

# Angelus Oaks Community Wildfire Protection Plan

## Certification and Agreement

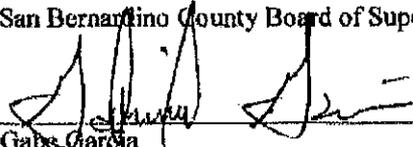
The Community Wildfire Protection Plan developed for/ by Angelus Oaks:

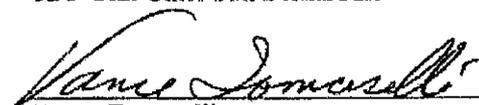
Was collaboratively developed. Interested parties and federal land management agencies managing land in the vicinity of Angelus Oaks have been consulted.

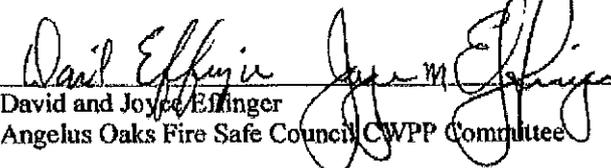
This plan identifies areas for hazardous fuel reduction treatments that will protect Angelus Oaks and surrounding areas.

This plan also recommends measures to reduce the ignitability of structures throughout the area addressed by the plan.

The following entities attest that the standards listed above have been met and mutually agree with the contents of this Community Wildfire Protection plan.

\_\_\_\_\_  
Date  
San Bernardino County Board of Supervisors  
  
Gabe Garcia  
9/16/2005  
Date  
Front Country District Ranger - USDA Forest Service, San Bernardino National Forest

\_\_\_\_\_  
Date  
CDF Unit Chief San Bernardino  
  
Vance Tomaselli  
9/20/2005  
Date  
Fire Captain - San Bernardino County Fire Department

  
David and Joyce Eslinger  
9/16/2005  
Date  
Angelus Oaks Fire Safe Council CWPP Committee

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## ACKNOWLEDGEMENTS AND CREDITS

The compilers of this CWPP, David and Joyce Effinger (AOFSC) would like to acknowledge and thank the following individuals and organizations for their contributions to this document. Without their advice, assistance, vast knowledge, and extensive data, this document could not have been written.

Angelus Oaks Fire Safe Council

Angelus Oaks and Mountain Community Residents

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Ron and Judy Ritter – Gilmore Real Estate, Angelus Oaks CA

David Simons – Tree Removal Specialist, Southern California Edison Power Company

T.E.A.M. – USDAFS

Vance Tomaseili – Fire Captain, Station 15, San Bernardino County Fire, Angelus Oaks

Lenore Will – Patrol 17, Fire Prevention, Mountaintop Ranger District

**Angelus Oaks  
Community Wildfire Protection Plan  
Wildland / Urban Interface**



## RISKS AND CONCERNS

The high risk of fire makes Angelus Oaks and surrounding area one of the hottest spots in the nation. It is considered a TINDERBOX waiting to IGNITE. There is a lack of adequate funds to deal with the risks and concerns listed below.

### RISKS

- Fifty to One Hundred years of uncontrolled tree and shrub growth
- A profusion of dense undergrowth.
- A Topography conducive to rapid fire growth.
- Prolonged drought conditions aggravate the fire situation
- High large tree mortality caused by Pine Bark Beetle infestation
- Scrub Oak and Manzanita mortality caused by drought.
- Santa Ana Winds that not only spread the main body of the fire but also send out fire brands long distances
- A good year of rain that creates an abundance of grasses and shrubs causing easy ignition points and creating potential ladder fuels in forestlands as they are now.
- Thick, dense vegetation along State Highway 38. This highway is the primary and only escape route for persons in the Wildland Urban Interface (WUI) area.
- We do not have a healthy forest.



### CONCERNS

There could be as many as 10,000 people in our WUI Zone at any given time.

- Living in an area devastated by wildfire
- Impact on residents
- Casual Visitors
- Impact on the Flora and Fauna
- Impact on Domestic Animals.
- Destruction of the water shed.
- Lighting strikes.
- Earthquake
- Large areas through out the WUI do not follow the guidelines of the Healthy Forest Initiative or are maintained to prevent wildfire.
- Areas around homes, lots, and other structures not maintained for defensible space or follow the Healthy Forest Initiative.
- Large acre properties are not maintained for defensible space or Healthy Forest Initiative. This is an immediate threat to the community.

- Lack of Fire Code enforcement
- Fireworks.
- Emergency flares
- Down power lines
- Power line easements not cleared through out the WUI
- Careless smokers
- Careless campers (wood fires and BBQ's)
- Car fires
- Automobile with hot catalytic converters parked in dry grass
- Careless power tool usage
- Structure fires
- Fireplace flues not properly maintained
- Improper spark arrestors on chimney flue
- Non-enforcement of vehicle parking regulations on county roads as they impede emergency vehicles.
- Require camps to have transportation on hand for campers and staff.
- Keeping alternate evacuation routes maintained.

### **WILDFIRE IMPACTS**

- Loss of human life
- Living in an area devastated by wildfire
- Loss of Residential areas
- Economic impact
- Loss of Organized Camps and their programs
- Loss of Flora and Fauna
- Loss of Private Camps
- Loss of Archeological sites
- Loss of Private Campgrounds
- Natural beauty destroyed
- Loss of Forest Service Campgrounds
- Contamination of streams, lakes, and waterways
- Flooding due to erosion
- Impact on Hunters and Fishermen
- Impact on Hikers and Backpackers
- Impact on Mountain Bikers and Off Road Dirt Bikers
- Impact on Domestic animals

## ECONOMIC IMPACT OF FIRE IN ANGELUS OAKS WUI ZONE

The follow lists the entities that would be effected by a wildfire in the Angelus Oaks Wild-land Urban Interface zone, (WUI).

