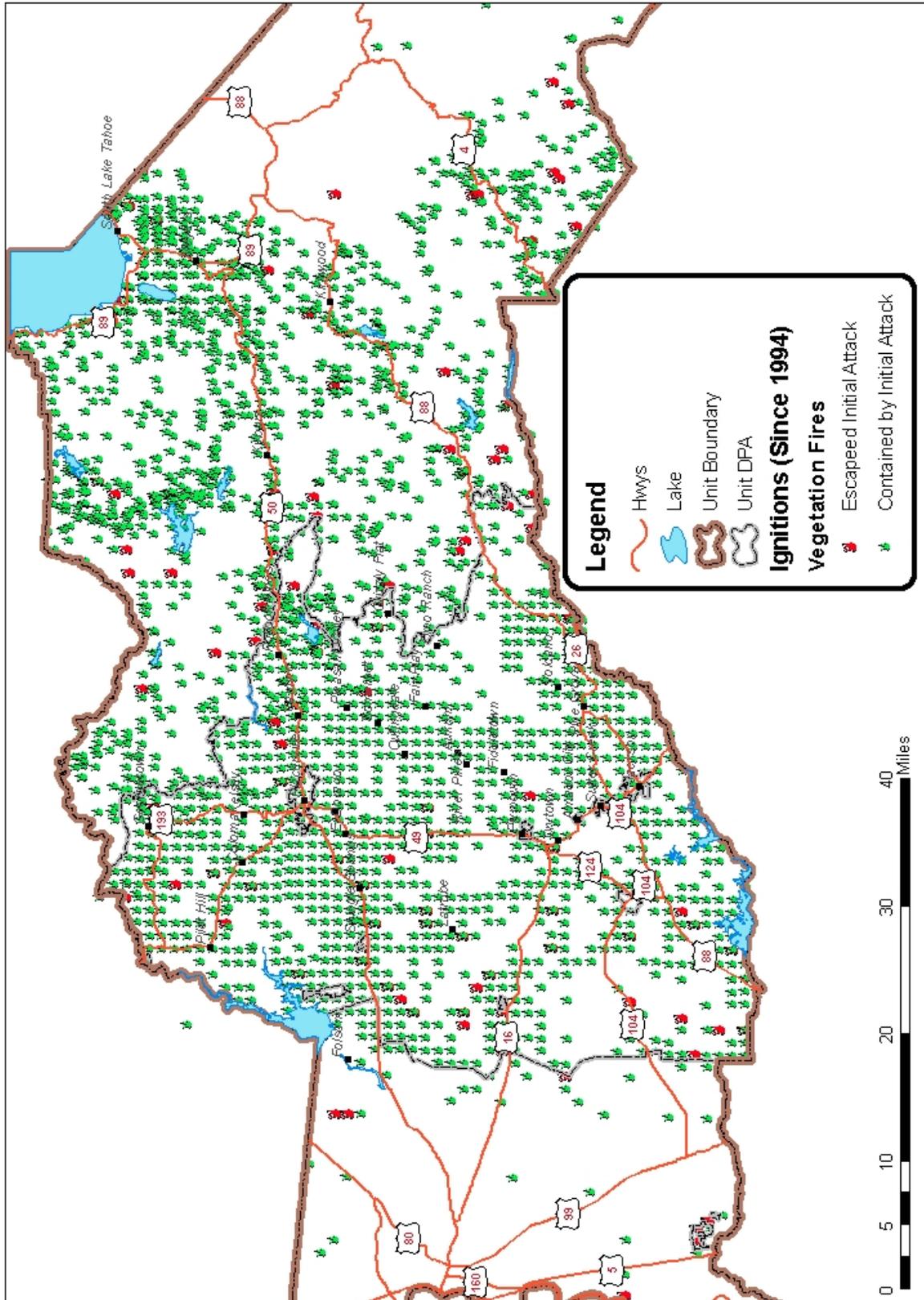


Appendix C



Amador El Dorado Unit Residential Density

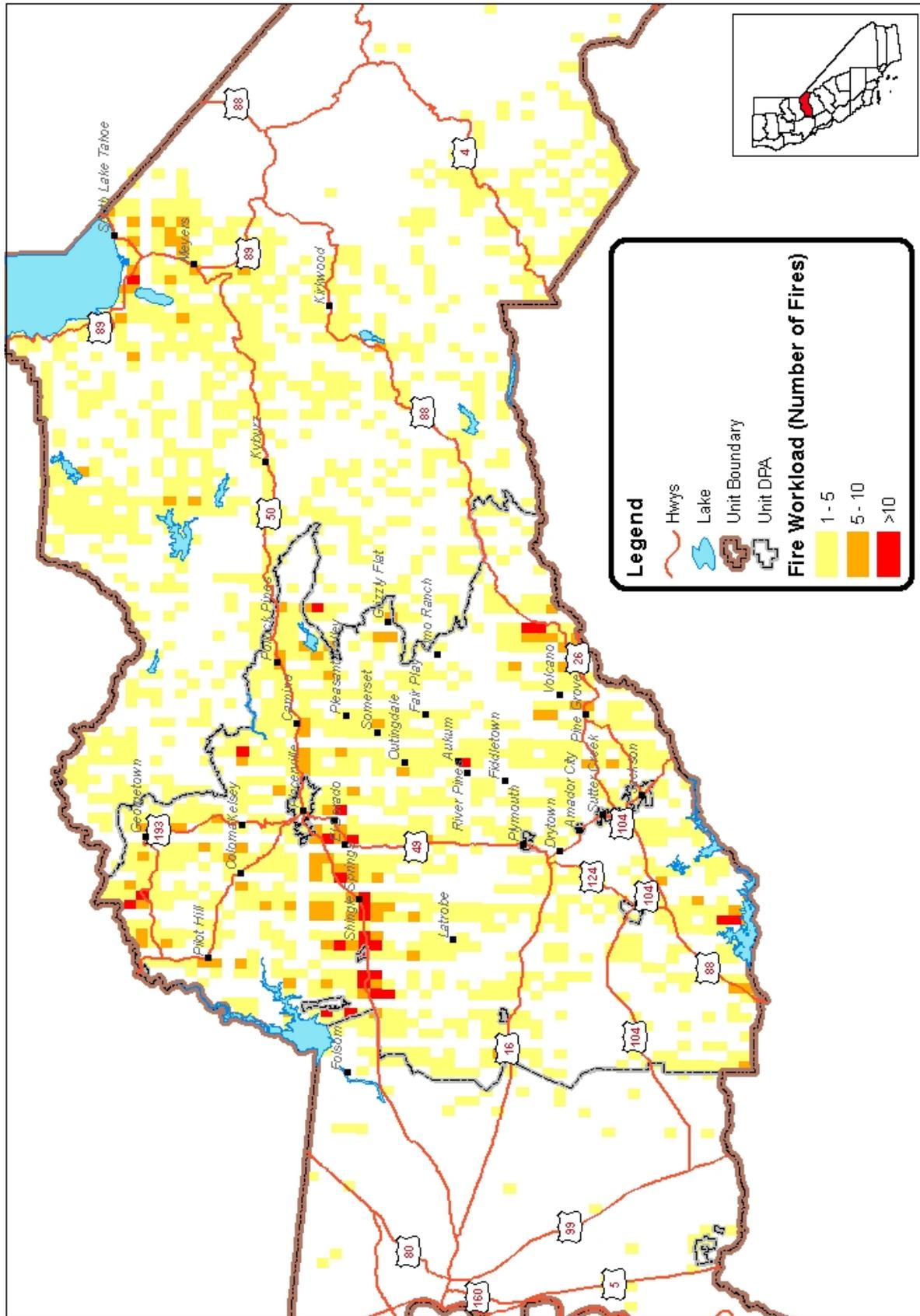
Appendix D



Amador El Dorado Unit Initial Attack Success & Failures

By 450 Acre Cells (Quad 81)



