

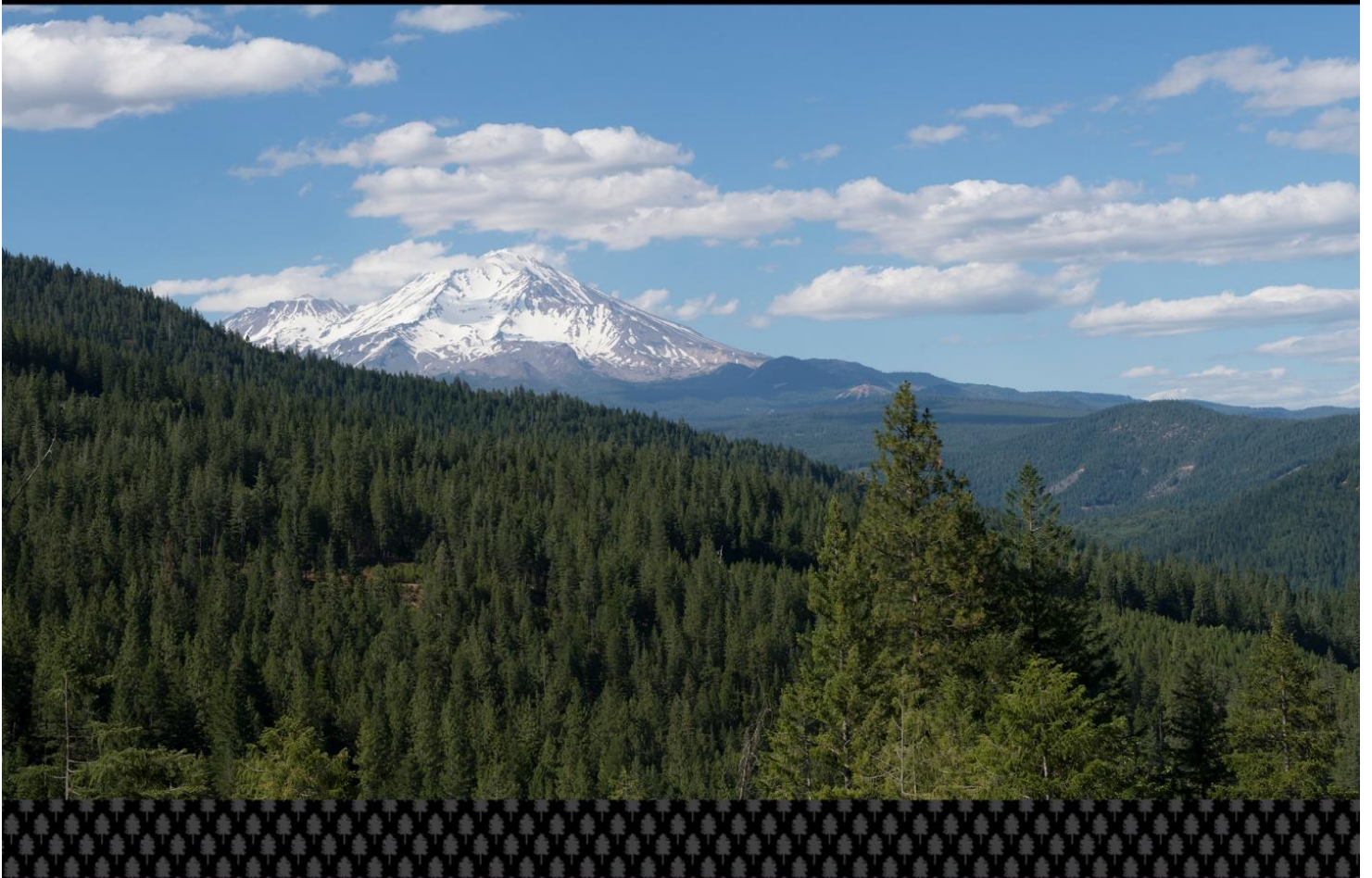
# 2022 ASSET PROTECTION PLAN

**CLIENT:**

**Shasta Cascade Timberlands**

**REPORT DATE:**

**March 31, 2022**



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# EXECUTIVE SUMMARY

This document is prepared and provided in compliance with the requirement of the Timberland Management Agreement between FWS Forestry and New Forests for an annual Asset Protection Plan on the SCT assets. This document provides guidance and recommendations for the 2022 fire season. The fire season in Northern California is historically considered to start May 1 and end on October 31. Fire season is also the peak of the harvest operations season as the roads and timberlands have favorable conditions for logging, which requires additional vigilance to ensure the timberlands are protected.

At FWS Forestry we have adopted and employ the best practices to mitigate fire risk on the managed property. Our full complement of woods-based harvesting crews are experienced and equipped to be the first responders to fire. As you will read in the pages to follow, our harvest crews follow strict shut-down protocols and daily post-harvest activity fire safety regimes to mitigate the risk of fire on the asset. In addition to our harvest crews, FWS Forestry foresters and other employees are each charged with constant vigilance, proper equipment, and authority to address any fire danger situation they encounter.