### COMMERICAL PROPERTY

Angelus Oaks Country Store  
Oaks Restaurant  
U.S. Post Office, Angelus Oaks  
Gilmore Real Estate office  
Whispering Pines Cabins  
The Lodge at Angelus Oaks  
Restaurant, store, and campground at Seven Oaks  
miscellaneous home based business

### UTILITIES

Glen Martin Mutual Water Company  
Office, Storage tanks, Well Sites  
Camp Angelus Tract Land Association Water Company  
Southern California Edison transmission and service lines  
Verizon signal tower and relay station  
Cal Trans Maintenance Yard  
San Bernardino County Fire Station 15  
Seven Oaks Dam and associated power stations

### PUBLIC FACILITIES

Heart Bar Youth Camp  
Camp Angelus USFS Ranger Station  
Barton Flats Operational Maintenance Facilities  
USFS Organization Camps  
USFS Public Camp sites  
Private Organized Camps  
Jenks Lake Recreation area  
Wilderness areas

### RESIDENTIAL

Angelus Oaks: 350 homes	\$92,400,000.
Weeshaw: 13 homes	\$4,293,000.
Special Use Recreational Cabins: 225 cabins	\$12,375,000.
Seven Oaks residents 60 homes	

## FIRE FIGHTING ASSETS

### STATIONS

San Bernardino County Fire Station 15  
Camp Angelus US Forest Service  
Converse

### Water sources:

Glen Martin Mutual Water Co., Angelus Oaks  
Water storage: 225,000 gallon storage tank  
25,000 gallon storage / transfer tank  
95,000 gallon storage tank (completion 2006)  
Emergency Power Generator to power well pumps and booster:  
200 Kilowatts  
480 and 208 VAC

### Hydrants:

Angelus Oaks Streets  
UCFS: amphitheater, Hwy 38  
Camp Angelus Ranger Station  
Barton Flats visitor center  
Camp Heart Bar Detention Site  
numerous Camp stand pipes

### Other Water Sources:

Jenks Lake  
Camp Tahquitz Pond and stand pipes  
Santa Ana River  
Camp Cedar Falls swimming pool, stand pipes, and Dry Barrel Hydrants  
Camp Arbolado swimming pool and Dry Barrel Hydrants  
Camp Mile High Pines swimming pool  
Camp Laurel Pines swimming pool  
Grace Valley water tank  
Round Meadow swimming pool and ¾ in. stand pipes  
DeBennville Pines swimming pool and 1 1/2 in. stand pipes  
Camp Ta Ta Pochon swimming pool  
Camp Edwards swimming pool and stand pipes  
Mt. Chai swimming pool and stand pipes  
Camp Conrad swimming pool and 1 1/2 in. stand pipes  
Camp Nawakwa swimming pool  
Camp Wasewagan swimming pool  
Camp Metoche swimming pool  
University Camp swimming pool

### Other Resources:

CDF Mutual Aid  
Station 15, Angelus Oaks, is in Zone 3 for Strike Team Rotation

### Concerns: Fire Station 15 needs:

Additional bays for equipment  
Additional space for sleeping and living quarters  
Kitchen and shower facilities

## FIRE PREVENTION ASSETS

### Hwy 38 Corridor Staging Areas

Maximum Number of Engines Per Area Identified

#### Within The Hwy 38 Corridor

BDC - 1	(30 Engines)	Mill Creek Cross
BDC - 2	(20 Engines)	Forest Home Parking Lot
BDC - 3	(15 Engines)	Alger Creek Trail
BDC - 4	(20 Engines)	Big Falls Trail Head
BDC - 5	(10 Engines)	The Oaks Restaurant
BDC - 6	(15 Engines)	The Angelus Oaks Cal Trans Yard
BDC - 7	(15 Engines)	Middle Control Road Turnout
BDC - 8	(10 Engines)	Barrow Pit Turnout
BDC - 9	(10 Engines)	Jenks Lake Turnout
BDC - 10	(20 Engines)	Jenks Lake Picnic Area
BDC - 11	(15 Engines)	Barton Flats Visitor Center
BDC - 12	(8 Engines)	Paved Parking Area
BDC - 13	(12 Engines)	USFS Converse Fire Station
BDC - 14	(15 Engines)	Intersection of 1N04 and HWY 38
BDC - 15	(10 Engines)	Gnyx Summit