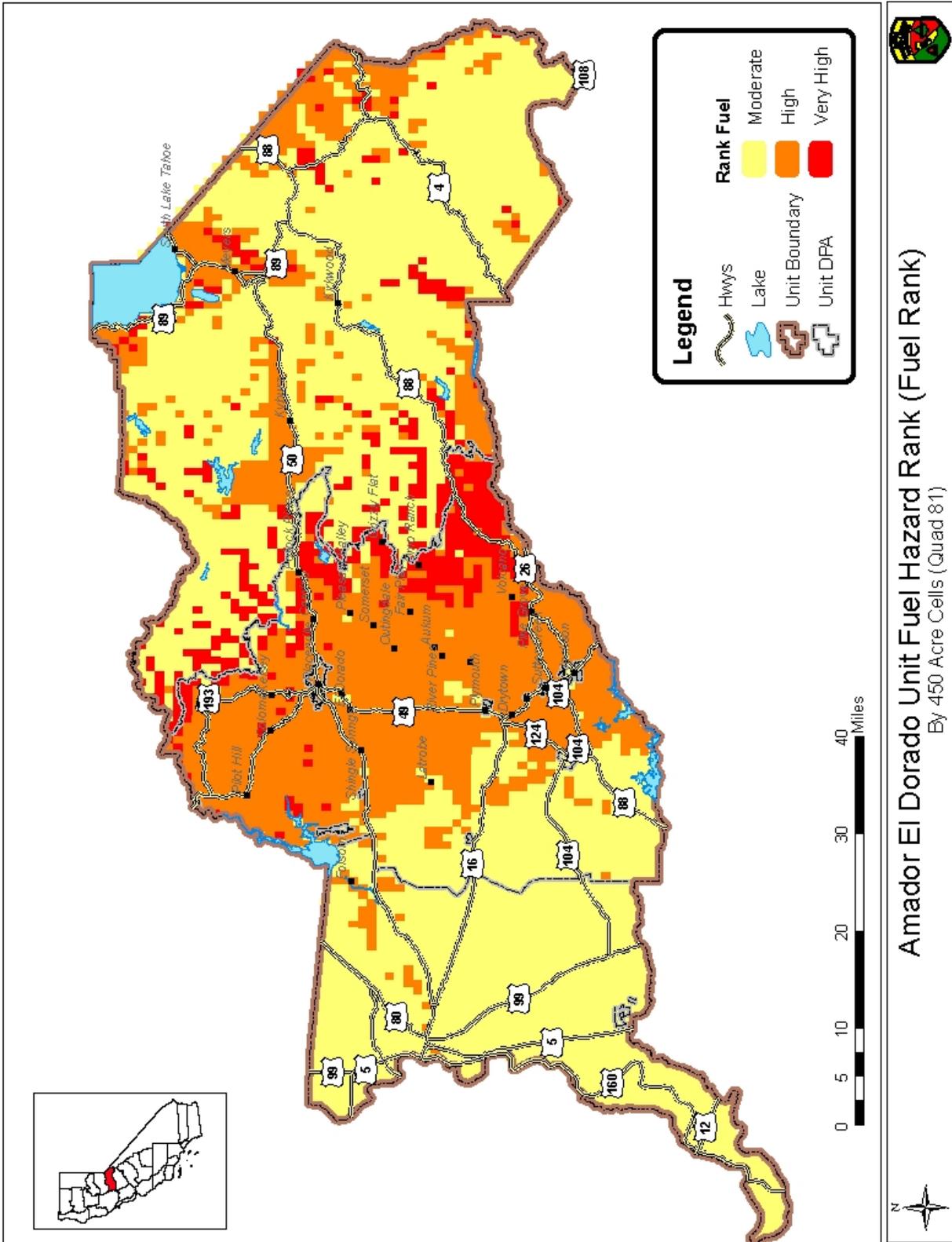


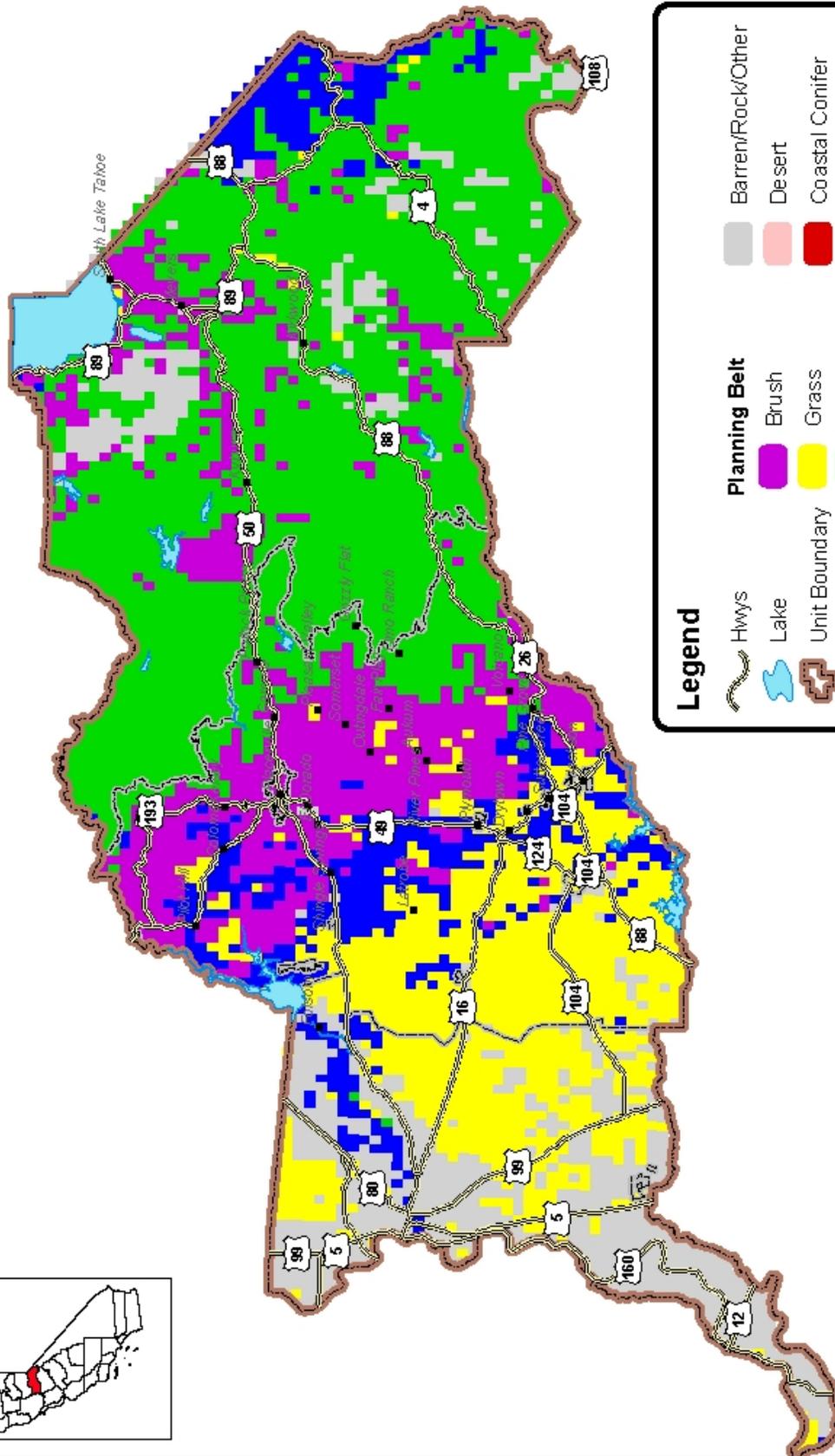
Amador El Dorado Unit Fire Workload

By 450 Acre Cells (Quad 81)



