

# AUBURN LAKE TRAILS COMMUNITY WILDFIRE PROTECTION PLAN

This Plan was prepared under Contract Number 4CA2314 with the California Department of Forestry and Fire Protection. Funded through the U.S. Department of Agricultural, Forest Service, Economic Assistance Program and local funds.

**Auburn Lake Trails  
Community Wildfire Protection Plan**

AMENDMENT A

I. PURPOSE

The purpose of this Amendment to the Auburn Lake Trails Community Wildfire Protection Plan dated June 2003 is to bring the Plan in conformance with the Healthy Forests Restoration Act (HFRA) that was enacted in 2003. In order for Auburn Lake Trails to take full advantage of the new opportunities in HFRA they must meet the minimum requirements for a Community Wildfire Protection Plan (CWPP) as described in the legislation. The minimum requirements of (1) Collaboration, (2) Prioritized Fuel Reduction, and (3) Treatment of Structural Ignitability have been met in the approved Community Wildfire Protection Plan.

The HFRA also requires that three entities must approve the CWPP and a Wildland Urban Interface (WUI) boundary be established. These requirements are met with this Amendment.

The WUI is commonly described as the zone where structures meet and intermingle with undeveloped wildland or vegetative fuels. This WUI zone poses tremendous risks to life, property, and infrastructure and is the most dangerous situations firefighters face. This zone averages 1 1/2 miles around the community to include adjacent landscapes of interest to enable the community to make recommendations regarding protection and risk reduction priorities.

II. AMENDMENTS

- A. Add to the approved Plans Appendix the map titled “Auburn Lake Trails Community Wildfire Protection Plan - Wildland Urban Interface Boundary” which displays the WUI boundary.’
- B. Change the name of the existing Auburn Lake Trails Fire Safe & Fuel Reduction Plan to **Auburn Lake Trails Community Wildfire Protection Plan**.
- C. All references to the wording “Fire Safe Plan” in the approved plan text should be changed to Community Wildfire Protection Plan or CWPP.

Approval of this Amendment by the California Department of Forestry and Fire Protection Amador-El Dorado Unit, El Dorado County Fire Protection District, Bureau of Reclamation and the Auburn Lake Trails Property Owners Association will constitute approval of this Amendment to the June 2003 Fire Safe & Fuels Reduction Plan.

Map attached

Subject: Approval of Auburn Lake Trails Community Wildfire Protection Plan

7. Add the following statement to the Executive Summary: "This Plan complies with all federal, state, and local laws and regulations."

Again, thank you for coordinating this effort and we look forward to working with you in the future. If you need additional information, please contact Laura Caballero, Environmental Specialist, at 916-989-7172 (TDD 989-7285).

Sincerely,

A handwritten signature in black ink, appearing to read "Michael R. Finnegan". The signature is written in a cursive style with a long horizontal flourish extending to the right.

**Michael R. Finnegan**  
Area Manager

AMENDMENT A

To

AUBURN LAKE TRAILS

FIRE SAFE & FUELS REDUCTION PLAN

Dated September 2005

Amendment Prepared

By

Registered Professional Foresters

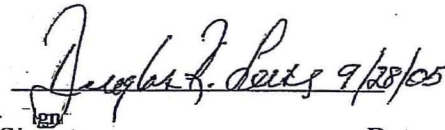
Eugene E. Murphy  
Douglas R. Leisz

 9-28-05

Signature Date

Eugene E. Murphy

Registered Professional Forester Lic 1164

 9/28/05

Signature Date

Douglas K. Leisz

Registered Professional Forester Lie 249

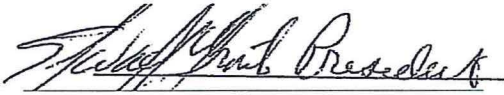
Resolution  
of the  
Board of Directors  
of the  
Auburn Lake Trails  
Property Owners Association

RESOLVED,

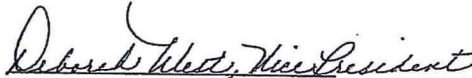
The Board of Directors of the Auburn Lake Trails Property Owners Association has reviewed and hereby adopts this Amendment A to the existing Auburn Lake Trails Fire Safe & Fuels Reduction Plan for the benefit of the Community.

SO RESOLVED.

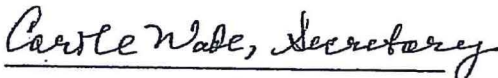
Executed this day of September 2005 at Auburn Lake Trails.



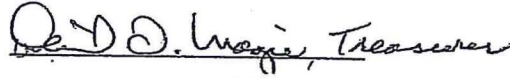
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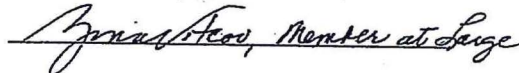
Signature, Name, Title



Signature, Name, Title



Signature, Name, Title



Signature, Name, Title

Amendment Approved  
By  
California Department of Forestry and Fire Protection  
Amador-El Dorado Unit

BioD Form Unit Chief  
Signature Date 10-20-05

California Department of Forestry and Fire Protection

Amendment Approved  
By  
California State Parks  
Auburn State Recreation Area

[Signature] Name, Title

Amendment Approved  
By  
El Dorado County Fire Protection District

Mark Johnson 11-15-05  
Signature, Date

Mark Johnson  
Battalion Chief  
Date  
El Dorado County Fire Protection District

Amendment Approved  
By  
U.S. Department of the Interior Bureau of Land Management

[Signature] Ken Hood Folsom FMO  
Signature, Name, Title

<sup>29</sup>A CWPP is legally applicable to federal lands only if they are managed by the USFS or the BLM. Nothing in the Act requires a community to exclude other federal agencies such as the Fish and Wildlife Service or the National Park Service from planning efforts, but those agencies are not bound by the provisions OIHFA”

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## **I. Executive Summary**

Auburn Lake Trails (ALT) is a community of 4000 acres, 1004 lots with 950 homes, 3000 residents and assessed valuation of over \$200,000,000.00. ALT is situated on the rim of the Middle Fork of the American River in El Dorado County. The steep topography in the canyon, heavy fuel loading combined with extensive day use activities in the State Recreation Area, has many of the elements for a wildfire of catastrophic proportions to threaten ALT.

Severe fire seasons in the western United States in the last 2 years has led to the availability of National Fire Plan funds for communities at risk for fire planning and fuel treatment. The California Department of Forestry and Fire Protection (CDF) applied for and received Wildland Urban Interface (WTJI) funds for Auburn Lake Trails Community Wildfire Protection Plan, Evacuation Plan and Biomass Utilization Paper. Environmental Documents were prepared and dollars allocated for the Plan and the Perimeter Shaded Fuel Break (PSFB). Work began, by the CDF, on the Fuel Break in February 2003 and the Plan in March 2003 by Registered Professional Foresters.

The Auburn Lake Trails Community Wildfire Protection Plan addresses all the hazards and risks within and adjacent the community. The greatest threat outside the community would be a fast moving wildfire in the river canyon. Within the community there are areas where homes are intermixed with dense vegetation. Other areas of concern were identified as the Black Oak Campground, Recycle Area and the south facing slopes with flashy fuels between Highway 193 and ALT.

Vegetation (fuels) was categorized into 7 Fuel Reduction Elements: Fuel Breaks, Common Areas, Inholdings, Lots, Roadsides, Trails and Other Use Areas. The fuels were then classified into 5 fuel types. Fuel Reduction Guidelines were written for each type that can be applied to the Fuel Reduction Elements. The Plan also addressed maintenance, new home fire safe features, training exercises, prescribed fire, and periodic reviews.

An Evacuation and General Preparedness Plan was prepared in collaboration with ALT Community Services Department. Biomass Utilization Paper displays alternatives for the utilization of woody material generated from fuel reduction work.

Other high priority action items were identified for future consideration; Wildfire Ignition Prevention Plan, Trail Fuel Treatment Plan and formation of ALT Fire Safe Council.

Two meetings were held with the Property Owners Association (POA) and residents seeking their input. The Plans were also reviewed with CDF, El Dorado County Fire Protection District, Bureau of Reclamation, and Auburn State Recreation Area.

Much work to make ALT a Fire Safe Community has been accomplished by the POA and many home owners have completed Defensible Space around their homes. Full implementation of the Plan, over time, will make ALT a Fire Safe Community.

Implementation of recommendations in this Plan is limited by availability of funds and established CDF, Reclamation, and DPR fire prevention planning priorities.

## II. Acknowledgments

This Plan was prepared under a Grant from the United States Forest Service, State and Private Forestry National Fire Plan funds and local matching funds from the California Department of Forestry and Fire Protection, Amador-El Dorado Unit.

Gene Murphy and Doug Leisz commend the CDF and Chris Waters for having the foresight in ranking ALT as a community at high risk and seeking Grant funds for the preparation of a Community Wildfire Protection Plan for the community. The consultants also thank the Auburn Lake Trails Property Owners Association (POA) General Manager Fred Dean-Turner, Barry Diehl, Chief of Community Services, and Dale Lake who gave the consultants their time and cooperation. Also, Rob Schroeder of the Bureau of Reclamation, Jill Dampier of the Auburn State Recreation Area, Fred Lopez, Fire Captain, CDF, Jody Gossner, Battalion Chief CDF, Jeff Tolson and Jon Grissorn Fire Captains with the El Dorado County Fire Protection District for their expertise and cooperation.

The consultants appreciate the excellent cooperation of residents in providing input and assistance. Also the community is congratulated on the extensive fuel treatment already accomplished by many homeowners



Excellent fuel reduction in heavy fuels by lot owner on Lovers Leap Road.  
Ground fuel removed, trees pruned, fuel ladder removed.

### **III. Community Wildfire Protection Plan Limitations**

The planners make no guarantee, warranty, expressed or implied and assumes no liability that the Fire Safe and Fuels Reduction Plan for ALT will prevent wildfire from threatening or destroying natural resources or existing or future homes or endangering residences. However, full implementation of the Plan measures and periodic maintenance will greatly reduce the exposure of homes from potential loss from wildfire and provide defensible space for firefighters and residents.