### Hwy 38 Corridor Potential Fire Safety Refuge Areas

Maximum number of engines per area identified

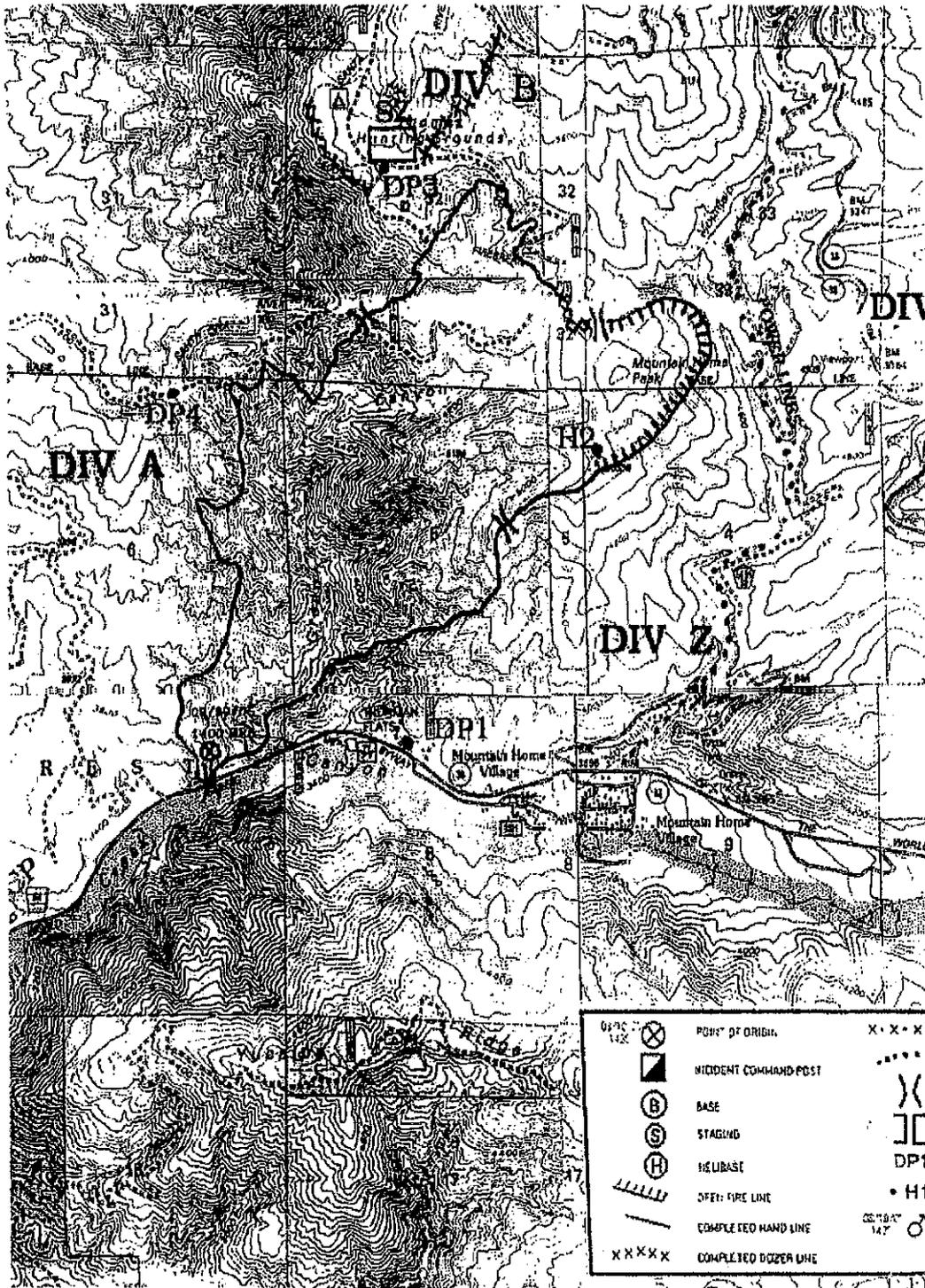
BDC - 1	(30 Engines)	Mill Creek Crossing
BDC - 2	(20 Engines)	Forest Home Parking Lot
BDC - 3	(15 Engines)	Momyer - Alger Creek Trail
BDC - 4	(20 Engines)	Big Falls Trail Head
BDC - 5	(10 Engines)	The Oaks Restaurant
BDC - 6	(15 Engines)	Angelus Oaks Cal Trans Yard
BDC - 7	(15 Engines)	Middle Control Road Turnout
BDC - 8	(10 Engines)	Barrow Pit Turnout
BDC - 13	(12 Engines)	USFS Converse Fire Station

## Hwy 38 Corridor Helispots Locations

- BDC Helispot - 1    North West of Angelus Oaks  
Packed Graded Dirt  
Elevation    6016'  
34d 09' 02.1"N    116d 58' 59.0"W
- BDC Helispot - 2    Middle Control Road Turnout / Site # 7  
Paved Turnout  
Elevation    5888'  
34d 09' 04.9"N    116d 58' 27.07"W
- BDC Helispot - 3    West of USFS Fire Station off of Bradford Camp Rd.  
Packed Graded Dirt  
Elevation    5760'  
34d 11' 43.6"N    116d 55' 01.9"W

## ANGELUS OAKS WUI FIRE HISTORY

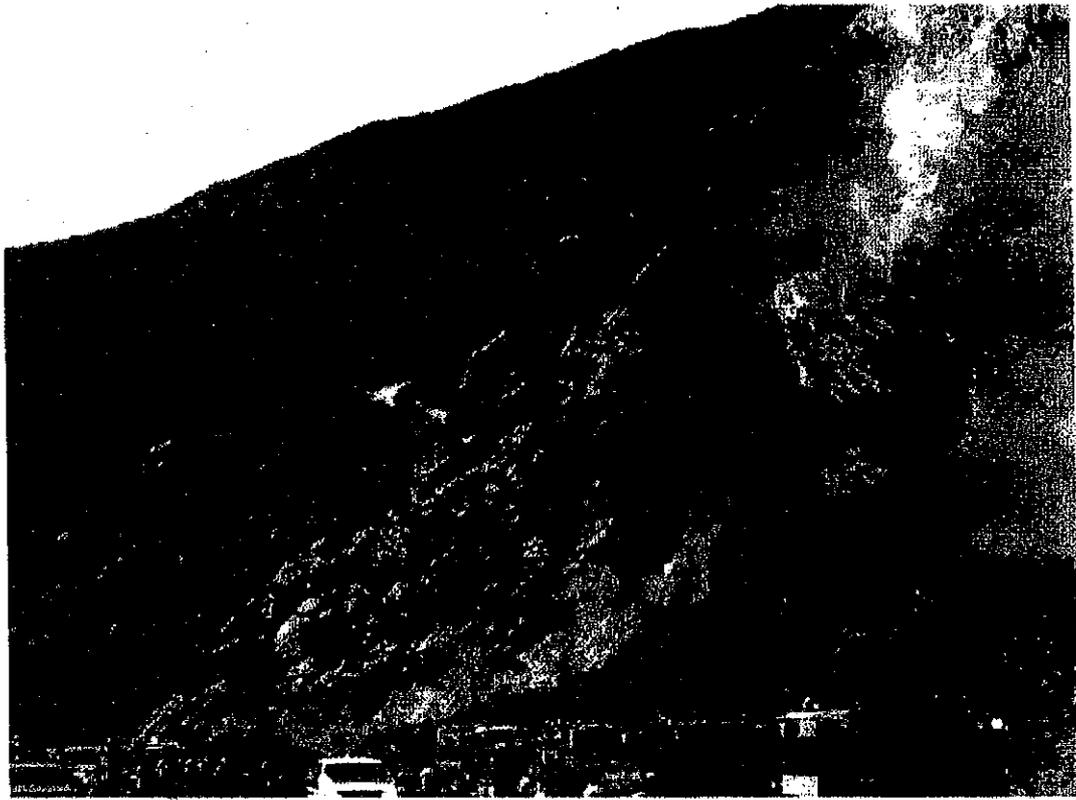
<u>YEAR</u>	<u>ACRES</u>	<u>YEAR</u>	<u>ACRES</u>
1906	2352.51	1951	177.70
1907	422.16	1952 SO.FORK	5177.95
1907	15.73	1957	198.91
1907	10.94	1957	154.81
1909	34.24	1958 MONKEY	512.62
1911	11.85	1958	95.41
1911	9.71	1959 HAVEN	753.39
1911	11.29	1959 MORTON	673.95
1912	275.75	1961	33.56
1912	68.01	1963	1220.83
1912	39.28	1964 BURRO	214.5
1914	145.49	1985	57.07
1914	74.34	1988	68.38
1915	161.98	1970 BEAR	51654.89
1915	52.57	1977 MITCHELL CANYON	6041.85
1915	74.53	1979	2536.37
1917	304.48	1980	107.13
1917	30.11	1981	121.44
1917	101.66	1986	411.3
1919	158.03	1987	292.78
1920	50.51	1987	17.58
1921	1062.07	1987	177.25
1923	568.35	1988	322.33
1924	156.42	1988	317.52
1925	407.05	1988	257.74
1926	201.8	1988	177.25
1928	6113.81	1989	42.91
1928	665.55	1989	261.43
1929	4956.41	1991	269.14
1930	225.67	1993	5582.19
1945	5032.63	1993	72.78
1947	417.62	1995	45.12
1950	684.02	1998	318.83
1950	308.05	2003 OLD FIRE	91428.05
1950 GOCKE	468.35	2004 MILL.CREEK	173.39
1950 JACKSON	719.5		