Forest management is primarily even-aged where most of the fuel from a management unit is removed entirely. Slash and other debris accumulation resulting from timber operations is typically removed via burning or chipping operations once harvesting is complete. Both management approaches result in a substantial reduction in horizontal and vertical fuel continuity.

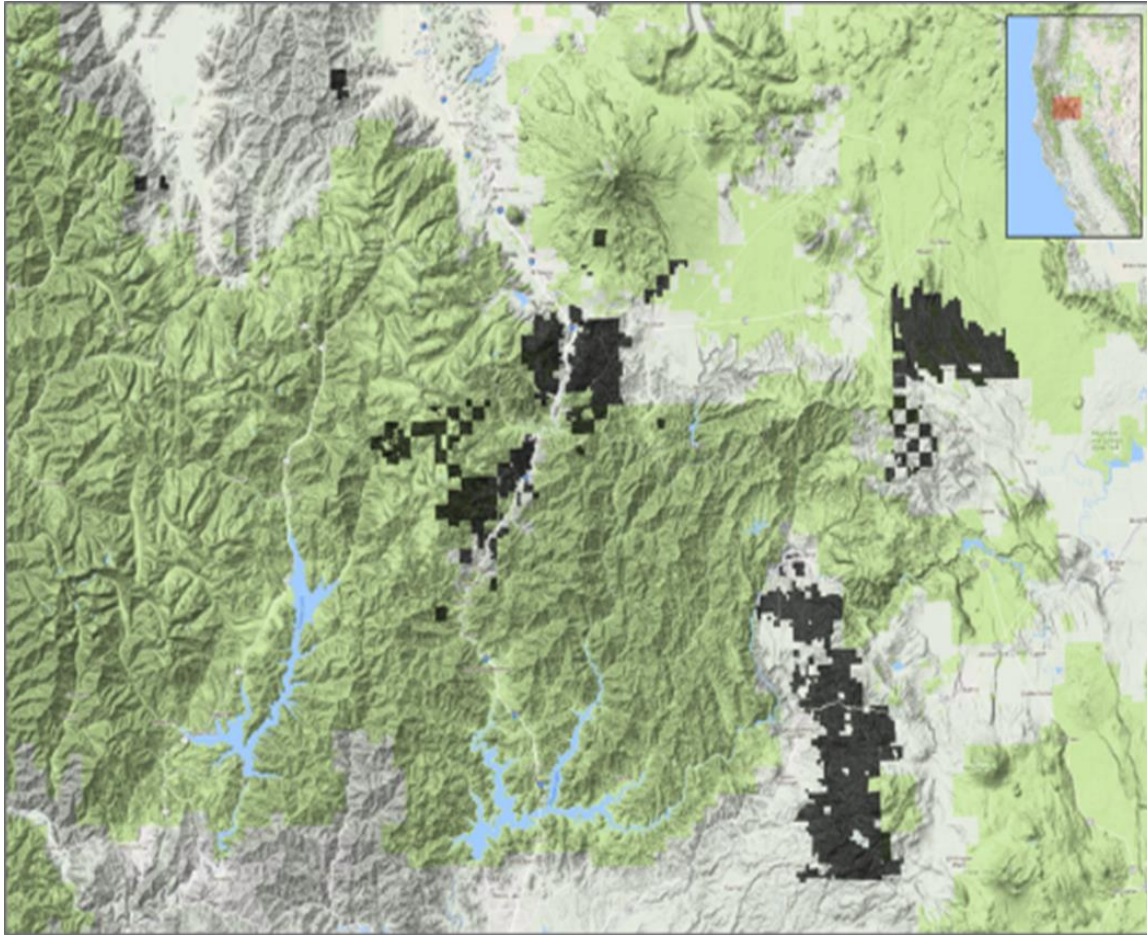
As fire loss has grown in the last two decades, there is opportunity to do more to mitigate the risks. We are in constant contact with CAL FIRE, the USFS, and adjacent industrial landowners to coordinate efforts in anticipation of fire. The recommendations herein for 2022 include:

- memorializing that agency/landowner commitment to work together;
- adding additional aerial resources to those already present;
- adding fast water reload resources for the helicopter and aerial fire suppression support;
- funding the development of a fire risk assessment model for long-term mitigation; and
- installing and maintaining 20 miles of fuel breaks on critical ridges of the Fountain Plantation.

We look forward to further discussion and feedback on the recommendations as well as any guidance on improving the risk mitigation strategies employed.



# PROPERTY OVERVIEW



**Figure 1. Shasta Cascade Timberlands**

Shasta-Cascade Timber LLC. (SCT) owns approximately 170,000 acres of higher site timberland in interior Northern California (see Map 1). Most of SCT lands have been in private industrial ownership for approximately 100 years. Around the turn of the 19th century the Red River Lumber Company owned much of the property, then R.L. Smith after WWII, then Kimberly-Clark Corporation in 1960, then acquired by Roseburg Lumber Company in 1979, and finally acquired by SCT in 2018. SCT is the current corporate entity holding title to these lands, with FWS Forestry Services California, Inc. recommending and administering management activities on the ownership.