### **IV. Purpose and Scope**

Western Sierra Nevada communities are increasingly concerned about wildfire safety. Drought years coupled with dense flammable vegetation and annual periods of severe fire weather insure the potential for periodic wildfires. Foresters best describe ALT as being in the I Zone (Intermix, Interface or Intermingle) a zone between two incompatible fuels where a fire moves from the wildland environment, consuming vegetation for fuel, to an environment where structures are located.

The scope of the Plan recognizes the extraordinary natural features of the area and designs wildfire safety measures, which are meant to compliment and become part of the community.

The purpose of this Plan is to assess the wildfire hazards and risks of the community and to identify measure to reduce these hazards. The Plan contains standards for reducing fuel loading along roads, in Common Areas, in Inholdings, and residential lots. Fuel breaks and fuel reduction areas are identified and ranked in priority for implementation. An Evacuation Plan and Biomass Paper were also prepared.

Homeowners who live in and adjacent to the wildfire environment must take primary responsibility along with the fire services for ensuring their homes have sufficient low ignitability and surrounding fuel reduction treatment. The fire services should become a community partner providing homeowners with technical assistance as well as fire response. For this to succeed it must be shared and implemented equally by homeowners and the fire services.

### **V. Wildfire Background for El Dorado County**

Wildfires respond to their environment of climate, topography, and fuel (the wildland vegetation and structures.) Wildfire behavior is subject to complex variables that are not fully understood. The management and control of wildfire is not an exact science, and more is being discovered about the behavior of wildland fires and their management. Under extreme burning conditions, a wildfire can be so powerful and unpredictable that fire protection agencies can only wait until fire conditions moderate before suppression can be successful. The implementation of this Plan cannot prevent wildfires from occurring nor can it eliminate damages from wildfires to values at risk within the community or adjacent to it. Full implementation of the Plan, over time, will reduce the threat, size and intensity of wildfires and damages there from.

The Wildfire Situation for the Western Slopes of El Dorado County

Climate

The western slopes of El Dorado County have a Mediterranean - type climate that feature hot, dry summers and cool moist winters. Precipitation comes generally from storms from the Pacific Ocean that usually begin in October and end in May. The hot, dry summers produce ideal conditions for wildfires. Annual plants die and dry while perennial plants lose much of their moisture content and become highly flammable. Fires burning under these conditions threaten lives, property, and natural resources, especially toward the end of the dry season. Two additional climatic conditions aggravate this already serious wildfire problem. Periodically, every year, the pacific high-pressure system moves eastward over California and brings very hot; dry weather with low humidity as warm air aloft subsides and dries the vegetation even more. This condition is known as a “heat wave” and can occur at any time during the late spring, summer and fall. During this condition wildfires start easily and are difficult to extinguish. The other extreme wildfire conditions usually occur in the late summer or fall when north winds blow down the Sacramento valley or east winds subside from the Great Basin. Under these conditions a wildfire can quickly escape control and create great damage before the wind stops blowing. It is this latter climatic condition that made the 1991 Oakland Hills fire so difficult to control and produced an explosive rate of fire spread, a “firestorm”.

Fire History From The Gold Rush Until 1950

For half a century after the Gold Rush, settlers, miners, stockmen, loggers, and other users of California’s wildlands burned California foothill lands indiscriminately. These wildfires caused considerable damage to the forests and rangelands as well as contributing to flooding in the valleys: Until the early 1900’s the prevailing attitude toward wildfires in most of the state was to protect life and property and let the wildlands take care of themselves. Thus, wildfires probably continued to occur in El Dorado County on a regular basis for many years. After 1905, with the creation of the United States Forest Service and the California Division of Forestry (early 1920’s) indiscriminate burning was gradually reduced and controlled.

Fire History Since 1950

As population increased in California, the threat to structures from wildfires has sharply increased. A catastrophic loss of homes due to wildfires occurred in Berkeley in 1923 when a strong north wind carried fire from Wildcat Canyon, across the Berkeley Hills and into the city, destroying 584 structures. Since then, disastrous losses of structures to wildfires have occurred with increasing frequency throughout much of California, sometimes in unlikely and unexpected locations. In the same general location of the 1923 Berkeley Fire, the disastrous 1991 Oakland Hills fire burned more than 3000 structures. A partial list of some destructive wildfires in recent years is shown below.

These fires destroyed almost 7,000 homes. Hundreds more were lost in many other wildfires. In recent years, homes were lost where few thought there was danger from wildfire. One of the best examples of this situation was the Morse’ Fire that destroyed 31 homes in May 1987 in Pebble Beach; an area shrouded in fog much of the year. The problems are similar to those experienced in El Dorado County today: flashy fuels (vegetation), rugged topography intermixed with homes with Wood roofs. In all wildfires with heavy loss of structures, the main culprits were wind, wood roofs, and flammable vegetation too close to homes.

Major Destructive Wildfires in California Since 1950

| <u>Year</u> | <u>Name of Fire</u> | <u>County of Origin</u> | <u>Homes Destroyed</u> |
|-------------|---------------------|-------------------------|------------------------|
| 1956        | Newton              | Los Angeles             | 50                     |
| 1961        | Harlow              | Mariposa                | 106                    |

|  |                   |                |      |
|--|-------------------|----------------|------|
| 1961   | Bel Air           | Los Angeles    | 484  |
| 1964   | Hanley            | Napa           | 101  |
| 1964   | Coyote            | Santa Barbara  | 94   |
| 1967   | Paseo Grande      | Riverside      | 61   |
| 1970   | Laguna            | San Diego      | 382  |
| 1970   | Wright            | Los Angeles    | 103  |
| 1977   | Sycamore          | Santa Barbara  | 256  |
| 1978   | Creighton         | Sonoma         | 64   |
| 1978   | Kannan            | Los Angeles    | 224  |
| 1980   | Panorama          | San Bernardino | 325  |
| 1981.  | Atlas Peak        | Napa           | 69   |
| 1987   | Morse             | Monterey       | 31   |
| 1988   | Forty-Niner       | Nevada         | 148  |
| 1991   | Paint             | Santa Barbara  | 599  |
| 1991   | Oakland, Berkeley | Alameda        | 3810 |
| <b>Major Destructive wildfires in El Dorado County</b> |                   |                |      |
| 1985   | Eight Mile        | El Dorado      | 14   |
| 1992   | Cleveland         | El Dorado      | 26   |

## VI. Community Wildfire Protection Plan

### A. Community Description

ALT is an unincorporated community of 4000 acres with 1104 privately owned lots with 950 homes and approximately 3000 people with an assessed valuation of over \$200,000,000. It is primarily situated along the Georgetown Divide immediately above the Middle Fork of the American River. The river receives a significant amount of recreation use from extensive hiking and horse trail system. State Highway 193 parallels portions of the community on the southern area and American Canyon, major side drainage, forms the eastern boundary.

The topography along the “Divide”, where the majority of the homes are located, is relatively gently as are the south facing slopes above Highway 193. However, the north facing slopes of the river canyon, below the “Divide’ are steep (45%) and dissected by four major drainages: Browns Bar, Wildcat, Buckeye and Maine Bar Canyons that flow to the northwest.

The community is gated with a golf course, parks, lakes and ponds, 11 Common Areas (191 acres) and 235 acres comprised of 165 lots that cannot be developed due to poor percolation for septic systems. The Common Areas and POA undeveloped lots are owned by the POA. The community has numerous large lots where horses are stabled. It is estimated there are over 300 horses within the community. There are 4 parcels with a total of 52 acres of other ownership within the exterior community boundaries. Structural fire protection is provided by the El Dorado County Fire Protection District and wildfire protection by the CDF. The nearest fire Station is Station 72 in Cool. A fire hydrant system serves the community.

Currently (February 2003) there is a 300 foot wide shaded fuel break that parallels the perimeter of the community that is under construction.

### B. Vegetation (Fuels) and Fire Behavior

The vegetation (fuels) within and adjacent ALT is a mosaic of fuel types. With the exception of the heavy fuels in the Middle Fork of the American River, American Canyon and the Black Oak Campground area the fuels in the residential areas are broken up by grassy areas, horse pastures, a golf course, lakes and roads. In ALT the broad classification of fuels falls into three general groups in the Fire Behavior Predication System (FBPS) they are: Grass and Grass-dominated, Chaparral and shrub fields, and Timber litter. BEHAVE, a fire behavior computer system, was used for estimating fire behavior. Using the Fuel Models and BEHAVE, the consultants made various "Runs" in the fuel types on a variety of slopes and wind conditions to determine flame lengths and rate of spread. From their wildfire experience and data from the "Runs" the consultants developed fuel reduction specifications for a variety of sub group fuel types to be applied to fuel breaks, Common Areas, Inholdings, and roadside zones. Firescaping Guidelines were prepared for the lots with homes.

The CDF Hazard Severity Zoning system has three levels of severity; Very High and Moderate. ALT and vicinity is classified by CDF as Moderate. However, an extensive area immediately adjoining ALT to the north is Very High Severity rating from the consultant's classification. See Appendix E for BEHAVE computer outputs. Appendix A has pictures of the sub group fuel types, within the community, with Fuel Reduction Guidelines and Firescaping Guidelines.

### **C. Problem Statements**

1. The steep terrain, composition, density, structure and heavy fuel loading of the vegetation adjacent the community in the Middle Fork of the American River includes all the elements for a catastrophic wildfire to threaten ALT under severe burning conditions.

In recent years three wildfires, that escaped initial attack, burned within 2 miles of ALT. They are:

- a. American Fire — 1998
- b. Sliger Mine Fire — 1999
- c. Drivers Fire — 2000

2. **The light fuels along Highway 193, within and adjacent to the subdivision will ignite easily and have a rapid rate of spread.**

Fire history has demonstrated that grass and other light fuels are a threat to other vegetation as well as people. There is a strong tendency for the public and even some firefighters to discount the serious nature of wildfire in the grasslands of California. For instance, a grass stand of 1 ton per acre has approximately 8000 BTU's per acre. A study conducted on 100 fires where 31 fire fighters lost their lives revealed many of these burned in light fuels such as grass. Fire in the open grass and under oak stands is a serious wildfire situation in ALT.

3. **Roadside fuel treatments are inadequate for a number of roads within ALT.**

Radiant heat from burning roadside fuels can jeopardize evacuation and suppression efforts.