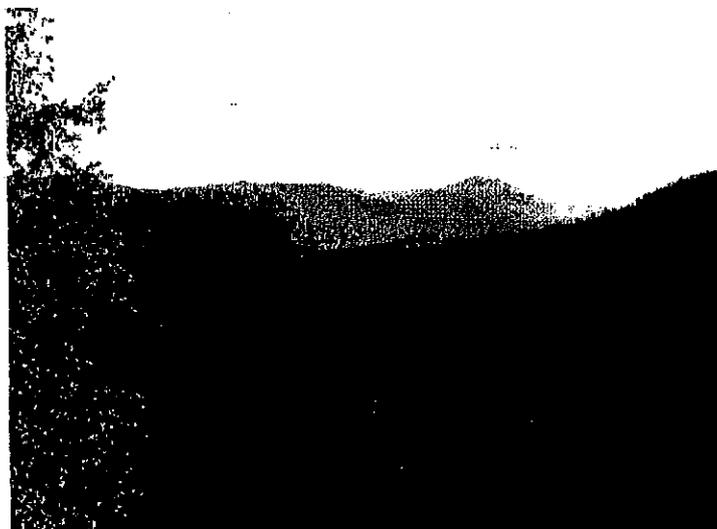








## Biological Resources



Because the Wild land/Urban Interface (WUI) in the Angelus Oaks Community Wildfire Protection Plan (CWPP) is so large, it encompasses many habitat types and provides suitable habitat for several special status species of plants and animals.

The western most portions, in the vicinity of the Seven Oaks Dam and Mill Creek contain alluvial scrub within the channels and adjacent banks. These areas may provide suitable habitat for the San Bernardino kangaroo rat (*Dipodomys merriamiparvus*), the slender-horned spine flower (*Dodecahema leptoceras*), and the Santa Ma woolly star (*Eriastrum densifolium* ssp. *sanctorum*). As the WUI continues east, the channels of Mill Creek and the Santa River contain riparian communities of southern sycamore/alder woodlands. Areas within these reaches of the Santa Ma River and Mill Creek that contain large thickets of willows may provide suitable habitat for both the southwestern willow flycatcher (*Empidonax traillii extimus*) and least Bell's vireo (*Vireo bellii pusillus*). These sections also contain areas where the water pools, shade and many sand bars. Habitat like this is not only still suitable for the spine flower and the woolly star, but also provide very good habitat for the arroyo southwestern toad (*Bufo californicus*).

The surrounding slopes within this section are covered primarily with thick chaparral. The chaparral community at the lower elevations contains a mix of several ceanothus species (*Ceanothus* sp.), chaparral yucca (*Yucca whipplei*), and mountain mahogany (*Cercocarpus betuloides*). It grades into chamise (*Adenostomafasciculatum*), and big berry manzanita (*Arctostaphylos glauca*). The chaparral community extends to approximately 5000ft, where gradually the community changes to a mixed forest of Coulter pine (*Pinus coulteri*), Ponderosa pine (*Pinusponderosa*), Sugar pine (*Pinus lambertiana*), black oak (*Quercus kelloggii*), and canyon live oak (*Quercus crysolepis*).

The steep ravines within the WUI contain a mixed community of big cone Douglas fir (*Pseudotsuga macrocarpa*) with an understory of canyon live oak and Coulter pine, and in the higher elevations black oak. Within these ravines, and in the higher elevations, as the forest grows thicker, the habitat becomes suitable for the southern spotted owl (*Strix occidentalis occidentalis*). There is a known occurrence of the owl in the vicinity of Angelus Oaks.

The wooded areas within the central and eastern portions of the WUI all contain suitable habitat for the southern rubber boa (*Charina bottae umbratica*). This species occurs in pine/oak forests with moderate to thick duff layers and downed logs. Many of the larger tributaries to the Santa Ana river, and the river itself contain areas that provide suitable habitat for the mountain yellow-legged frog (*Rana muscosa*). Those areas within the upper reaches of the Santa Ma River, and its tributaries that contain willow thickets may also provide suitable habitat for the southwestern willow flycatcher, but not the least Bell's vireo, due to the elevation.