A wide range of stand conditions exist on the ownership today. Many stands have been harvested multiple times since the early 1900's, much of which focused on larger, high value trees such as pine and Douglas-fir. A significant true-fir component ensued in the shaded areas, as well as major areas of overstocking where sunlight and soil allowed.

Silvicultural efforts in the past 30 years have emphasized stocking control, salvage and rehabilitation where needed. In addition, large fires in the 70's (Pondosa Burn) and 90's (Fountain Fire) were salvaged and replanted thus forming noteworthy planted forests. Starting in the late 90's to early '00s, harvesting has transitioned to more even-aged silviculture (e.g. clear-cut, seed-tree, shelterwood removal, etc). Currently, even-aged silviculture accounts for 90-95% of harvest prescriptions on SCT's ownership.

# ENVIRONMENTAL THREATS

## FIRE

### RISK SUMMARY

### PROCEDURES IN EVENT OF FIRE

#### POLICY CONCERNING FIRE

It is FWS Forestry (Company) policy that all its contractors, employees and any persons permitted on Company managed land will make every effort, and take all precautions necessary, to prevent fires on any land at all times. Each contractor, employee, or person permitted on Company land shall take immediate action to suppress and report any fire on or near Company property to the extent that such action can be performed safely and without risk to person.

#### ACTION TO BE TAKEN IN CASE OF A FIRE

1. If conditions, personnel, and equipment allow for a safe initial attack, take immediate action to suppress or contain the fire.
2. Report fire (location, size, fuels, and rate of spread) as soon as practical and in the following order:
  - a. Report fire to dispatch center-911
  - b. Notify FWS Forestry's Redding office (530-319-3151). If no answer, leave a message and begin calling individuals on the Call List by the best method of communication available, in the order listed. Keep calling down the list until contact is made with Company staff. All Company staff have two-way radios and cell phones
3. Forestry Office or Company staff will immediately notify landowner.

#### ***Responsibility of Company***

The first qualified Company staff on scene will assume the role of Company Coordinator/Incident Commander. The Company and Company contractors will cooperate with the actions of other agencies (public or private) through the Company Coordinator on all fires posing an immediate threat to Company lands, whether they involve Company land or not. Until a legally responsible and duly appointed agency Incident Commander is present, the acting Company Coordinator will assume full responsibility for fire suppression on Company lands until properly relieved.

A sufficient staffing presence will remain on any fire threatening Company land until released by the agency in charge, the Company Coordinator, or the landowner.

## **FIRE PREVENTION POLICY**

All operations will comply with state regulations and requirements. (Title 14, Chapter 4, Subchapter 4, 5, 6; Article 8, 938.1-938.101) If a fire should start on an operation, the contractor will aggressively and immediately attempt to put the fire out and simultaneously notify the appropriate state personnel and a representative of the Company.

### **PRE-FIRE SEASON REQUIREMENTS**

Fire Season is defined herein as beginning May 1<sup>st</sup> unless declared earlier by Company or CAL FIRE and lasting until October 31<sup>st</sup> or when Company and/or CAL FIRE provide notice of its ending.

- Starting on April 15<sup>th</sup>, the Company inspects all arterial roads and removes debris and impediments to transportation to ensure roads are accessible for fire equipment.
- Company personnel meets with CAL FIRE at fire stations in our operating area to review fire season plans and ensure response to wildfire is well coordinated and they have access
- Company sponsors a Northern California Fire Cooperative lunch meeting with CAL FIRE for purposes of planning and coordinating on wildfire
- Company timberlands are closed to public access and all gates are inspected for locks and that the gates are locked
- Company personnel ensures that that all portable tanks are full in preparation for fire season
- Inventory is conducted of all fire equipment at fire caches to ensure fire preparedness
- All employees review fire preparedness including appropriate fire equipment such as shovel, axe, Nomex clothing, fire shelter, fire extinguishers, eye protection and hard-hat. Optional equipment that employees carry in vehicles include water pumps.
- SCT's Fire-Pumper flatbed trucks are serviced, filled and stationed in preparation for fire
- Road brushing and road grading program ensures safe passage for fire equipment. Approximately 10% or 170 miles of road is treated annually
- Inspect and maintain fire breaks with appropriate vegetation treatments to ensure integrity of breaks
- Pre-season fire cooperative meeting with all local large landowners including private, state, and federal agencies
- Pre-season fire shelter certification is conducted for all FWS Forestry employees
- Fuels-reduction on the property during winter months in preparation for fire season include burning of slash piles on landings.

- Ensure CAL FIRE has up to date GIS spatial data of SCT timberlands
- Consultation with USFS meteorologist who provides seasonal fire forecast
- Consultation with CAL FIRE and USFS regarding fire suppression staffing, fire-asset allocation including bulldozers, helicopters, hand-crews, fixed-wing tankers, fire engines, water tenders and resource allocation.

During Fire season, the specific requirements contained in this section are considered to be in effect by the Company.