**4. Wildland fire incidence will increase as interface populations and uses grow.**

**5. Homeowners often do not recognize adequate wildfire mitigation measures.**

A review of many wildfires has conclusively shown that the most home losses occur when: (1) there is inadequate clearing of flammable vegetation around the house; (2) roofs are not fire resistant; (3) homes are sited in hazardous locations; (4) firebrand ignition points and heat traps are not adequately protected and (5) there is lack of water for suppression; (6) access roads are unsafe for fire suppression forces due to roadside excess fuels.

**6. Provisions must be made to maintain all fuel treatments.**

The wildfire protection values of fuel modification are rapidly lost if not maintained.

**7. Portions of the subdivision are fractured by drainage's, saddles and ridges and steep side slopes, which can cause erratic fire behavior.**

Browns Bar Canyon just east of Double "0" Mine Court divides into two-side drainage's creating a restricted opening in the topography. Also the area bounded by Strap Miner Trail on the west, Sweetwater Trail on the south, and Brushy Canyon Trail on the east has heavy fuels and the topography is fractured by numerous side drainage's of Browns Bar and Wildcat Canyons.

This combination of existing fuels and topography can cause erratic fire behavior.

**8. Evacuation and Preparedness Plans are essential to safely evacuate residents and animals in a wildfire emergency.**

**D. Goals**

1. Ensure ALT is a Fire Safe Community.
2. Modify the existing high hazard fuels on vacant lots, along roads in Common Areas and other current use areas.
3. Ensure Defensible Space is provided around structures.
4. Reduce the number, size and intensity of wildfires
5. Ensure fuel treatment measures are maintained.
6. Ensure residents can evacuate safely if wildfire threatens homes.
7. Establish an ALT Fire Safe Council.
8. Expand ALT Neighborhood Watch and Volunteers In Prevention programs to aid residents in Evacuation procedures and Defensible Space implementation.
9. Promote land management practices that will maintain a healthy stand of native vegetation, consider wildlife habitat, and protect the soil, water and visual resources.

**E. Fuel Reduction Measures**

*Threatened and endangered plant and animal species shall not be removed or treated or otherwise adversely affected within any fuel treatment area.  
Cultural resources must be protected whenever found. Best Management*

*Practices (BMP) must be observed when fuel reduction work is performed.*

For planning purposes, fuel treatment areas for ALT are subdivided into the following categories and sub categories:

1. Fuel Breaks
2. Fuel Reduction Areas
  - (a) Common Areas
  - (b) Land Inholdings
  - (c) Subdivision Lots
    - (1) Developed
    - (2) Vacant Developable
    - (3) POA not developable
3. Prescribed Fire
4. Roadside
5. Trails
6. Other

Fuel types in ALT have been classified by the consultants into 5-sub group fuel types (Annual Grasses with Scattered Trees & Brush, Brush, Transition Fuels, Oak with Scattered Conifer Overstory, Mixed Conifer & Oak with Brush Understory). In Appendix A, the fuel types are pictured with guidelines for treatment. It is important to understand that the actual on the ground fuels will vary from the pictures due to variable vegetation mosaics. As a general rule of thumb the goal is to: remove ladder fuels, reduce the volume of fuels on the ground, and aerial fuels both vertically and horizontally, and separate tree crowns with a end result that looks “park like”.

#### 1. Fuel Breaks

A fuel break is defined as generally wide (60-1000 feet) strips of land on which native vegetation has been permanently modified so that fires burning into them can be more readily controlled. Shaded fuel breaks have many advantages. The visual impact of an open corridor would be severe in a forest environment, but the semi closed canopy of a shaded fuel break blends with dense adjacent stands and screen most of the fuel breaks visual effects. A low ground cover is more easily maintained (therefore more economical) because the shade suppresses brush and seedlings.

Features common to all fuel breaks:

- Contain fire lines (e.g. roads, trails, hand lines), which can be quickly widened and used as a line for burning out.
- Must be “staffed” with suppression resources in advance of an approaching fire.
- Must have “anchor points” to prevent fires ~from making an “end run” around the fuel, break.
- Contain Helispots.
- Must be maintained to standards.
- Outer edges of a fuel break not be a straight lines but undulating to reduce the visual impacts and provide more “edging” for wildlife.

On Bureau of Reclamation lands and adjacent private lands the following fuel treatment prescription is prescribed. See Shaded Fuel Break Prescription For Bureau of Reclamation Lands of the Auburn State Recreation Area, Draft 6 (6/05/0 1), in Appendix C, for more detail.

- The width is approximately 300 feet.
- Only trees up to 6-inch dbh are eligible for removal. Trees with significant defect and/or do



not have a minimum of a 16-foot sawlog may be removed.

- Trees are to be removed to create a horizontal distance between trees from 20 feet up to 8 to 15 feet between crown drip lines.
  - Larger overstory trees, over 6" dbh, shall have vegetation within drip line removed.
  - Prune branches off all residual trees from 8 to 10 feet above the ground but not less than ½ of the crown.
  - Understory fuels over 1 foot in height are removed. Plants may be retained if there is a horizontal separation of 3 to 5 times the height of the residual plant, and are not within the drip line of overstory trees.
  - Retain snags over 18 inches in diameter and are not more than 30 feet in height. Remove snags that are capable of falling and reaching a road or structure and are not separated by 100 feet. Plans for fuel breaks and removal of trees on United States land administered by Reclamation within the proposed Auburn Dam and Reservoir Project.
  - Remove as much brush as possible. However, individual plants may be left if less than 5 feet tall and 5 feet wide.

On private lands use the Fuel Reduction Guidelines, by fuel type, as displayed in Appendix A

a. The Perimeter Shaded Fuel Break (PSFB)

This fuel break is under construction along the perimeter of the subdivision that borders on the southern rim of the Middle Fork of the American River and on the western rim of American Canyon. The CDF, with permission of lot owners, will modify the fuels on lots that border on the fuel break. This work will be from the home, outward, to the lot rear property line. On the contiguous Bureau of Reclamation lands the fuels will be treated an additional 300 feet, plus or minus depending on topography, outward from the lot rears property line. The purpose of the PSFB is to provide defensible space for firefighters to protect the homes.

The consultants offer the following comments on this fuel break in progress:

1. Due to the steep topography, heavy fuel loading in the river canyon 'and the Federal 6-inch dbh limits on tree removal the consultants determined that the fuel break will not stop a fast moving crown fire but will provide some important Defensible Space protection for homes in the ALT development.  
The PSFB must: effectively modify fire behavior, be strategically placed, be cost effective and be maintained. The Bureau of Reclamation prescription, which limits tree removal to less than 6 inches diameter, severely restricts adjustments to canopy closure and prevents fully effective treatment. It is the consultant's professional opinion that much more live fuel must be removed to provide canopy and stem separation if the potential for crown fire is to be fully mitigated on this side hill fuel break location. For example, some trees in the 6" to 30" diameter must be removed if tree canopy separation is to be obtained. The consultants also recommend adjustments and expansion of the PSFB to include treatment on 2 key ridges described below (b. & c.) and adjustment in Browns Canyon.
2. The headwaters of Browns Bar Canyon, just north of Deer Ravine Road, becomes quite narrow then opens up into two-side drainages. This landform configuration can produce a Venturi wind effect and this combined with the heavy fuels could cause erratic fire

behavior between the drainage's. It is recommended constructing the PSFB directly across the drainage from Windy Mill Road westerly to Lovers Leap Road for the purpose of preventing a wildfire from entering the headwaters of the drainage. The land between the drainages is Common Area and should receive high priority for treatment.

3. It is recommended expanding the width of the fuel break in the grass flat north of Big Chief Road, on Federal lands, for use of a Staging Area for suppression resources.
4. Incorporate the old road, dozer trail, and hiking trail within the fuel break along the north and west boundaries of the community near Shirt Tail Road.
5. The consultants recommend expanding the fuel treatment in the following "flat areas" to be used as "anchor point" for fire line construction during suppression activities:
  1. The ridge top just north of Middle Mountain CT.
  2. The ridge top flat area off Windy Mill CT
  3. The grassy flat area north of Big Chief Road
6. The planned PSFB west of Yankee Jim CT be relocated on the ridgeline that ties into Highway 49 in lieu of its proposed side slope location.
7. A detailed Timber Management Plan, for the Federal Lands will be necessary to maintain the PSFB timber stands in the long term.
8. Identify access points where suppression forces can gain access to the PSFB.

b. Hidden Gold Fuel Break

It is recommended that the PSFB be expanded to include the north/south ridge between Wildcat Canyon and Buckeye Canyon on Bureau of Reclamation lands. The purpose of this fuel break is to help prevent a fire from burning up canyon and threatening ALT. See map in Appendix for location.

1. This fuel break extension should be anchored into the Perimeter Fuel Break at Hidden Gold CT and the Middle Fork of the American River.
2. The width of the fuel break should be 300 to 500 feet depending on the topography, (wider in the saddles and flats, narrower where the ridge top is narrow with steep side slopes).
3. Maintain the portions of the existing road that is within the fuel break. Construct a hand line about 3 to 10 feet wide, where there is not an existing road or trail, down the center of the fuel break ridge to mineral earth. The purpose of this road and hand line is to provide suppression forces a fire line that can quickly be widen and fired.
4. Construct a Helispot on one of the high points along the ridge.

c. Roses Bar Court Fuel Break

It is recommended that the PSFB be expanded to include the east/west ridge east of Roses Bar Court and be anchored in the American Canyon watercourse.

1. The width of the fuel break should be 300 to 500 feet.
2. Incorporate existing grassy open space areas and maintain existing trails and/or construct a fire line to be used as a line for firing out.

d. Pointed Rock Fuel Break

This fuel break exists on Bureau lands west of Highway 49 and is strategically located to help protect ALT from fires starting down river and should be maintained on a regular schedule.

Recommended priorities for Fuel Break construction are: (1) Completion of PSFB, (2) Hidden Gold Fuel Break, (3) Roses Bar Fuel Break and (4) maintenance of Pointed Rock Fuel Break.