Appendix E





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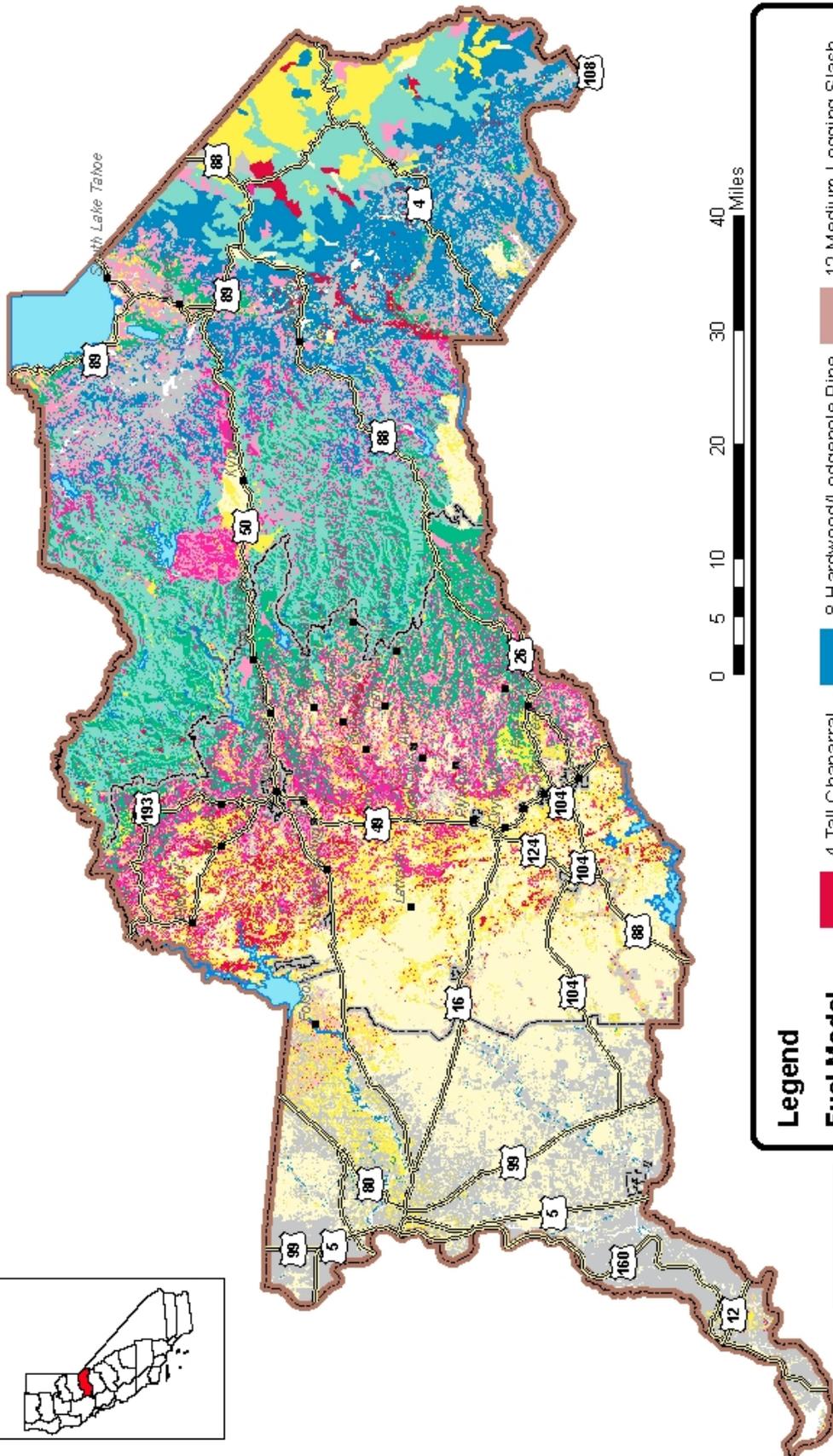
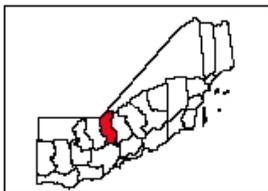
Hwy	Planning Belt: Brush	Barren/Rock/Other
Lake	Planning Belt: Grass	Desert
Unit Boundary	Planning Belt: Interior Conifer	Coastal Conifer
Unit DPA	Planning Belt: Woodland	



Amador El Dorado Unit Vegetation Groups (Planning Belts)

By 450 Acre Cells (Quad 81)





Legend

Fuel Model	
1 Grass	4 Tall Chaparral
2 Pine/Grass	5 Brush
3 Tall Grass	6 Dormant Brush
	7 Southern Rough
	8 Hardwood/Lodgepole Pine
	9 Mixed Conifer Light
	10 Mixed Conifer Medium
	11 Light Logging Slash
	12 Medium Logging Slash
	15 Desert Fuel (Custom 15)
	28 Urban Fuel (Custom 28)
	Barren or Agricultural