## 2022 WEATHER AND CLIMATE OUTLOOK

The latest sea surface temperature anomalies across the equatorial Pacific Ocean indicate that the weak El Niño continues but has peaked and is beginning a gradual descent toward neutral conditions. Latest model forecasts show almost no change from the previous month's forecast. The weakening event should continue through the spring and into the summer before dropping into a neutral state by August or September. Impacts from El Niño events on late winter and spring weather conditions vary and can be masked by other, shorter-term cycles, as was the case in February. El Niño events typically result in below average snowpack across the northwestern quarter of the nation and above average snowpack across the central portion of the West. Precipitation is generally above average across the south central and southeastern portion of the country. The influence of other, shorter-term cycles such as the Arctic Oscillation (AO) and the Pacific-North American Pattern (PNA) have apparently reversed some of the impacts above. The reversal is expected to be temporary; however, as a pattern change back to more typical conditions is expected in early March as the AO shifts into a negative phase that would produce cooler conditions across the central and eastern portions of the nation and slight warming across the West.

*Northern California:* Normal significant large fire potential is expected across mainland portions of the region and Hawaii through May except across Hawaii where Above Normal significant large fire potential will exist. Above normal significant large fire potential in June across Hawaii, in the foothills and lower mountains surrounding the Sacramento Valley and the Bay Area while Normal significant wildland large fire potential is expected elsewhere. The region has received well above normal precipitation since January 1st, except for a few spots near the Oregon state line. Most of the winter storms this season have been accompanied by average to lower than average snow levels. This has led to snowpack water content readings already above the average seasonal maximum readings (usually around April 1st), and well above normal for late February. Occasional wet weather systems are expected to continue to affect the region at least through the middle of March. Most of these are expected to be on the cool side, and the snowpack often increase but this year is unusually dry with little snow since December 21st. The current outlook calls for warmer and drier weather starting in April. Considering the ground water already in place and the snow melt runoff that will occur, another robust crop of grasses and brush growth is expected this spring, even if rainfall trends toward average or below average. This above normal fine fuel crop will likely cure out by late May to mid-June in the lower elevations of the Bay Area, Sacramento Valley, and Mid Coast areas. Additionally, in mid-February a significant heavy snow event in the northern Sacramento Valley caused extensive damage to plants and trees of all sizes, leading to a large amount of dead and down fuels that will enhance the potential of significant wildfires starting in June. Typically, wildfire activity is minimal through April. Although low elevation grass fires increase in May, they do not typically grow to significant sizes. Significant fire potential will remain normal, or minimal, through May of this year. Due to the down and dead fuel loading in the northern Sacramento Valley and the expected curing of a robust fine fuel and brush crop at lower elevations, the Bay Area, Sacramento Valley, and Mid Coast areas (except the Mendocino NF) will have Above Normal Significant Fire Potential in June. All other areas will continue to have Normal significant fire potential in June. However, the higher elevations will likely be on the quiet side of the normal range in June, and likely into July, due to the time it takes for the snowpack to melt. Sea surface temperatures (SSTs) surrounding the Hawai'ian Islands are near to slightly cooler than normal, and after 3 months of drier than

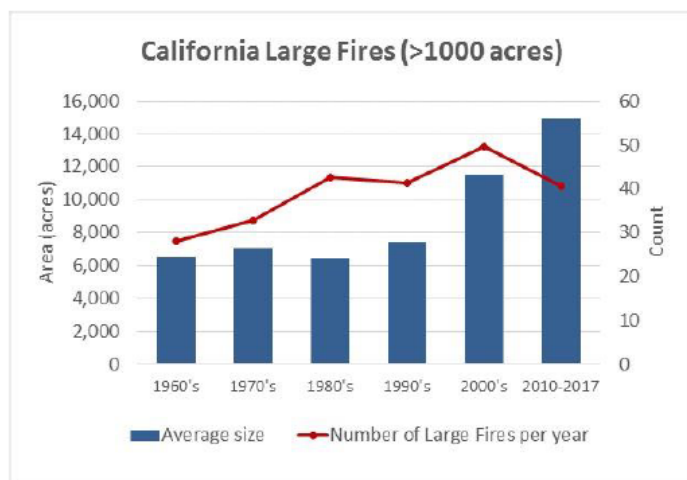
normal weather, rainfall increased in February. However, a weak El Niño event in the equatorial Pacific will continue until late spring or early summer and the outlook for Hawaii through June calls for warmer and drier than normal conditions to return. Fuel loading remains above normal, and wildfire activity was above normal during the drier stretches since early November. Therefore, Significant Fire Potential is Above Normal from March through June 2022.

\*Source:

***National Significant Wildland Fire Potential Outlook, Predictive Services, National Interagency Fire Center (NIFC) Issued: March 1, 2022***  
[https://www.predictiveservices.nifc.gov/outlooks/monthly\\_seasonal\\_outlook.pdf](https://www.predictiveservices.nifc.gov/outlooks/monthly_seasonal_outlook.pdf)

## CAL FIRE 2022 STRATEGIC FIRE PLAN

The California Department of Forestry and Fire Protection, also referred to as CAL FIRE, 2022 Strategic Fire Plan notes that recent trends have shown an increase in ignitions, area burned and impacts to the environment since 2007 after several decades of fire-severity reduction. The average area burned (acres) by decade and cover type shown on the to the right indicate a sharp increase in shrubland and forest wildland acres burned. The average area burned for the entire state has maintained a rate of approximately 700,000 acres per year since the early 2000's, which is double the burn acreage in prior decades. The chart below illustrates the area and count of large (>1,000 acre) fires from the 1960s to 2017.