2. Fuel Reduction Areas

Fuel Reduction is defined as any manipulation or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control (e.g. lopping, pruning, chipping, crushing, piling, burning). Fuel reduction areas designated for treatments in ALT are: Common Areas, Land Inholdings, Lots, Roadside, Trails, and Other areas.

a. Common Areas

There are 9 separate Common Areas, for a total of 191 acres, scattered through the community. They ranging in size from 1/2 acre to 50 acres with a variety of fuel types, and are owned by the POA and are currently dedicated to open space.

1. Fuel treatment should be by the Fuel Types and Guidelines as displayed in Appendix A.
2. Priority for Common Areas fuel treatment is listed below: (See map in Appendix for locations)

| <u>Priority</u> | <u>Common Area</u>          |
|-----------------|-----------------------------|
| 1.              | G                           |
| 2.              | J                           |
| 3.              | I                           |
| 4.              | H                           |
| 5.              | K                           |
| 6.              | F                           |
| 7.              | B                           |
| 8.              | D                           |
| 9.              | C                           |
| 10.             | B                           |
| 11.             | A (no treatment, Fire Safe) |

b. Land Inholdings

There are 4 parcels (5 to 41 acres) of land within the boundaries of ALT that are of other ownership (see map in Appendix for location). The consultants wrote each landowner requesting participation in the fuels reduction project with **ALT and CDF**.

1. Fuel treatment should be by Fuel Types Guidelines displayed in the Appendix A.
2. Priority for Inholding parcels for fuel reduction treatment is as listed below.

| <u>Priority</u> | <u>Inholding</u> |
|-----------------|------------------|
| 1.              | I                |
| 2.              | II               |
| 3.              | III              |
| 4.              | IV               |

c. Subdivision Lots

*California Public Resource Code 4291 requires that any person who owns, leases or rents any building or structure within a forest, or grass-covered lands with flammable material must clear 30 to 100 feet from any structure on the property. Failure to do so may result in financial penalties or misdemeanor charges.*

For fuel treatment and scheduling purposes ALT subdivision lots are exhibited in three categories; (1) privately owned lots with homes, (2) vacant privately owned lots and (3) non-developable lots owned by POA.

(1.) Developed Lots

There are approximately 950 lots with homes of varying size from ¼ to 10 acres. Many have horse pastures and corals, which has created Defensible Space (D S) for structures. Structures in the grassy fuels are generally Fire Safe. Many lot owners in the heavier fuels have created DS around their homes. There are also occupied lots that are at risk due to lack of fuel treatment. Some have planted exotic plants of high resins content such as Junipers and trees too close to homes and some are sited in hazardous locations. Lots bordering on the PSFB cannel have their backyard fuels treated by the CDF.

- a. All lots with structures must meet the Firescaping Standards displayed in Appendix B to all lot property lines.
- b. Priority for Lot Firescaping accomplishments, if not already to Standard is:
  - (1) Lot front and side yards of homes bordering on the PSFB
  - (2) The second “tier” of lots adjacent the perimeter lots in the PSFB
  - (3) After additional analysis, lots within the area north of American River and Sweetwater Trails, east of Double “0’ Mine Trail, and west of Hidden Gold Trail.
  - (4) Lots on the southern boundaries of ALT
  - (5) Lots adjacent the “other private” parcels that are accessed off Highway 193, northwest of Cramer Road
  - (6) Those adjacent or near undeveloped lands with dense vegetation.
  - (7) Lots in urban setting.
  - (8) Lots with light ground cover, improved pasture, and widely spaced plants.
- c. It is recommended that the POA establish several Demonstration Lots, in central locations, that will feature DS fuel treatments in a variety of fuel types.
- d. It is recommended the POA establish a Demonstration Garden in a central area that

features fire resistant plants.

- e. It is recommended that the POA pursue, through the County Fire Safe Council, Senior Assistance Program that can create lot DS, for seniors, who are not financially able to hire a contractor. (See brochure in Packet).

## (2.) Vacant Developable Lots

There are approximately 150 vacant lots that are “buildable” scattered throughout the community. Lot owners have the responsibility for fuel reduction on their lots. Fuel treatment should be implemented to the standards displayed by Fuel Types Guidelines in Appendix A to all lot property lines. Vacant lots bordering on the PSFB may be 100% treated, with permission of lot owner, as the fuel break is constructed by the CDF. Vacant lots outside the PSFB should be stratified by fuel severity and treated to bring them within acceptable fuel level even before occupied.

a. The priority for treatment of vacant developable lots is:

- (1) Lots bordering on the PSFB
- (2) The second tier of lots adjacent the PSFB
- (3) After additional analysis, lots within the area north of American River and Sweetwater Trails, east of Double “0” Mine Trail, and west of Hidden Gold Trail.
- (4) Lots along the southern boundaries of ALT.

## (3.) POA Lots That Are Not Developable

There are approximately 170 lots for a total of 235 acres that are owned by the POA. Homes cannot be constructed on these lots due to poor soil percolation for a septic system. The lots vary in size from ¼ acre to 5 acres, and have a variety of fuel types. Fuel reduction treatment should be by Fuel Type Guidelines displayed in Appendix A to all lot property lines.

a. The priority for treatment of POA Lots is:

- (1) Lots bordering on the PSFB.
- (2) The second tier of lots adjacent the PSFB
- (3) After additional analysis, lots within the area north of American River and Sweetwater Trails and east of Double “0” Mine Court and west of Hidden Gold Trail.
- (4) Lots with heavy fuels that are adjacent to lots with homes.

b. It is recommended the POA:

- (1). Work with the El Dorado County Fire Safe Council to request their Door Yard Chipper Program be initiated in ALT to encourage and support lot owner fuel treatment work. See Fire Safe Council Chipper Handout in Packet.
- (2) Distribute El Dorado County Fire Safe Council “Homeowners Watch Outs!” brochure to every lot owner. Copy of handout in Packet.
- (3) Distribute “Will Your Home Survive” to Community Services personnel. Copy in Packet.

d. Roadside

There are 31 miles of privately owned roads within the community that are managed by the POA. Some of the cul-de-sac and side roads do not meet current county standards as to width or turn around at dead end street & Segments of some roads have heavy fuel loading within the road prism and lack of vertical clearance. Ignitions do occur along roads. Wildfires adjacent roads will create radiant heat that can close a road to emergency vehicles and residents. The following fuel treatments are recommended along ALT roads:

1. Road shoulder and ditches have all vegetation removed annually.
2. Fuels within the right of way be treated to the standards displayed in the drawings in Appendix A. (Lot owners treat fuels on their lots to the standards prescribed outward to meet the road right of way fuel treatment.)
3. All roads should have 15 feet vertically clearance above the road pavement.
4. Dead end roads without a turn around at its terminus should have a “Hammer/head T” constructed.
5. Priority roads for treatment are:
  - (1.) Shirt Tail
  - (2.) Double 0 Mine
  - (3.) Dear Ravine
  - (4.) Sweetwater from American Trail to Bottle Hill CT
  - (5.) Strap Miner Trail
  - (6.) Big Nugget Trail
  - (7.) Hidden Gold Trail
  - (8.) Brushy Canyon
6. All roads with locked gates should be equipped with a Knoks Lock.
7. Main roads leading to Gates 1, 2, and 3 should be signed “Evacuation Route”.

e. Trails

There are 32 miles of horse and hiking trails within the boundaries of ALT. There are also 13.9 miles of trail located on Bureau of Reclamation lands in the canyons below the subdivision. Trails within the community are managed by the POA. The State of California, Department of Parks and Recreation, manages trails on the Bureau of Reclamation lands. A fire ignition at mid slope in the canyon could escape initial attack and become a threat to ALT.

It is recommended that a Fuels Reduction Plan be prepared for the total trail system and become a part of the proposed Wildfire Ignition Prevention Plan (Item G 4).

f. Other Areas

Located throughout the community are other areas that receive heavy use. They are:

1. Indian Bow Lake  
Reduce grass to a 2-inch stubble by June 1, annually around tennis courts, above parking lot to foot trail and fishing and picnic area.
2. Soccer Field — Fire Safe.

3. Black Oak Campground

Close all camping units along loop road, in wildfire season, until camping sites and road are fire proof.

4. BarnLoft and Stable Area — Fire Safe

5. Recycle Area

Maintain the 100-foot fuel reduction area around drop site. Due to air quality environmental factors from burning, utilization of woody material and wildfire ignition potential, the consultants recommend closing the site and explore the alternatives for disposal of woody material displayed in the Biomass Utilization Paper.

## **F. Maintenance of Fuel Reduction Treatments**

Maintenance of the all fuel treatment areas must be scheduled periodically or the fuel modification values will quickly be lost. Maintenance may be accomplished in the following ways: chemical treatment, prescribed burning, machine mastication, handwork, animals, biomass utilization or a combination of the above. Utilization of biomass is the preferred alternative.

It is recommended that the POA:

1. Seek Fund Sources via the CDF and El Dorado County Fire Safe Council (EDCFSC). Appoint resident or employee to represent ALT on EDCFSC.
2. Initiate Chipper Program with CDF or EDCFSC (See EDCFSC ‘Flyer’ in Packet). Also refer to Biomass Utilization Paper.
3. Pursue use of goats for fuel reduction and maintenance. Grazing is a form of biological treatment applicable as a maintenance technique. This option exists where the plants are palatable to livestock. The livestock consume the vegetation thus reducing fuel loading. Goats prefer forbs, and shrubs, but will also eat grass, whereas cattle and horses will primarily eat grass. Steep slopes can be grazed by goats, sheep and horses but cattle prefer not to graze on slopes over 25%. Fencing is a major cost in a live stock operation with cattle and horses. Herding of goats is more economical depending on the market and size of the maintenance operation. It is recommended the POA contact commercial goat owners to explore opportunities to utilize goats for fuel reduction and maintenance. See Packet for information on local goat business that specializes in vegetation control.

## **G. Other Fire Safe Mitigation Measures**

1. New Homes

Approximately 20 new homes are constructed in ALT a year. As new homes are constructed it is recommended that the following be required:

- a. Class A roofing
- b. Enclose decks that are cantilevered out over the natural slope.
- c. Box eaves in high hazard areas.
- d. Use ignition resistant siding materials high hazard areas such as stucco, brick, stone, concrete board etc.
- e. Homes on lots over 1 acre maintain a 30-foot setback from all lot lines.