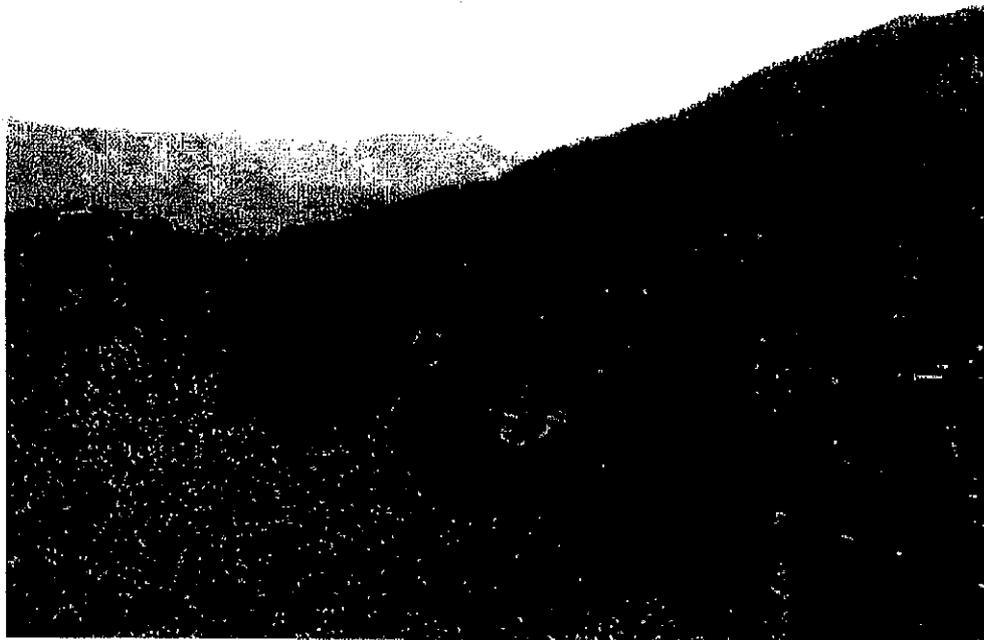
The eastern portion of the WUI contains suitable habitat for the Los Angeles sunflower (*Helianthus mutallii ssp. parishii*) and California dandelion (*Taraxacum californicum*) there are several known occurrences of these species in the Seven Oaks area. There is also a recorded occurrence of Plummer's mariposa lily (*Calochortus plummerae*) along the Santa Ana River, just below Seven Oaks. The majority of the eastern portion contains suitable habitat for Barton Flats horkelia (*Horkelia wilderae*), and there are many recorded populations throughout the eastern WUI.

Because the WUI extends up the slopes along the northern side of the Santa Ma River Valley, it may well include areas of pebble plains habitat along the side of Sugar Loaf Mountain, the area is known to have a complex of this habitat. The pebble plains habitat is a rare habitat that exists only in the Big Bear and Holcomb Valley areas. The community was formed as a result of glaciers on Mt. San Geronio and a large lake (now the only remnant left is Baldwin Lake). The lake left large clay deposits, which host a variety of small plants, up to a dozen per square foot. Most of these plants are endemic to the area and are listed as threatened or endangered.

Some of the large mammals that occur within the WUI area include: mule deer (*Odocoileus hemionus*), mountain lion (*Panthera concolor*), and the black bear (*Ursus americanus*). Birds of prey known to occur include the red-tail hawk (*Buteo jamaicensis*), and Cooper's hawk (*Accipiter cooperii*).

The WUI for the Angelus Oaks CWPP contains a large area with numerous habitats and both potential for and known occurrences of sensitive and listed species. It has been noted that creating openings within a forest does increase diversity of species. However, care should be taken during any clearing or thinning projects to minimize impact on these species and their habitat. Emphasis should also be given to erosion control, both during the project and having an erosion plan in place to minimize erosion as a result of the project. Erosion not only causes damage within the habitat it occurs in, but also causes increased turbidity and sedimentation within streams. This can affect amphibian and fish populations.

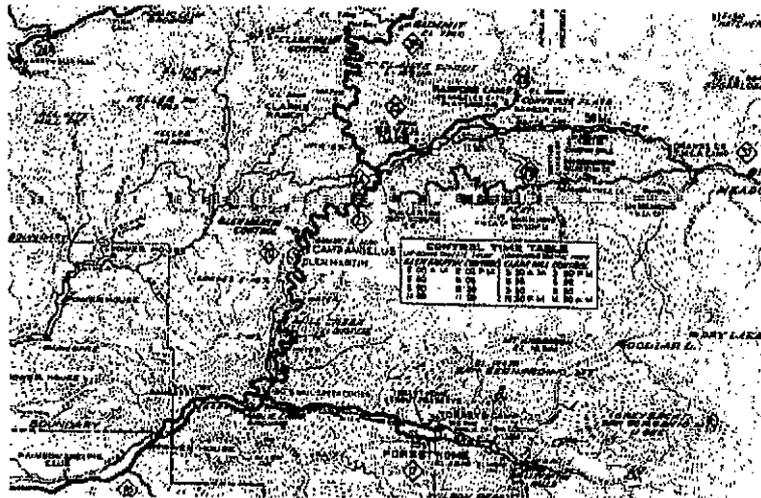
ANGELUS OAKS CWPP,  
WILD-LAND / URBAN INTERFACE (WUI)  
ZONE 1



View of Angelus Oaks looking west to east from IN12.