**Figure 3: Number of large wildfires (>1000 acres) and average size by decade, 1960-2017. Data source: CAL FIRE California Interagency Fire Perimeter Database 2017.**



## **FIRE CONDITION REQUIREMENTS**

### **ALL FIRE LEVEL CONDITIONS**

The following are required regardless of the Fire Level Condition.

#### ***Water***

All water trucks will be capable of pumping water through a fire hose.

In addition to dust abatement equipment (i.e. water trucks), the following will be kept at the site of active operations:

Cable based operations – 500 Gallons or greater

Ground based operations – 200 Gallons or greater

These requirements may be waived by the logging administrator when weather conditions could cause freezing of pumping equipment.

#### ***Hose***

Minimum 1-inch hose

Ground based Operations will maintain 500 feet of hose or equivalent extinguisher capable of being transported to the fire.

Cable based Operations will maintain sufficient hose to reach the greater of the distance to the tail-block or 1000 feet.

#### ***Shovels***

Shovels are required in all vehicles and ATV's permitted on the property

#### ***Warming fires***

No warming fires are permitted

#### ***Smoking***

No smoking is allowed on Company lands outside of an enclosed vehicle during fire season or at any other time.

#### ***Communications***

Adequate, reliable communications from the operating site is required on all logging operations.

#### ***Fire extinguishers***

All vehicles must have at least a 5-pound fire extinguisher in working order and with valid, dated inspection ticket

Shovels, processors, feller-bunchers, crawler-tractors, rubber-tired skidders are required to carry no less than the equivalent of a 10-pound fire extinguisher in working order and with valid, dated inspection ticket.

#### ***Personnel staying on company lands***

**No Camping on Company Lands is allowed unless explicitly authorized by a Company representative.**

No Campfires Allowed

All Generators or other equipment powered by an internal combustion engine will have an approved spark arrestor in good condition (PRC4442)

Only Gas Fired cooking devices allowed

### **LEVEL 1 CONDITIONS**

Additional Items under Level 1 conditions include the following.

***Humidity shutdown of operations***

20% on all operations

Humidity to be checked every 2 hours

Operator to keep a daily log of humidity readings

***Watchman duties***

As required by FPR's

**918.8, 938.8, 958.8 Inspection for Fire [All Districts]**

The timber operator or his/her agent shall conduct a diligent aerial or ground inspection within the first two hours after cessation of felling, yarding, or loading operations each day during the dry period when fire is likely to spread. The person conducting the inspection shall have adequate communication available for prompt reporting of any fire that may be detected.

Further clarification for SCT managed lands

Two-hour fire watch

Two-hour fire watch at the logging site.

Walking foot patrol over areas operated with documentation required including a written log kept documenting area covered, times of walk through and marking of stumps with paint indicating the date and time of walk through.

Watchmen need to have in immediate possession a legal description of the work area (TRS, Lat-Long, UTM, etc.) and contact instructions in case of fire.

**LEVEL 2 CONDITIONS**

Additional Items under Level 2 conditions include the Level 1 Condition items plus the following.

**RED FLAG DAYS (not lightning related)****(To be determined by Company Administrator or Fire Patrolman)**

Humidity Shutdown

20% on all operations

Humidity will be checked every hour.

Daily log.

***Rotary head harvesters***

Operations will be suspended by 1:00 p.m.

***Welding, blasting, metal work.***

OPERATIONS WILL BE SUSPENDED BY 1:00 P.M.

***All other operations***

\*\*ALL OPERATIONS SUSPENDED BY 4pm\*\*

***Watchman duties:***

As required by FPR's

**918.8, 938.8, 958.8 Inspection for Fire [All Districts]**

The timber operator or his/her agent shall conduct a diligent aerial or ground inspection within the first two hours after cessation of felling, yarding, or loading operations each day during the dry period when fire is likely to spread. The person conducting the inspection shall have adequate communication available for prompt reporting of any fire that may be detected.

Further clarification for SCT managed lands

Two-hour fire watch at the logging site

Walking foot patrol over areas operated including two walk throughs with one in the first hour and one in the last ½ hour with documentation required including a written log kept of area covered and times of walk through and marking of stumps with paint indicating the date and time of walk through.

Watchmen needs to have in immediate possession a legal description of the work area (TRS, Lat-Long, UTM, etc.) and contact instructions in case of fire.

### **LEVEL 3 CONDITIONS**

#### **To be determined by company**

Generally due to extreme fire conditions (i.e. Red Flag Days) combined with lack of state and federal initial attack support due to resource draw down.