- f. Do not site homes in saddles, in a draw or on steep side slopes.
- g. Driveways should conform to SRA standards providing a minimum of 10 foot traffic lane and those over 150 feet in length, but less than 800 feet should have a turnout near the midpoint of the driveway.

## 2. Periodic Reviews

Every five years the fire agencies and the POA review the fuel treatment areas to determine if additional fuel hazard reduction work and maintenance is necessary.

## 3. Joint Training Exercises

- a. Periodically the fire agencies, law enforcement and POA conduct a simulated Evacuation Exercise.
- b. Annually the fire agencies visit the fuel breaks to plan firing scenarios, access, maintenance needs etc.

## 4. Wildfire Ignition Prevention Plan

Prevention of wildfires is a top priority for ALT. It is highly recommended that a Wildfire Ignition Prevention Plan be prepared for the community and adjacent lands that addresses the following elements:

- a. analysis of person caused wildfires for last 10 years
- b. signing
- c. closures
- d. shut downs
- e. information and education
- f. administration
- g. enforcement
- h. trail fuel treatment

## 5. Prescribed Fire

Consider the CDF Vegetation Management Program (VMP) for the use of Prescribed Fire within the communities Common Areas and large POA lots. Also work with the Bureau to initiate a Prescribed Fire program to reduce fuels and widen fuel breaks on Federal lands. (See VIVIP brochure in Packet).

## 6. Formation of a ALT Fire Safe Council

ALT formed a Fire Safe Council to assist in the implementation of the Community Wildfire Protection Plan. The Council should be a "Satellite Council" of the EDCFSC with representation on both councils. See "Starting A Council" in Packet.



APPENDIX A  
Auburn Lake Trails  
Fuel Reduction Guidelines for Vacant & POA Lots, Common Areas, Inholdings and  
Other Areas

(Refer to Firescaping Guidelines for Developed Lots & Bureau Prescription for Fuel Breaks)

Annual Grasses with Scattered Trees & Brush  
(North of Big Chief Road)

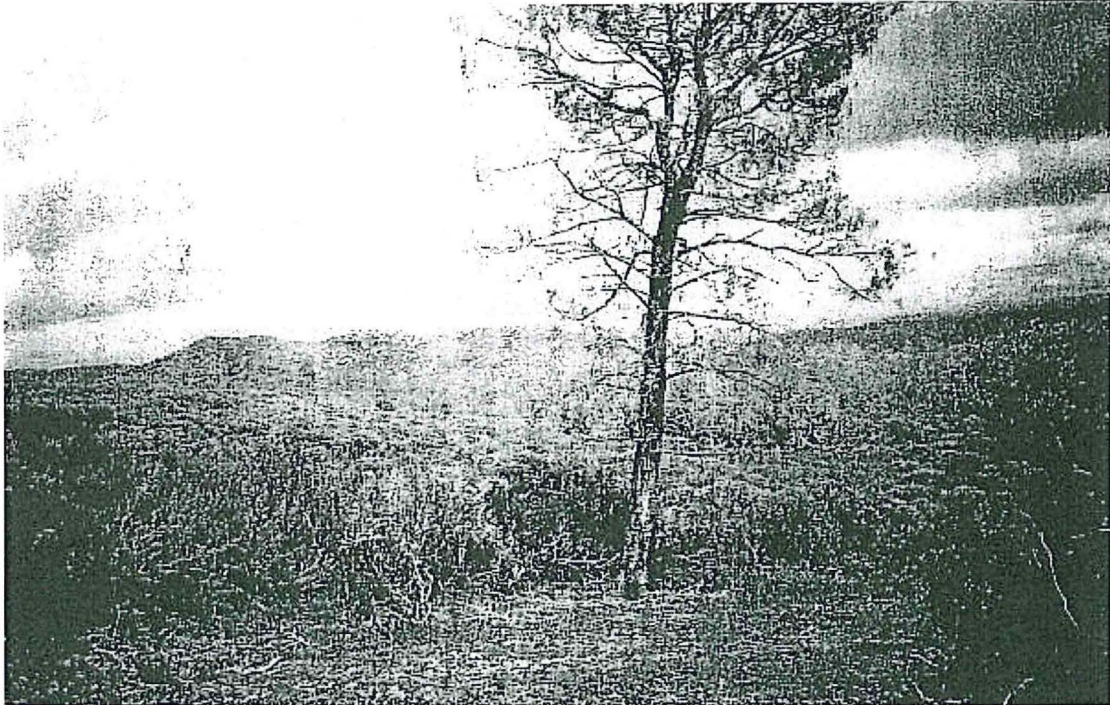


1. Reduce grass to a 2-inch stubble by date designated by the POA annually. On larger lots and Common Areas reduce grass around perimeter only.
2. Leave all live trees.
3. Remove all dead trees.
  - a. In open space areas 2 snags per acre may be left for wildlife purposes if not within 100 feet of Structure or road.
4. Prune all trees of live and dead branches for 8 to 10 feet above ground (ladder fuels) but not more than 1/3 of tree crown.
  - a. Multi stem Live Oak trees: remove all dead stems, cut off green stems at 8 to 10 feet above the ground that arch over and are growing downward towards the ground.
5. Remove brush under tree drip lines and “jackpots” of fuel.
6. Every 3 years remove all dead and down tree limbs and logs that are over 1 inch in diameter.
7. Slash created by fuel reduction actions must be disposed of by burning, chipping, hauling off site or a combination of disposal methods

Appendix A continued  
Auburn Lake Trails  
Fuel Reduction Guidelines for Vacant & POA Lots, Common Areas, in holdings and  
Other Areas

(Refer to Firescaping Guidelines for Developed Lots and Bureau Prescription for Fuel Breaks)

(Brush, Mixed Chaparral)



1. Remove most brush, (approximately 2/3).
2. Specimen Plants and small islands of brush may be left for wildlife and the visual resource if there is 25 feet between crowns and diameters of islands do not exceed 15 feet. Do not retain Chamise.
3. Leave all live trees where possible. (There are usually live trees that are suppressed by the brush and may be released with careful removal of the brush plants.<sup>3</sup>)
4. Burn, remove or masticate in place ground fuels, logs, limbs etc. larger than 1 inch in diameter
5. Slash created by above fuel reduction must be disposed of by burning, chipping or hauling off site or a combination of disposal methods.

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<sup>3</sup> Removal of certain diameter sizes of vegetation may need POA Design Committee approval.

Appendix A continued  
Auburn Lake Trails  
Fuel Reduction Guideline for Vacant & POA Lots, Common Areas, Inholdings and Other  
Areas

(Refer to Firescaping Guidelines for Developed Lots & Bureau Prescription for Fuel Breaks)

**Oak with Scattered Conifer Overstory**  
**(Windy Mill Cul-de-Sac)**



1. Leave all live trees
  - a. Scrub oak, *Quercus berberidifolia*, may be removed if in brush form class.
2. Remove all dead trees
  - a. Two snags per acre may be left for wildlife purposes if separated by 100 feet, not over 30 feet tall and not within 50 feet of road or structure.
3. Prune all trees of dead and green branches 10 to 12 feet above the ground but not more than 1/3 of the tree crown.
  - a. Multi stem Live Oak trees: remove all dead stems, cut off green stems at 10 feet above the ground that arch over and are growing towards the ground.
4. Remove all brush, seedlings, and saplings to provide a horizontal separation of approximately 20 feet between trees<sup>1</sup>.
5. Remove all down limbs, and logs that are over 1 inch in diameter but less than 6 inches in diameter. Over 6 inches may be left if separated by 10 feet.
6. Reduction of grass to 2-inch stubble optional on Vacant and POA Lots
7. Slash created by above fuel treatments must be disposed of by burning, chipping, hauling off site or a combination of disposal methods.

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<sup>1</sup> Removal of certain diameter sizes of vegetation may need POA Design Review Committee approval.

Appendix A continued  
Auburn Lake Trails  
Fuel Reduction Guidelines for Vacant & POA Lots, Common Areas, Inholdings and  
Other Areas

(Refer to Firescaping Guidelines for Developed Lots & Bureau Prescription for Fuel Breaks)

**Transition Fuels-Heavy Brush With Scattered Oak and Pine**  
**(Shirt Tail Road)**



1. Leave all live trees.
  - a. Scrub Oak, *Quercus berberidifoha*, may be removed if in brush form class.
2. Remove all dead trees.
3. Prune all trees of dead and green branches for 8 to 10 feet above the ground but not more than 1/3 of the tree crown.
4. Remove all brush.
  - a. Specimen bushes or groups of plants such as manzanita, Toyon and other may be left providing there is 25 feet between brush groupings and such groups do not exceed 15 feet in diameter.
5. Remove all down limbs and logs that are over 1 inch in diameter but less than 6 inches in diameter. Over 6 inches may be left if separated by 10 feet.
6. Slash created by the above fuel treatments must be disposed of by burning, chipping or hauling off site or a combination of disposal methods.