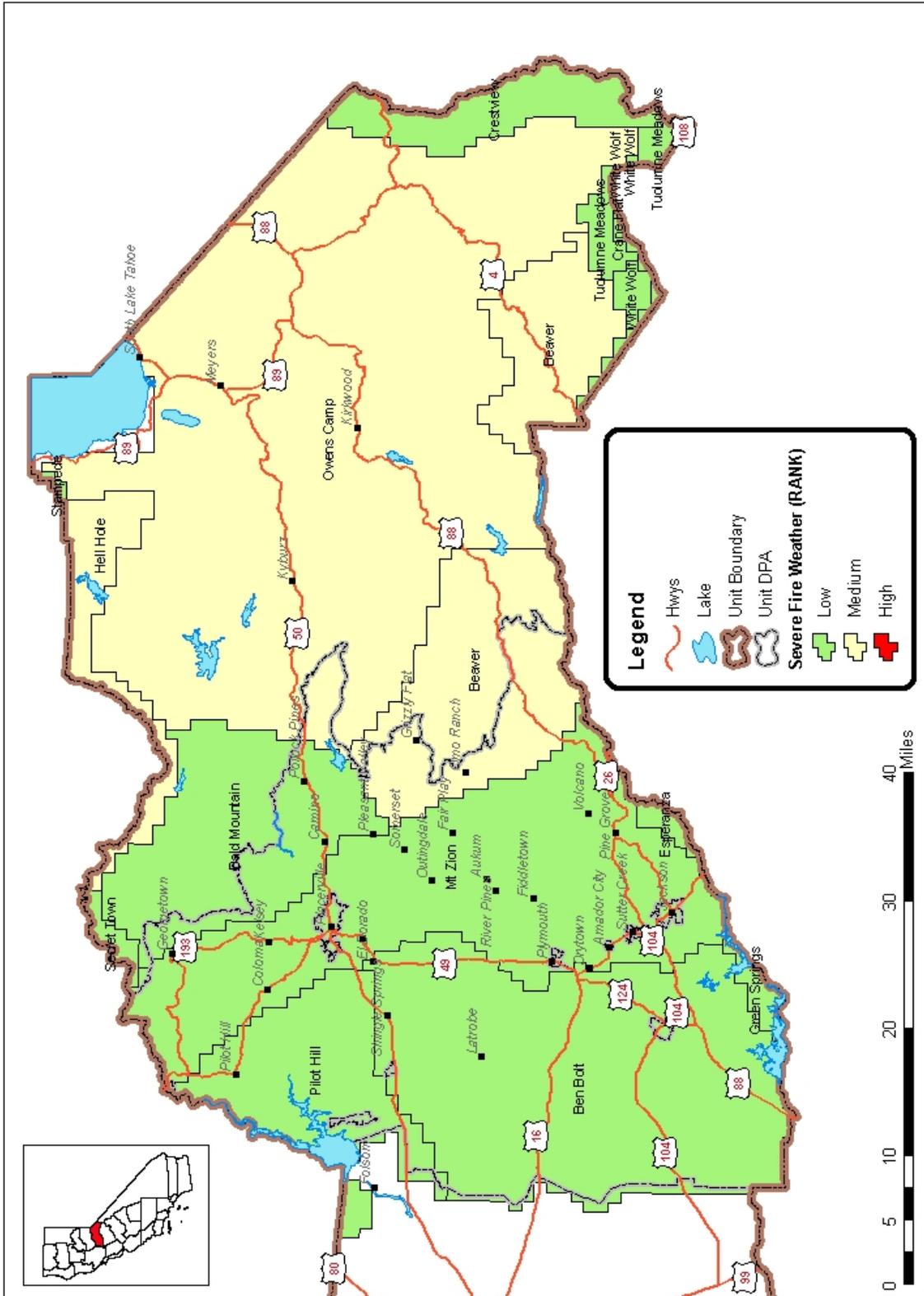
Legend	
	Hwy
	Lake
	Unincorporated
	US Forest Park