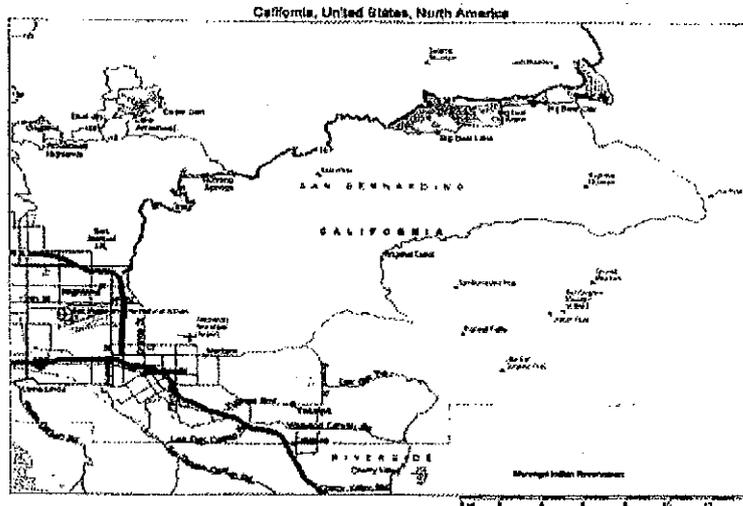


## HISTORY AND LOCATION OF ANGELUS OAKS

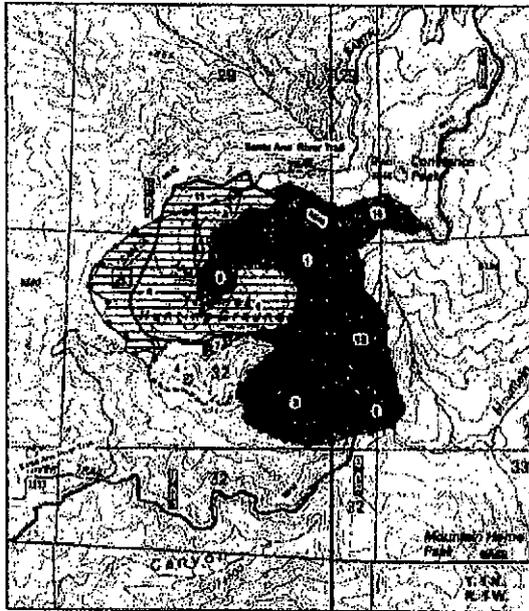


Angelus Oaks (Camp Angelus) area as shown on 1928 Auto Club Map

The community of Angelus Oaks is an island surrounded by the San Bernardino National Forest. The first visitors were Native Americans creating paths as they hunted and gathered. Then came miners and cowboys with horses and cattle creating an even wider trail. One of the cowboys, Charles Martin, established a homestead later naming it Glen Martin. The trail became a dirt road connecting Glen Martin with Big Bear and Barton Flats. Glen Martin became a control point for cars traveling the one way road, Clarks Grade. This control point consisted of a few accommodations and the Camp Angelus Ranger Station. At this point the community began to grow. In 1961 a newly established paved road, State Highway 38, was completed cutting through the middle of town and to this day remains the only way in and out of the mountain area. In 1962 Seven Oaks and Camp Angelus Post Offices were combined and our town had its name, Angelus Oaks, as it remains today. It now has grown to 350 homes, 2 lodges, and a commercial center with a Restaurant, Country Store, Post Office, and Real Estate Office. The Camp Angelus Cal-Trans Maintenance Station, County Fire Station 15, Camp Angelus U.S.F.S Ranger station, and Glen Martin Mutual Water Company is also located here. We are a picturesque mountain community that still provides accommodations for travelers visiting the San Bernardino Mountains.



The map shows the location of Angelus Oaks. (Microsoft Streets & Trips 2005)



### Thomas Hunting Grounds Proposed Action Details

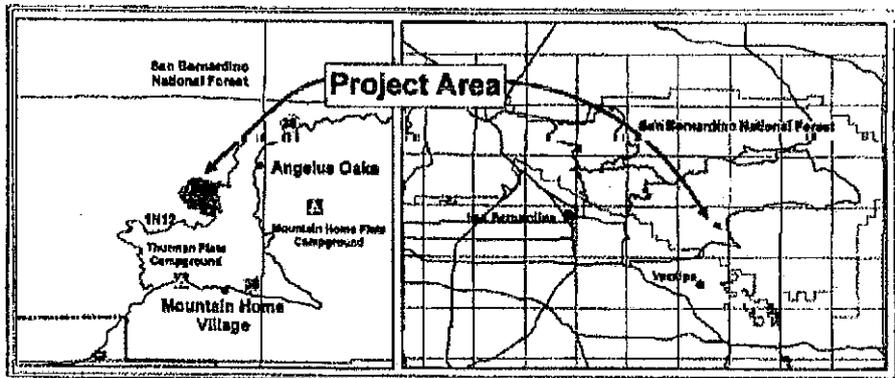
San Bernardino National Forest  
Front Country Ranger District

**Legend**

- 4 Meter Contour Interval - 4.74 Miles
- Proposed Treatment Objectives**
- ▨ Chopping of Vegetation - 14 Acres
- Prescribed Burning - 225 Acres
- ▨ Ring of Vegetation - 4 Acres
- ▨ Selection Cut, Prescribed and Thin, Prescribed Burning - 136 Acres
- Forest Service Road (R112)
- ② Unit Number



Scale 1:21,600



The USDA Forest Service uses the most current and complete data available. GIS data and products accuracy may vary. GIS products for purposes other than those for which they were intended may yield inaccurate or misleading results. The Forest Service reserves the right to correct, update, modify or replace GIS products without notification.



3-10-05

The Front Country Ranger District of the San Bernardino National Forest is proposing the Thomas Hunting Grounds Fuels Reduction and Forest Health Project to respond to hazardous fuels and forest health concerns near the Community of Angelus Oaks, California. This 381-acre project is located in portions of TOIN, ROIW, Sections 29, 32, 33 San Bernardino County, CA.

#### **OBJECTIVES, PURPOSE AND NEED OF THE PROJECT**

The Thomas Hunting Grounds Fuel Reduction Project was designed with the following objectives:

- **To Protect People.** To propose activities that will decrease the risk to life due to wildfire for the residents and visitors of the Angelus Oaks community.
- **To Protect Property.** To propose activities that will decrease the risk due to wildfire to homes and property within Angelus Oaks.
  - **To Decrease Fireline Intensity.** To propose activities that will decrease potential fireline intensity in order that reasonable suppression activities can be employed.
  - **To Reduce Risk of Resource Damage.** To propose fuel reduction activities that will reduce fire intensity in order to reduce watershed, visual and wildlife habitat damage associated with wildfire. To propose activities that will reduce the likelihood of fire carrying outside of the project area.