**\*\* NO OPERATIONS EXCEPT PATROL \*\***

## FIRE EQUIPMENT AND PERSONNEL

### COMMUNICATIONS

Communications within the Company is primarily via cell phone. In addition, all field staff have two-way hand-held radios with all emergency frequencies available.

Key Company personnel are equipped with satellite phones.

In the event of a fire, **Immediately Dial 911**, and then call down this list until a contact is made.

**Table 1. Company Call List**

Contact	Job Title	Mobile #
John Vona	Region Manager	206-384-7440
Jim Henson	Operations Manager	530-768-0302
Clayton Code	Forestry Manager	530-227-1943
Rick Danielson	Security & Fire Patrol	530-908-3172
Jeff Silva	Forest Tech	530-908-2695
Camila Quintana	Forest Tech	530-478-5638
Casey Halvorseth	Contract Supervisor	530-598-6440
Al Nelson	Contract Supervisor	530-640-1117
Ann Wagner	GIS Manager	530-340-0411

**Table 2. Company Owned Fire Equipment**

Item	Location
2002 F-350 4x4 225-gallon rapid response/pump	2409 S. Redding Blvd, Mt Shasta
2004 F-350 4x4 225-gallon rapid response/pump	29001 Hwy 299 E, Round Mt
Fire cache and 5,400 feet 1" and 1.5" hose	2409 S. Mt Shasta Blvd, Mt Shasta
Fire cache and 4,600 feet 1" and 1.5" hose	Hwy 299 E and Mont Cr School

**Table 3. List of Available Contractor Owned Fire Fighting Equipment and Personnel**

CONTRACTOR	PHONE #	Available Personnel	DOZER 527	DOZER-7	WATER TRUCK	Lowbed Trailer	Feller Buncher
Bundy and Sons/Joe Bundy	530-246-3868	6	1	1	1		1
Del Logging/Russ Hawkins	530-292-5492 /530-941-0154	12	1		1		1
Hat Creek Construction	530-949-8529		1	1	2	1	
Hitchcock's Construction/ Terry Hitchcock	530-964-2013/ 530-261-1457	4		1	1		
Justin Pruitt & Dad Con. / Justin Pruitt	530-941-1944	2		1	1		
Eddy Axner Const.	530-941-7412		1	1	2		
Smiley Brothers Logging, LLC Dale Smiley	530-467-3144	6		1	1		
Sutherland Logging Co/ Tom Sutherland	707-498-5992	12			1		
Steve Wills Trucking & Logging Austin Will	707-599-7349				1		2 fallers
Wayne Norris Construction	530-335-3216			1	1		
CLT logging Inc.	530-459-3608		2		3		3

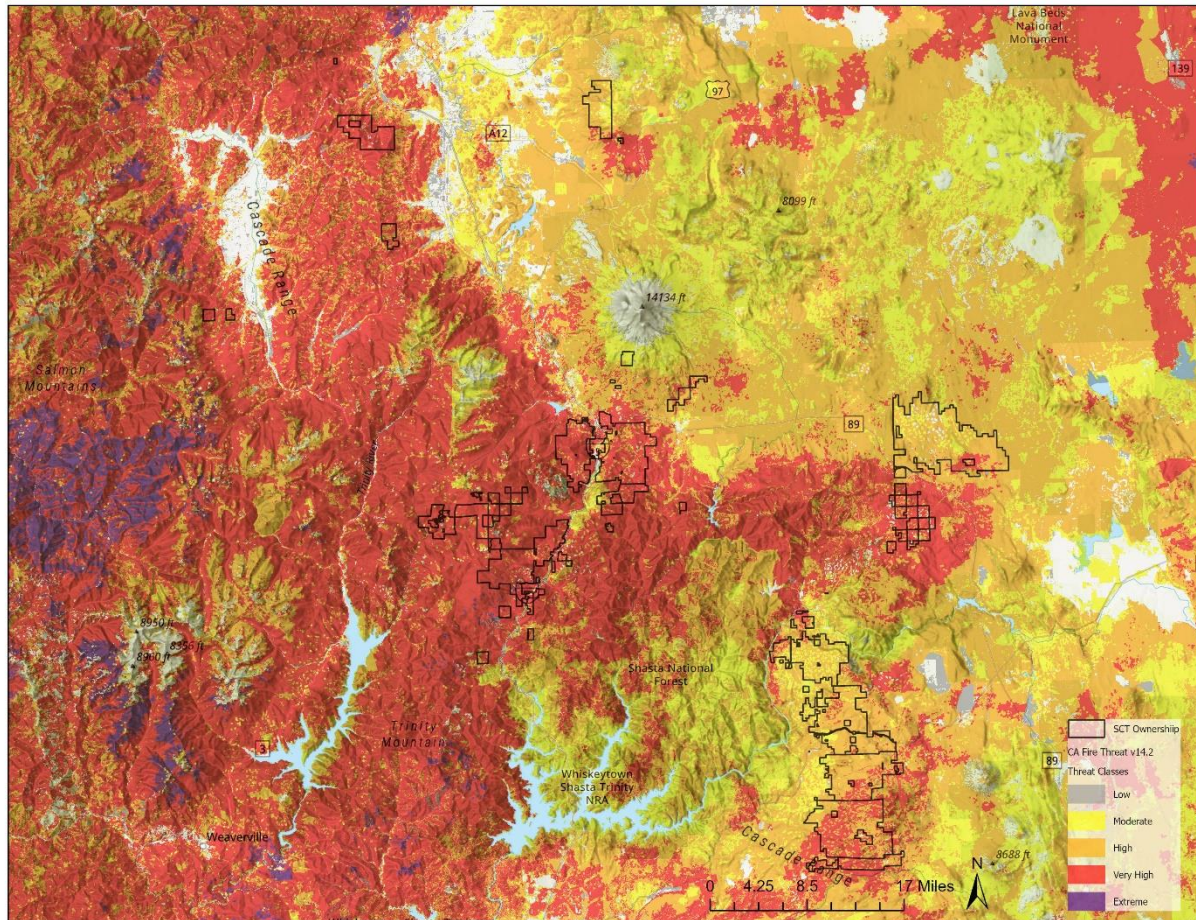
***Darin Quigley (530) 925-6805 : Northern California Fire Cooperative Association,***