Amador El Dorado Unit Fuel Model



Appendix F



Legend

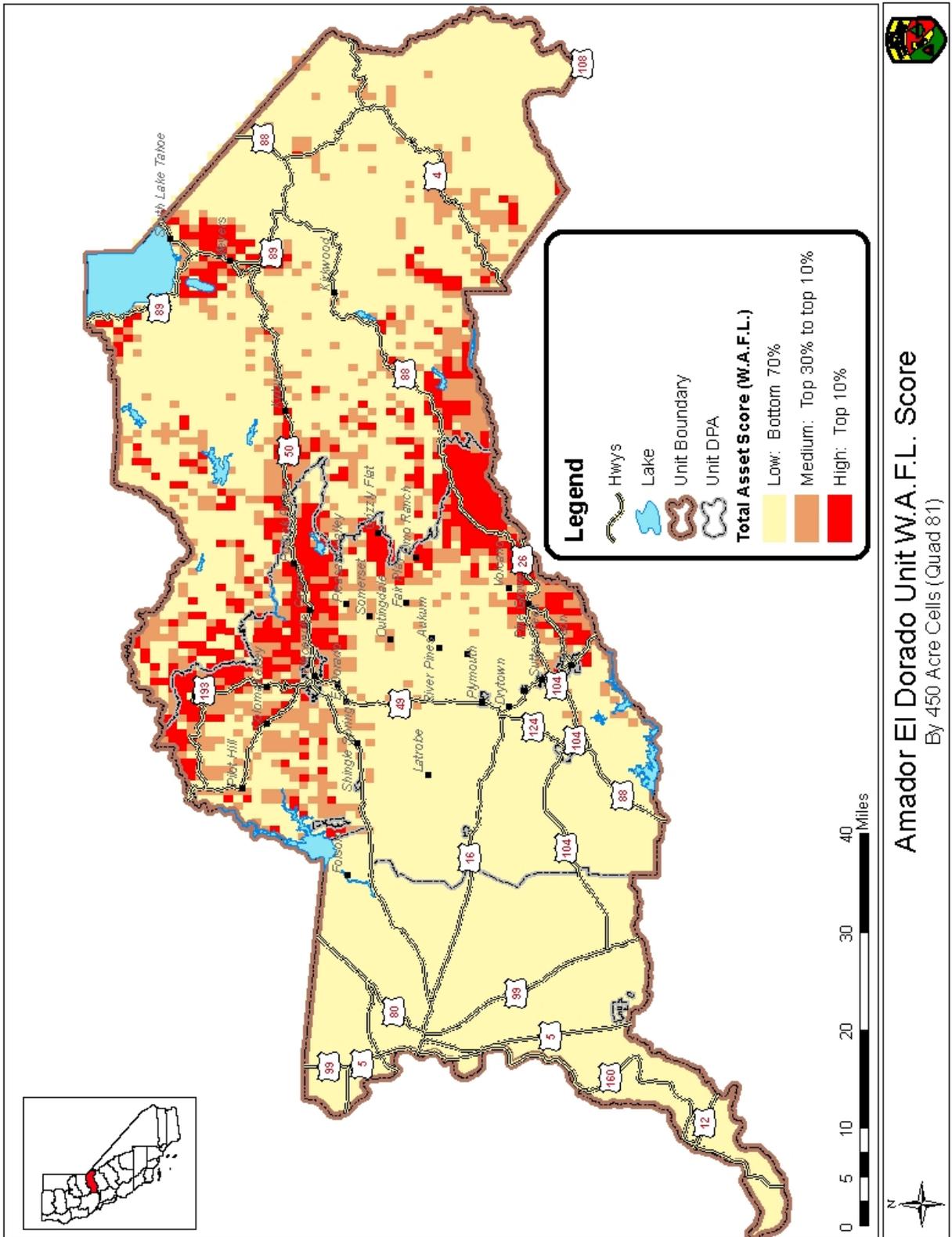
- Hwys
- Lake
- Unit Boundary
- Unit DPA
- Severe Fire Weather (RANK)
 - Low
 - Medium
 - High



Amador El Dorado Unit Severe Fire Weather
By 450 Acre Cells (Quad 81)



Appendix G



Appendix H