Appendix A continued  
Auburn Lake Trails  
Fuel Reduction Guidelines for Vacant & POA Lots, Common Areas, Inholdings and  
Other Areas

(Refer to Firescaping Guidelines for Developed lots and Bureau Prescription for Fuel Breaks)

**Mixed Conifer & Oak Overstory with Brush Understory**  
(Deer Ravine)



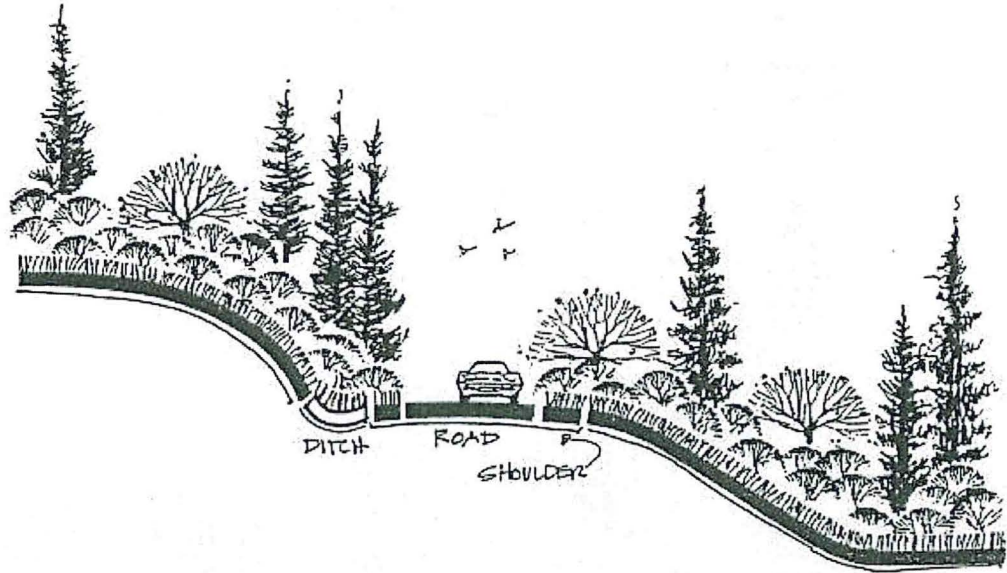
1. Remove all dead trees.
  - a. Two snags per acre may be left for wildlife if separated by 100 feet, not over 30 feet tall and not within 50 feet of road or structure.
2. Leave all overstory conifers over 30-inch dbh. Conifers from 6 inch to 30-inch dbh may be removed if crowns are touching to create horizontal separation. Removal of trees in these diameter classes will require a Timber Harvest Plan approved by the CDF unless granted an Exception).
  - a. Prune overstory conifer of all live and dead branches for 20 feet above ground but not more than 1/3 of the tree crown.
3. Leave all exposed mature oaks.
  - a. Prune oaks of all dead and green branches for 10 feet above the ground but not more than 1/3 of the tree crown.
4. Remove all brush, seedlings and saplings to provide a horizontal separation of 20 feet between trees.<sup>2</sup>
5. Remove all down limbs and logs that are over 4 inches in diameter but less than 8 inches in diameter. Over 8 inches in diameter may be left if separated by 12 feet.
6. Slash created by above fuel treatments must be disposed of by burning, chipping or hauling off site or a combination of disposal methods.

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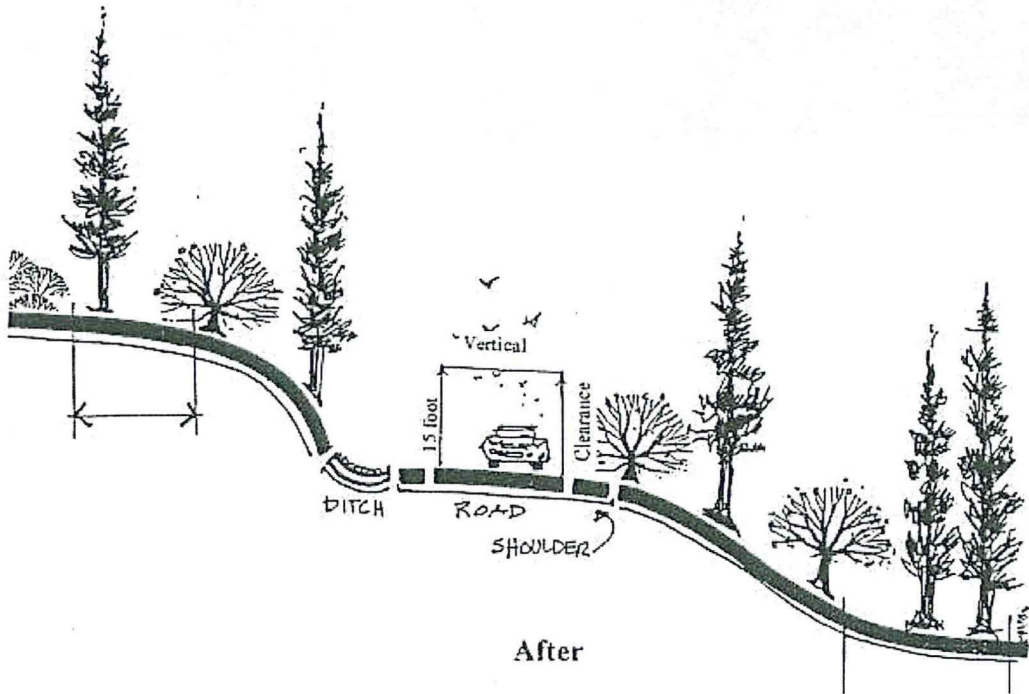
<sup>2</sup> Removal of certain diameter sizes of vegetation may need POA Design Committee approval.

Appendix A continued  
Auburn Lake Trails

Fuel Reduction Guidelines for Roadside Fuels - Within the Road Right of Way  
Before and After Drawings



Before



After

## Appendix B

### FIRESCAPING GUIDELINES

#### For Auburn Lake Trails Developed Lots

Firescaping is an approach to landscaping to help protect homes from wildland fires. The goal is to create a landscape that will slow the advance of a wildfire and create a Defensible Space that provides the key point for fire fighting agencies to defend the home. This approach calls for a system of landscape zones surrounding the home. Each zone may contain a balance of native and exotic plants that are fire and drought resistant, help control erosion, and are visually pleasing.

#### Zone I

This zone extends to not less than 30 feet from the house in all directions (or to the property line) and has a traditional look of irrigated shrubs, flower gardens, trees and lawns. All dead trees, brush, concentrations of dead ground fuels (tree limbs, logs etc. exceeding 1 inch in diameter) are removed. Oak trees are pruned of limbs 8 - 10 feet above the ground and conifers 10 plus feet, but no more than 1/3 of the crown is removed. No trees within 10 feet of roof or chimney. Separate conifer crowns by 10 feet. The plants in this zone are generally less than 18 inches in height, must be slow to ignite from wind blown sparks and flames. Such plants produce only small amounts of litter and retain high levels of moisture in their foliage year around. Grass and other herbaceous growth within this zone must be irrigated or if left to cure must be mowed to a 2-inch stubble, disked, chemically treated or removed. Such treatment must be accomplished annually by the date established by the POA. This zone has built in firebreaks created by driveways, sidewalks etc.

#### ZONE II (Zones I & II)

This zone adds 50 feet to Zone I and extends to a minimum of 80 feet from the house in all directions (or to the property line). This zone is a wide band of low growing succulents and ground covers designed to reduce the intensity, flame length and rate of spread before a wildfire reaches Zone I. Native trees are preserved but are pruned of limbs (oaks to 8 - 10 feet, conifers 10 feet plus) above the ground but no more than 1/3 of the crown is removed, grasses are mowed, disked or chemically treated, Shrubs are not to exceed 24 inches in height and placed to create a pleasing look yet slow a fires progress. All dead trees, brush, concentrations of dead ground fuels (tree limbs, logs etc.) exceeding 1 inch in diameter are removed. Tree spacing should be maintained to provide 10-foot horizontal space between crowns. Irrigation may be necessary to maintain a quality appearance and to retain the retardant ability of the plants. Treatment of herbaceous vegetation must be completed annually by the date established by the POA.

Appendix B (continued)

### ZONE III (Zones I, II & III)

This Zone adds 50 feet to Zones I and II and extends to a minimum of 130 feet, or to the property line, from the house and is a transition area to the outlying native vegetation. All dead trees, brush, concentrations of dead ground fuels (tree limbs, logs etc.) exceeding 1 inch in diameter are removed. It is characterized by planted deep-rooted native vegetation interspersed with fire resistant ground covers such as Dwarf Coyote Brush, Dwarf Rosemary, and low growing manzanita (not to exceed 24 inches in height). Annual grasses are mowed after they have cured by June 1 annually. Native trees are preserved and are pruned of limbs (oaks 8 to 10 feet, conifers 10 feet plus) but not more than 1/3 of the tree crown. Tree spacing should be maintained to provide 10-foot horizontal space between tree crowns.

### ZONE IV

This zone starts at 130 feet from the home and extends to all the property lines. Live trees are retained and pruned of limbs (oaks to 8 - 10 feet, conifers 10 feet plus) and dead trees removed. No plants are added. Brush is removed, however specimen bushes and islands of brush may be retained (do not retain chamise, Toyon) if spaced with 25 feet between islands and diameter of islands does not exceed 15 feet. Ground fuels, limbs, logs etc. over 2 inches in diameter are removed. Spacing should be maintained to provide 10-foot horizontal space between tree crowns.

### For all Zones with Live Oak

Multi stemmed Live Oaks present a serious fire problem if untreated. Treat the Live Oak as to the following specifications: (a.) remove all dead limbs and stems, (b.) cut off green stems 8 - 10 feet above the ground, that arch over and are growing downwards to the ground.

Regular maintenance is essential in all zones. Litter must be removed; trees pruned and sprouts controlled on a regular basis



## Appendix C

### SHADED FUEL BREAK PRESCRIPTION FOR BUREAU OF RECLAMATION LANDS OF THE AUBURN STATE RECREATION AREA

DRAFT 6 (9/05/01)

**Shaded Fuel Break:** A defensible location to be used by fire suppression resources to suppress oncoming wildland fires. Any fuel break by itself will NOT stop a wildland fire. It is a location where the fuel has been modified to increase the probability of success for fire suppression activities. Ground resources can use the location for direct attack or flung out. Air resources can use the location for fire retardant drops.

**Shaded Fuel Break Widths:** The preferred width of a shaded fuel break along a ridge top or adjacent to one is approximately 300 feet.

**Defensible Landscape:** This prescription may also be considered for use in those areas .on lots that will be treated for fire safe clearance.

**Defensible Space:** This prescription may also be considered for use in those areas on lots that will be treated for fire safe clearance within 30 to 100 feet of existing structures; In addition to the prescribed treatments below, all annual grasses are to be maintained to below 4 inches in height. Branches overhanging structures are to be removed along with any portion of vegetation within 10 feet of the outlet of any chimney or stovepipe. Dead wood and branches within the zone and leaves and needles on roofs are also to be removed.

#### Prescription

Note: only trees up to the 6-inch diameter at breast height (dbh) diameter class are eligible to be removed under this prescription with the exception of hazardous snags.

Due to operational needs at the time fuel modification for a shaded fuel break occurs it may be necessary to remove an occasional tree with a dbh larger than 6 inches. This will only be done on a case-by-case basis after proper review by all involved agencies.