Darin Quigley, retired CAL FIRE Battalion Chief, is the dedicated fire coordinator for the Northern California Fire Cooperative Association. Darin acts as liaison among private landowners, federal and state agencies to assist in fire coordination and mitigation of fire risk. Darin's credibility and knowledge of northern California provides key insight to incident commanders when attacking fire.



## FIRE THREAT MAPS

CAL FIRE's Fire and Resource Assessment Program (FRAP) is required by the California legislature to produce periodic assessments of the forests and rangelands of California. The fire threat map is based on a quantitative spatial assessment of fire weather, fuels, aspect, slope and road access.



## FIRE SEASON PREPARATION

- Annual meetings with the local Battalion Chiefs and CAL FIRE engineers – allowing CAL FIRE personnel to become familiar with all primary road access to FWS Forestry's managed lands.
- Maintaining a "call down" list of critical FWS Forestry's employees and their emergency phone numbers.
- Maintaining primary access roads so that they are ready for fire truck access.
- Providing all-forest based employees a company-wide communication system to provide for effective and quick response.

- Providing all forest-based employees a Samsung tablet accessing offline GIS for locations of all roads, water drafting facilities, helicopter landings, and gates across our forestlands for better navigational capabilities.
- Maintaining a subscription with a weather service which notifies key personnel automatically if a lightning strike is detected on or near our land.
- Participating in discussions with industrial landowners and CAL FIRE, to increase resources, response times, and initial response by CAL FIRE over the I-5 corridor south of Mt. Shasta in the area controlled by USFS | response by CAL FIRE over the I-5 corridor south of Mt. Shasta in the area controlled by USFS.

### **Lightning detection network:**

Lightning data is collected by Vaisala through the North American Lightning Detection Network. The service is subscribed to by the Bureau of Land Management and served to fire cooperators by the National Interagency Fire Enterprise Geospatial Portal. FWS has access to the lightning detection network service through our participation as a land manager cooperator in the Northern California Fire Co-op. This data service provides real-time lightning data so that we can monitor thunderstorm activity over the geographic region of the asset. The data is downloaded from the NIFC and mapped in the GIS. The maps are distributed to the forestry staff to be used for onsite ground reconnaissance as well as documentation of lightning strike activity.

More information on the NALDN can be found here:

[https://www.vaisala.com/sites/default/files/documents/MET-G-NLDN-Brochure-B210412EN-E\\_Low.pdf](https://www.vaisala.com/sites/default/files/documents/MET-G-NLDN-Brochure-B210412EN-E_Low.pdf)

# Policy on Slash & Topwood Pile Burning

## Overview

Reducing the fire hazard on the timberlands is essential work, and minimizing the number of post-logging slash and top-wood piles on the asset is critical activity to reduce fuel loads and also increase growing space on the asset. However, significant risks are associated with burning, and the following guidelines are intended to minimize the risk of fire escaping from a burned pile.

## Placement of Debris Piles

Piles should be located in forest openings, between residual trees, landings or unused logging roads, and no closer than 25 feet to riparian buffer zones. Piles should be preferably at least ten feet from the trunk of any overhead trees. In denser stands of trees, piles can be located closer to the trees and even under the overhanging branches, but these piles should be smaller in size and burned when snow or moisture is present in the tree crowns. Piles should NOT be located on active road surfaces, in ditches, near structures or poles, under or around power lines, or on top of logs or stumps that may catch fire and continue smoldering.

## Pile Construction

Piles constructed by machine shall be clean of dirt and debris which trap latent heat. The piles should be compact, packed down during construction, and with no long branches that will not burn from sticking out into the surrounding snow. The preferred dimensions of slash piles are a height that is at least equal to the width of the pile which promotes good fuel consumption and smoke management. Slash piles that are surrounded by a deep bed of slash (>1 feet) will not be ignited until the connected fuels on the surrounding landscape are disconnected either mechanically or with a labor crew using hand tools.