#### **Purpose of the Proposal**

##### **Existing Condition**

The San Bernardino National Forest and the project area have a dramatic wildfire history, including an extensive history of large fires. The most recent large fire in the analysis area was the Bear Fire of 1970, which consumed approximately 51,613 acres. In 2003, the Old Fire consumed approximately 91,200 acres and burned to within 5 miles of the project area and community of Angelus Oaks before it was contained. These fires have resulted in dense chaparral that are about 35 years old with little age class differentiation. Additionally, oak and conifer stands in the project area are heavily stocked. Years of drought and bark beetle attacks have killed shrubs, oak trees, and conifers.

Ninety nine percent of the project area has been classified as having wildland fuel conditions that currently are out of their historical range and key ecosystem components are at risk. Seventy two percent of the area is predicted to have high intensity fire behavior (flame lengths that exceed 11 feet) and the conifer stands are likely to support passive or active crown fires.

**Desired Future Condition**

As described in the San Bernardino National Forest Land And Resource Management Plan, the desired condition for chaparral stands in the Thomas Hunting Grounds area is to create an age class mosaic with up to 30 to 70 percent vegetation removal, primarily by the use of prescribed fire. The desired condition for forested stands is to manage for a diversity of age and size classes and species composition by controlling stocking levels to maintain adequate growth rates and the health and vigor of the forested stands.

Additionally, the Mill Creek Fireshed Assessment (Sept 2, 2005) defines a desired condition in the project area where, during a wildfire event, fire intensity would be low, with average flame lengths of four feet or less, and where fire suppression and evacuation would be effective, rapid, and safe.

**Need for the Action**

Comparison of the existing conditions and the desired future conditions drives needs for this proposed action. There is a need to create age class diversity in the chaparral stands in order to reduce expected wildland fire behavior and return fuel conditions in the project area toward their historic norm. Additionally, there is a need to improve stand health by reducing competition for site resources within the stands by reducing the basal area toward their historic norm.

The Thomas Hunting Grounds Fuels Reduction and Forest Health Project is consistent with the proposed wildland fuel treatment strategy developed under the Mill Creek Fireshed Analysis Process completed during the summer of 2005 by the San Bernardino National Forest, California Department of Forestry and Fire Protection, and the Fire Safe Councils of Angelus Oaks, Mountain Home Village, and Forest Falls.

**The Proposed Action**

The Thomas Hunting Grounds Fuels Reduction and Forest Health Project proposes to reduce wildland fire risk and improve forest health by removing dead and dying trees, thinning heavily stocked stands, reducing chaparral/shrubs, and reducing surface fuels. All treatments are consistent with the Conservation Strategy for the California Spotted Owl and have been designed to avoid or enhance habitat for the species where possible. Proposed activities would occur within the next 5 years. Maintenance activities may occur over the lifetime of the decision.

The Front Country Ranger District proposes the following actions:

Unit 1 (88 acres). Wildland Fuels Prescribed Burn. In this unit, chaparral and canyon live oak stands would be reduced by prescribe burning over 30 to 70 percent of the area and converted to a young, "early seral" stage. After burning, the area would be a mosaic of very young and old shrubs and oak.

Unit 2 (46 acres), 8 (30 acres). Wildland Fuels Prescribed Burn. In this unit, chaparral, canyon live oak, and black oak stands would be reduced by prescribe burning over 30 to 70 percent of the area and converted to a young, "early seral" stage. Firing techniques would be used to minimize mortality in the black oak stands. After burning, the area would be a mosaic of very young and old shrubs and oak.

Unit 3 (15 acres), 4 (77 acres), 6 (31 acres), 11(12 acres). Selection Cut, Pre-commercial Thin, Wildland Fuels Prescribe Burn. In these units, dead trees within 100 feet of roads, trails, campsites, and prescribe burn control lines would be cut and removed. Live trees would be thinned to reduce bark beetle risk. Species preference for thinning trees would be bigcone Douglas-fir, single-leaf pinyon pine, ponderosa or Jeffery pine, Coulter pine, incense cedar, and white fir in descending order of preference. As much as possible given the existing age-class composition and tree distribution, the thinning would keep trees of all age/size classes. Thinning would retain trees as small closely spaced groups (3 to 7 trees), with wide spacing (60 to 70 feet) between the groups. Scattered individuals would also be retained between the groups. Trees may be cut by machine and would be yarded with tops attached to landings using ground-based equipment.

Ground-based equipment would be restricted to slopes less than 35 percent and short pitches from 35 to 50 percent. Trees greater than 6 inches in diameter would be yarded to landings. Concentrations of cut trees less than 6 inches in diameter would be lopped and scattered to 18 inches in depth to facilitate prescribe burning. Material not removed from the project area as logs would be chipped at the landings and removed. Prescribe burning in these units would generally be lowintensity.

Unit 5 (16 acres). Chipping of Wildland Fuels. Wildland fuels consisting mostly of old or dead understory shrubs would be mechanically masticated. The material would be crushed, chopped, ground, or chewed up and left on the site.

Unit 7 (4 acres). Piling of Wild land Fuels. Wild land fuels consisting mostly of old or dead understory shrubs would be cut by hand, hand-piled and burned. Hand piles would be about 8 feet in diameter and 6 feet high and would be located away from residual trees to minimize crown and bole scorch.

Unit 9 (13 acres). Wildland Fuels Prescribed Burn. Vegetation in this unit is a mosaic of chaparral, canyon live oak, and pine patches. Wild land fuels in the unit will be reduced by prescribe burning. Vegetation would be reduced over 30 to 70 percent of the area and converted to a young, "early seral" stage. It is expected that the prescribe fire would be low to moderate intensity. After burning, the area would be a mosaic of very young and old shrubs and oak and pine patches.