Threatened and endangered plant and animal species, such as elderberry and other sensitive species, shall not be removed or treated, or otherwise adversely affected, within any shaded fuel break.

Cultural resources are of a major concern in any area where they may exist. These resources will be protected, wherever they are found.

Implementation consists of removing or pruning trees, shrubs, brush, and other vegetative growth on the project area. All work will be accomplished by use of heavy equipment, masticator and/or hand crews supported by chippers and/or burning.

1. Understory fuels

Understory fuels over 1 foot in height are to be removed in order to develop vertical separation and low horizontal continuity of fuels. Individual plants or pairs of plants may be retained provided there is a horizontal separation between plants of 3 to 5 times the height of the residual plants and the residual plants are not within the drip lines of an overstory tree.

2. Mid-story fuels:

Only trees up to the 6-inch dbh may be removed. Exception to this size limit shall be trees that have significant defect and/or which do not have a minimum of a 16-foot sawlog. Live but defective trees larger than the 6-inch dbh providing cavities for obvious wildlife use will be retained.

Trees shall be removed to create horizontal distances between residual trees from 20 feet between trunks up to 8 to 15 feet between tree crown drip lines. Larger overstory trees (>6-inches dbh) do count as residual trees and, in order to reduce ladder fuels, shall have vegetation within their drip lines removed. Prune branches off of all residual trees from 8 to 10 feet off the forest floor, not to reduce the live crown ratio below 1/2 of the height of the tree.

Criteria for residual trees (up to < 6-inch dbh):

**Conifers:** Leave trees that have single leaders and thrifty crowns with at least 1/3 live crown ratio.

Conifer leave tree species in descending order:

Sugar pine  
Ponderosa pine  
Douglas fir  
Knob-cone Pine  
Gray Pine  
White fir  
Incense cedar

Intolerant to shade species have a higher preference as leave trees because their seed will be less likely to germinate in the understory.

3. Snags:

Snags are a conduit of fire during a wildland fire. However, they also provide excellent wildlife habitat in their natural state. The following is the criteria of when snags shall be retained:

18-inch diameter class or larger and not more than 30 feet in height which are not capable of reaching a road or structure provided there is a separation of least 100 feet between snags.

**Hardwood trees:** Leave trees that have vertical leaders and thrifty crowns with at least 1/3 live crown ratio.

Hardwood leave-tree species in descending order:

***Valley Oak — Riparian, less common***

Big Leaf Maple- Riparian area, less common

Blue Oak - least leaf surface area, less volatile when burning

Black Oak - higher leaf surface area

Madrone - more volatile when burning

Live Oaks - most volatile when burning, branches closest to ground.

**Brush:** It is desirable to remove as much brush as possible within the shaded fuel break area. However, if individual plants or pairs of plants are desired to be left, leave plants with the following characteristics: young plants less than 5 feet tall and individual or pairs of plants that are no more than 5 feet wide.

Brush leave species in descending order:

**Category 1**

*Dogwood-*

*Redbud -*

**Category 2**

*Toyon-*

*Buckeye-*

*Coffebery -*

*Lemmon Ceanothus - less volatile*

*Buck brush (Wedge leaf ceanothus) - smaller brush plant, less volatile*

**Category 3**

*Whitethorn - lower lying plant*

*Deer brush - larger plant, high leaf surface area, more volatile when burning*

*Manzanita - larger plant, high leaf surface area, more volatile when burning*

*Chamise - foliage contains highest amount of flammable oils, most volatile when burning*

*Yerba Santa*

*Poison Oak*

*Scrub Oak*

*Non-native species (such as olive, fig, etc.) will be considered on a case-by-case basis.*

4. Wetlands:

Wetlands and riparian areas will not be adversely affected for treatment and ground operations.

5. Watercourse and Lake Protection Zone (WLPZ):

To provide mitigation for riparian associated species and to reduce the potential risk of habitat fragmentation, the following will apply:

Appendix D

**Auburn Lake Trails  
Community Wildfire Protection Plan**

**PROJECT SCHEDULE AND PRIORITIZATION MODEL**

| <b>Fuel Treatment Groups</b> | <b>Priority Within Group</b> | <b>Community Priority</b> | <b>Schedule</b> | <b>Responsibility</b> | <b>Remarks</b>  |
|------------------------------|------------------------------|---------------------------|-----------------|-----------------------|---|
| <u>Fuel Breaks</u>           |                              |                           |                 |                       |   |
| PSFB                         | 1                            | 2                         | 2003 & 2004     | CDF                   | Construction started 2003   |
| Hidden Gold                  | 2                            | 5                         | 2005            | CDF                   |   |
| Roses Bar                    | 3                            | 6                         | 2006            | CDF                   |   |
| Pointed Rock                 | 4                            | 19                        | Annually        | Bureau of Rec.        |   |
|                              |                              |                           |                 |                       | Maintenance only  |
| <u>Common Areas</u>          |                              |                           |                 |                       |   |
| A                            |                              |                           |                 |                       | No treatment<br>Low Priority<br>Low Priority<br>Low Priority<br>Adjacent PSFB<br>Adjacent PSFB<br>Adjacent PSFB<br>Adjacent PSFB<br>THP underway<br>75%grassfuels |
| B                            | 10                           | 11                        |                 |                       |   |
| C                            | 9                            | 13                        |                 |                       |   |
| D                            | 8                            | 14                        |                 |                       |   |
| E                            | 7                            | 2                         | 2004            | POA                   |   |
| F                            | 6                            | 2                         | 2004            | &<br>CDF              |   |
| G                            | 1                            | 2                         | 2003            |                       |   |
| H                            | 4                            | 2                         |                 |                       |   |
| I                            | 3                            | 8                         |                 |                       |   |
| J                            | 2                            | 9                         |                 |                       |   |
| K                            | 5                            | 10                        |                 |                       |   |
| <u>Inholdings</u>            |                              |                           |                 |                       |   |
| I                            | 1                            | 15                        | Out years       | Parcel owner          |   |
| II                           | 2                            | 16                        |                 | Parcel owner          |   |
| III                          | 3                            | 7                         |                 | Parcel owner          |   |
| IV                           | 4                            | 18                        |                 | Parcel owner          |   |
| <u>Lots</u>                  |                              |                           |                 |                       |   |
| Developed                    | 1                            | 1                         | 2003            | Lot owner             |   |
| Vacant                       | 2                            | 1                         | 2003            | Lot owner             |   |
| POA                          | 3                            | 7                         | 2003            | POA                   |   |
| <u>Other</u>                 |                              |                           |                 |                       |   |
| Roadside List                | 3                            | 12                        |                 | POA                   | Some Each Year<br>Coop with Park<br>High Hazard & Risk<br>Better options  |
| Trails in ALT                | 4                            |                           |                 | POA                   |   |
| Black Oak CG                 | 1                            | 3                         | 2003            | POA                   |   |
| Recycle Area                 | 2                            | 4                         | 2003            | POA                   |   |

- Priority for Other Actions
1. Formation of ALT Fire Safe Council.
  2. Preparation Wildfire Ignition Prevention Plan
  3. Relocation of Recycle Area and/or establishment of alternatives for disposal of woody material.
  4. Trail Fuel Treatment Plan

## Appendix E

### BEHAVE RUNS

The BEHAVE fire behavior predication and fuel modeling system is a set of interactive computer programs that can be adapted to a variety of specific wildland fire needs. BEHAVE can predict: rate of spread, flame length, intensity, area perimeter, attack forces requirements, and spotting distances. The consultants use this program as a “check” on their experienced judgment in assessing the fire environment based on their years of experience.

#### Run 1

Run 1 is in the American Canyon in the Timber with Litter and Understory fuel model. The run starts in the drainage and is projected up canyon and up slope to a side ridge with a northeasterly facing slope where the Roses Bar fuel break is recommended. See map in Appendix for location. Fires in this fuel type burn in the surface and ground fuels. Crowning out, spotting and torching of individual trees is frequent, leading to difficult control but is basically a wind driven surface fire.

#### **Fuel Model 10** Fire Behavior Inputs

|                        |      |
|------------------------|------|
| 1 Hour Fuel Moisture   | 4.0% |
| 10 Hour Fuel Moisture  | 6.0% |
| 100 Hour Fuel Moisture | 8.0% |

#### Rate of Spread and Flame Lengths on 45% Slope

| Wind Speed<br>Mile/Hr | Rate of Spread<br>Feet Per Minute | Flame Length<br>Feet |
|-----------------------|-----------------------------------|----------------------|
| 2                     | 5                                 | 4                    |
| 4                     | 8                                 | 5                    |
| 6                     | 13                                | 6                    |
| 8                     | 19                                | 7                    |
| 10                    | 26                                | 9                    |

Spotting distance from the ridge top with a 6 mile per hour wind is predicted to be about 1600 feet.

#### Run 2

Run 2 is in the Middle Fork of the American River Canyon in the Timber, Hardwood fuel Model. The Run starts at the river and runs up canyon and up a 35 % north-facing slope to a ridge with the planned Stoney Road fuel break. See map in Appendix for location. Fires run in the surface litter and have relatively long flame lengths. Concentrations of dead-down woody material will contribute to possible torching of trees, spotting and crowning, but basically is a wind driven surface fire.

Appendix E continued

Fuel Model 9  
Fire Behavior Inputs

|                        |    |
|------------------------|----|
| 1 Hour Fuel Moisture   | 4% |
| 10 Hour fuel Moisture  | 6% |
| 100 Hour Fuel Moisture | 8% |

Rate of Spread and Flame Lengths on 35% Slope

| Wind Speed<br><u>Miles/Hr</u> | Rate of Spread<br><u>Feet /Minute</u> | Flame Length<br><u>Feet</u> |
|-------------------------------|---------------------------------------|-----------------------------|
| 2                             | 3                                     | 2                           |
| 4                             | 8                                     | 3                           |
| 6                             | 14                                    | 4                           |
| 8                             | 24                                    | 5                           |
| 10                            | 35                                    | 6                           |

Spotting distance from the ridge top is predicted to be 528 feet with a 4 mile per hour wind.