Unit 10 (15 acres), Unit 12 (33 acres). Wildland Fuels Prescribed Burn. Vegetation in this unit is a mosaic of chaparral, canyon live oak, and bigcone Douglas fir. Chaparral and canyon live oak would be reduced over 30 to 70 percent of the area and converted to a young, "early seral" stage. After burning, the area would be a mosaic of very young and old shrubs and oak and pine patches. Prescribe burn methods would be applied to promote a low-intensity backing fire through the Douglas fir to minimize mortality.

A prescribed burn plan would be developed and approved prior to initiating any burning operation. A burn plan generally includes unit description, specific prescribed burn objectives, public notification procedures, coordination with other resource specialists, hazard analysis, contingency plans, firing procedures, risk assessment, mitigation measures, estimated fire behavior, acceptable weather variables, and prescribed burn organization. About five miles of fire control handlines would be constructed as needed to facilitate prescribe burning. Handlines would generally be cleared of all vegetation

from 6 to 20 feet in width with 2 to 10 feet cleared to mineral soil. Dead trees within 100 feet of prescribed burn control lines would be cut down prior to the burning.

#### Design Criteria and Resource Prescriptions

- **On the southwest side of units 3 and 4, use the Santa Ana Trail as the fire control line when advantageous to do so. Prune trees and shrubs to reduce the ladder fuels up to 20' of each side of the trail. Scatter slash into the burn unit. When using a portion of the Santa Ana Trail as the fire control line, do not expand the trail tread width beyond 2 feet.**

- Prescribed burning would be accomplished by using hand and aerial firing methods. Burn intensity would be controlled to minimize mortality in conifer stands and not exceed 10 percent. Burning would generally be done in the fall, winter and early spring.

All perennial and intermittent stream courses, wetlands, etc will be buffered with a 100-foot Stream Management Zone (SMZ). Fuel reduction treatments may occur in the SMZs with equipment exclusion. Ephemeral stream courses will be buffered with a 50 foot equipment exclusion zone.

- Vegetation canopy will not be reduced below 50% in non fish bearing SMZs.
- Construct landings outside SMZs. Decommission landings upon completion of project treatments.
- Consult with the forest hydrologist on effective erosion control measures to be constructed on skid trails, landings, and fire control lines to minimize soil erosion.
- Backfire prescribed burns into SMZs.
- Establish burn piles a minimum of 50 feet from all stream channels.

#### **Avoidance/Minimization Measures to minimize effects to wildlife.**

##### Fire Control Lines

- Before establishing fire control lines consult with district wildlife staff. Wildlife concerns include: 1) Disturbance and direct mortality of sensitive species/species of concern - coordinate with District Wildlife Staff as a monitor may be assigned to look for/remove sensitive species along fire control lines during implementation; 2) Rock outcrops — avoid mapped and unmapped rock outcrops to minimize effects on sensitive reptile habitat; 3) Riparian habitats — riparian vegetation (e.g., willow, alder, etc.) that occurs outside of riparian buffer zones would not be removed. Backing fires which do not reduce vegetation canopy below 50% may be allowed (except in suitable Willow Flycatcher habitat) pending biologist consultation (Forest Plan Standard and Guideline 42). See also Watershed Prescriptions.

##### Hardwood, Conifer, And Mixed Hardwood/Conifer Stands (Outside Of Fire Control Lines)

- **Brush Piles:** Where possible, brush piles should be left as habitat. If brush piles need to be removed, they should be removed/burned as soon as possible after piling in order to minimize colonization by wildlife. Prior to removing/burning

brush piles, disturb the piles of brush and pull them apart slightly to encourage animals to move out of the piles. When possible, light piles directionally to encourage wildlife to exit. When burning piles, do not burn wood rat nests, especially in spotted owl areas (Retain wood rat nests by raking fuels away from the perimeter).

- Logs: Where the potential exists, retain 8 — 12 large down logs / 5 acres of all age and decay classes (12" diameter at the smallest and at least 20 feet long), in all treatment areas (Forest Plan Standard and Guideline 72). Attempt retention of larger logs by raking fuels away from the perimeter.
- Snags: So long as snags do not present a risk to life or property - where the potential exists, retain snags (standing dead trees) that meet the following criteria: a minimum of 5-10 hard snags / 5 acres with minimum size of 15" DBH and 40' tall. Within a 5-acre area, the size class and species of snags that would be retained should be mixed, favoring larger diameter trees (over 30" DBH). Within a 5-acre area, 3 of the snags should be large diameter (at least 30" DBH), 2 of the snags should be 20"+ DBH (if present), and the other 5 can be between 15" and 20" DBH. Snags can be clumped or combined with wildlife use trees (such as acorn woodpecker acorn storage trees). (Forest Plan Standard and Guideline 62). Attempt retention of larger snags that may be present by raking fuels away from perimeter of base and removing smaller ladder fuels in the immediate vicinity.
- Where they are not a designated hazard, attempt to retain wildlife use trees such as acorn storage trees, denning trees, and trees with nest holes or nests. (Forest Plan Standard and Guideline 62).

Avoidance Periods

- o Standard avoidance periods for threatened, endangered, or sensitive (TES) species or modeled habitat that may occur in or near the project area (application dependent on consultation with local biologist; see below for additional information).

<u>Species</u>	<u>Restricted Period</u>
• California spotted owl	• February 1st through August 15th
• Migratory birds	• March 15th through August 15th

- Spotted Owl: Maintain a limited operating period (LOP) prohibiting activities within approximately 1/4 mile of California spotted owl nest site, or activity center where nest site is unknown, during the breeding season (February 1st through August 15th), unless surveys confirm that California spotted owls are not nesting (USDA Forest Service - Conservation Strategy for the California Spotted Owl (*Strix occidentalis occidentalis*) on the National Forests of Southern California. 2004). Follow the USDA Forest Service (1993, 1994) protocol to determine whether owls are nesting. When evaluating the need to implement a limited operating period, the following site- and project-specific factors need to be considered:

ANGELUS OAKS CWPP,  
ILD-LAND / URBAN INTERFACE (WUI)  
ZONE 2 EAST