Run 3

Run 3 is off Highway 193 in a drainage just east of Logus Point Road on a south-facing slope in the Grass Fuel Model. The run starts at the highway and runs north up a **6%** slope with a 1-hour fuel moisture of 6% to Logus Point Road. See map in Appendix for location. Fires spread is governed by the fine, very porous and continuous herbaceous fuels that have cured. These are surface fires that move rapidly through the cured grass.

Rate of Spread and Flame length on 6% Slope

| Wind Speed<br><u>Miles/Hr</u> | Rate of Spread<br><u>Feet/Minute</u> | Flame Length<br><u>Feet</u> |
|-------------------------------|--------------------------------------|-----------------------------|
| 2                             | 20                                   | 2                           |
| 4                             | 67                                   | 4                           |
| 6                             | 150                                  | 5                           |
| 8                             | 266                                  | 7                           |

Spotting distance with 4 mile per hour wind is 500 feet.

Appendix F  
**Glossary of Wildland Fire Management Terms Used In the Auburn Lake Trails Community  
Wildfire Protection Plan**

**Burning Index:** A relative number related to the contribution that fire behavior makes to the amount of effort needed to contain a fire in a specific fuel type.

**Cause of Fires:** for statistical purposes fires are grouped into broad fire cause classes: lightning, campfire, smoking, debris burning, incendiary, equipment use, railroad, children, and miscellaneous.

**Closed Area:** Area in which specified activities such as entry are temporally prohibited because of acute fire hazard.

**Dead Fuels:** Fuels with no living tissue in which moisture content governed almost entirely by atmospheric moisture and solar radiation.

**DBH:** Diameter Breast High. Diameter of a tree at four and one half feet above the ground

**Defensible Space:** The area within the perimeter of a parcel or community where basic wildland fire protection practices and measures are implemented, providing the key point of defense from an approaching wildfire. The area is characterized by the establishment and maintenance of emergency vehicle access, water reserves, street names and fuel modification measures.

**Fine Fuels:** Fast drying dead fuels, generally characterized by a high surface area-to-volume ratio, which are less than 1/4 inch in diameter and have a timelag of one hour or less.

**Fire Behavior:** Manner in which fire reacts to fuel, weather and topography.

**Fire Hazard:** A fuel complex, defined by volume, type condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control.

**Fire Risk:** The chance of a fire starting as affected by the nature and incidence of causative agents.

**Flame Length:** The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface).

**Fuel:** Combustible material.

**Fuel Modification Area:** An area where the volume of flammable vegetation has been reduced, providing reduced fire intensity and duration.

**Fuel Reduction:** Any manipulation or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control.

**Shaded Fuelbreak:** Generally wide (60-1000 feet) stripe of land on which native vegetation has been permanently modified so that fires burning into them can be more readily controlled. Visual Appendix F

(continued)

is impact less, ground cover is more easily maintained, and microclimate more favorable.

**Staging Area:** Temporary on incident location where resources are assigned on a short availability basis.

**Heavy Fuels:** Fuels of large diameter (usually 3 inches or more; e.g. snags, logs, large branchwood,) that ignite and burn more slowly than fine fuels.

**Herbaceous Fuels:** Grasses, forbs, and other plants that contain little woody tissue.

**Ladder Fuels:** Fuels that provide vertical continuity between strata, there by allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease.

**Litter:** Top layer of the forest, or grassland floor, directly above the fermentation layer, composed of loose debris of dead sticks, branches, twigs, and recent fallen leaves or needles, little altered in structure by decomposition.

**Preattack:** Planned systematic procedure for collecting, recording, and evaluating prefire and fire management intelligence data for a specific planning unit or preattack block.

**Red Flag Watch/Warning/Cancellation:** Term used by fire weather forecasters to alert forecaster users to special and/or adverse weather conditions that present a high probability of extreme fire behavior. The Red Flag Watch is the first stage: it notifies the using agencies, usually 24 - 72 hours ahead of the event, that current and developing meteorological conditions may evolve into dangerous fire weather. If the adverse weather pattern continuous to develop and adverse conditions are expected within 24 hours, the second stage, Red Flag Warning, is given. The Watch/Warning is carried until specifically cancelled.

**Urban/Wildland Interface:** Line, area, or zone where structures and other human development meet or intermingle with undeveloped wildlands or vegetative fuels.

**Wildfire:** Any fire occurring on wildland that is not meeting management objectives and thus requires a suppression response.



Appendix G  
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## Appendix H About The Authors

### Eugene (Gene) Murphy

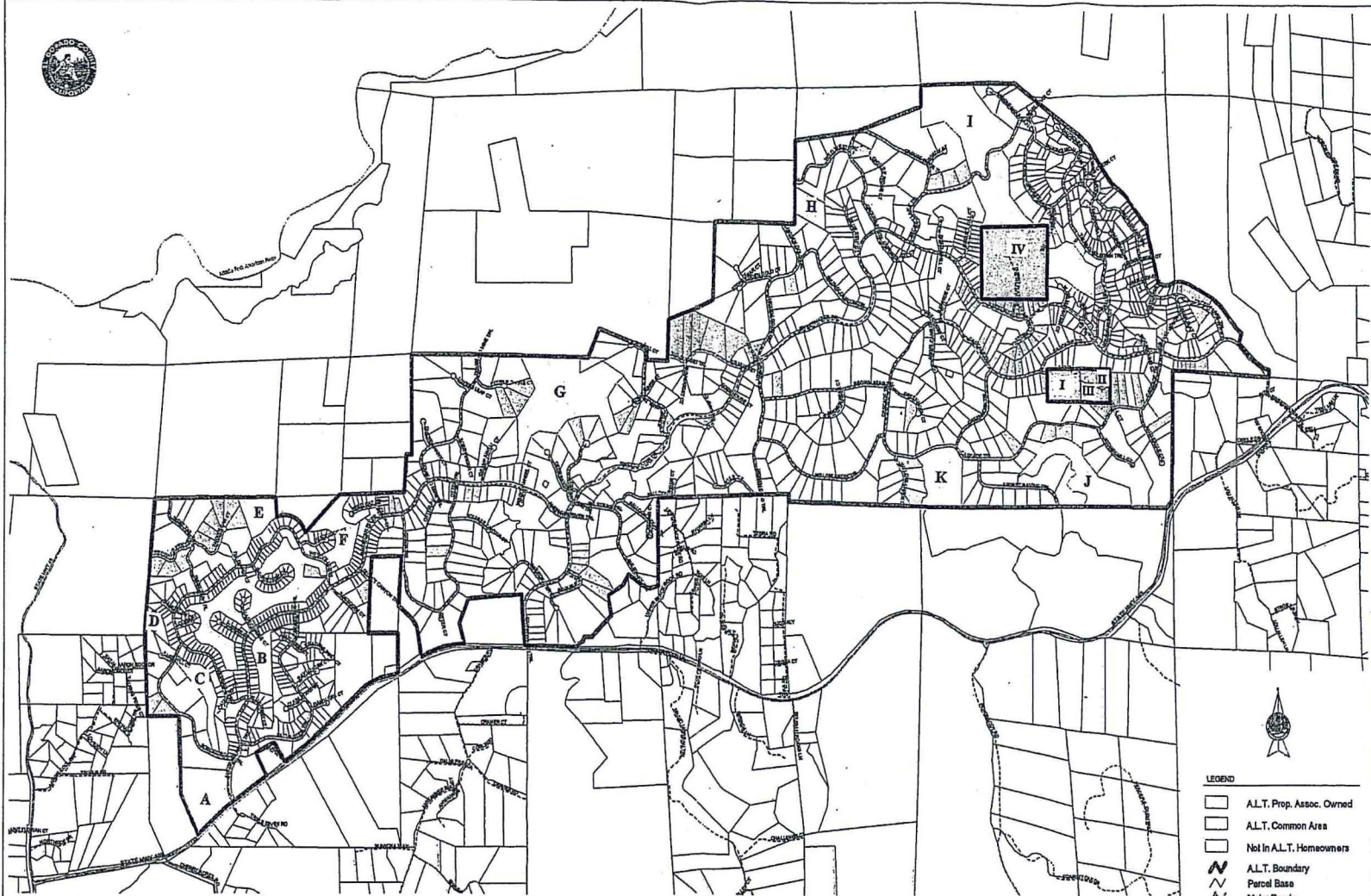
Gene is a graduate of the University of Minnesota with a Bachelor of Science degree in Forest Management. He is a Registered Professional Forester in California, has 10 years experience as a Consulting Forester that followed a 30-year career with the US Forest Service. He served on the Plumas (Assistant District Ranger), Stanislaus, (District Ranger) San Bernardino (Fire Staff Officer), El Dorado (Deputy Forest Supervisor) and Inyo (Forest Supervisor) National Forests. Fire management was an intraciall part of his Forest Service career and was a qualified Incident Commander for 10 years on a Regional Command Team.

His 45 years of professional services covers a broad range of wildland resource management including preparation of approximately 100 Community Wildfire Protection Plans for proposed and existing communities.

### Douglas (Doug) Leisz

Doug is a Registered Professional Forester in California, has 20 years of Sierra Nevada forestry and fire safe consulting work following a 32-year career with the US Forest Service. His career with the Forest Service included line (he served 5 years as the Forest Supervisor of the El Dorado National Forest) and staff positions at every level ending as Associate Chief. With a BS in Forestry from UC Berkley he brings 52 years of professional experience in forest protection and management with a depth of experience in the Sierra Nevada.

His Consulting Forestry work covers a broad range of wildland management. He was science team member for the Sierra Nevada Ecosystem Project. For 2 years he served as a consultant for the California Oregon Transmission Project. Doug's consulting for 10 biomass power plants included work in California and Maine. He also has been involved in the preparation of 100 Community Wildfire Protection Plan.



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**AUBURN LAKE TRAILS**  
 Cool Area,  
 County of El Dorado, State of California

**LEGEND**

- A.L.T. Prop. Assoc. Owned
- A.L.T. Common Area
- Not In A.L.T. Homeowners
- A.L.T. Boundary
- Parcel Base
- Major Roads
- Minor Roads
- Rivers & Creeks

Contours : USGS

0.25 0 0.25 Miles

Map Published by the State of California, Department of Public Resources