## Burning Policy

Burning cannot occur without an approved Smoke Management Plan and burn permit pursuant to the California Air Resources Board regulations. The go or no-go decision to burn piles is determined by the CARB's local Air District. The decision to burn is also dependent on the FWS Forestry manager or Burn Boss' approval, which is dependent on the local weather and wind forecast. More importantly, burning shall not be conducted unless a significant rainfall has occurred (> 2-3") over the preceeding five days. No fires are allowed in dry conditions with wind speeds > 10 mph. Wind speeds during wet, rainy periods can be as much as 25 mph depending on the amount of rainfall predicted during the burn period. Burning cannot Furthermore, burning cannot commence unless the weather forecast indicates significant rainfall over multiple days for the ensuing 10-day period. If long term forecasts indicate a significant dry period on the horizon, all burning shall be suspended. The required equipment and personnel should include fire tools such as McCloud, Pulaski, chainsaw and shovels, and personnel should wear required PPE. At least one fire pumper truck shall be on site before piles are ignited.

## Follow-up - Checking Pile

FWS Forestry personnel will monitor piles for several weeks after burning has completed. Personnel will carry a thermal imaging device to check the interior heat of the piles to determine whether the piles should receive water or, in some cases, breaking up with the help of bulldozer to knock the pile down which will facilitate release the trapped heat. Checking of piles shall be documented

# PEST AND DISEASE

## RISK SUMMARY

The purpose of this integrated pest management (IPM) plan is to guide the use of safe and effective pest management strategies in order to establish and grow productive conifer plantations in the most cost effective and efficient way possible while maintaining high regard for responsible land stewardship and environmental protection.

The California Forest Practice Rules (CFPR) issued by the California Board of Forestry and Fire Protection, the governing body of all forestry operations in the state of California, establishes stocking/survival requirements for all even-aged units. The CFPR states that any area on which timber operations have taken place must be classified as acceptably stocked by meeting one of two conditions. (1) A point count of 200 trees per acre or (2) the average residual basal area measured in stems 1 inch or larger in diameter, is at least 50 to 85 square feet per acre dependent upon the underlying site-class. These conditions must be met within five (5) years after completion of timber operations unless otherwise specified in the CA Forest Practice Rules. In cases of repeated stocking failure, the state can assume reforestation efforts and charge the landowner for reforestation costs while filing a lien against the property until all debts have been repaid. These regulations establish the thresholds guiding FWS Forestry's pest management program.

Vegetation control during the early establishment stage of conifer plantations is vitally important to the successful establishment and growth of conifer seedlings. Without vegetation control during this crucial time period young conifer seedlings are not able to compete with weed species for water, nutrients and light. Increased mortality or decreased growth rates of conifer seedlings have repeatedly been shown to be the impacts of uncontrolled competing vegetation in conifer plantations. These impacts have been repeatedly demonstrated through scientific field studies including: Fiddler et al. (1997), Fiddler et al. (2000), Powers & Reynolds (1999), Newton & White (1989), Oliver (1984), South et al. (2001), Weaver, (1992) and many others.

## VEGETATION: WEED & BRUSH SPECIES

The most common and most damaging pest on the property are weeds. Weeds cause mortality in conifer plantations by significantly increasing competition for moisture, nutrients and sunlight. The weeds that are typically encountered on the SCT ownership can be broken down into three subgroups: Brush, grasses, and forbs. All three weed groups cause damage directly through increased mortality and/or decreased conifer growth. Grasses and forbs typically begin to occupy harvest units very quickly after harvest operations have been completed. Left untreated grasses and forbs will quickly outcompete newly planted conifer seedlings and can cause significant seedling mortality. They generally have shallow roots allowing conifer seedlings to establish roots in deeper soil horizons after one to two years. Brush species are generally slower to occupy a site; however, they increase competition with conifer seedlings for much longer since they are deeper rooted, occupy more space, and grow taller compared to grasses and forbs. As a result, brush species may require treatment years after grass and forbs have stopped being a concern.

## INSECTS

The most common insects encountered over the SCT ownership are: ips, pine shoot borers, bark beetles, Douglas-fir Tussock moth, to name a few. These insects damage stands by feeding on tree cambium



layers, tree terminal or lateral shoots, tree foliage or by spreading fungi and/or disease. These insects are endemic to the SCT ownership and typically do not cause enough damage or mortality to warrant treatment. In the case of epidemic levels of above mentioned insects, treatment may become necessary. Depending on the insects, trees of many different age classes, seedlings to mature stands, may be affected.

## **VERTEBRATES**

Gophers, rabbits, deer, and squirrels are the most common vertebrate pests on the SCT ownership to cause damage to plantation trees. Gophers and rabbits chew seedling bark and cambium layers, girdling trees, causing mortality. Squirrels eat seeds reducing collectable seed. Gophers can damage and cause mortality of plantation trees for an extended amount of time. Gopher damage has been observed in plantation trees up to 10 years old. Deer browse new growth from seedlings, causing loss of growth or in some cases mortality.

## **MONITORING AND IDENTIFICATION**

### **MONITORING**

Monitoring is the key to developing an effective IPM program by establishing baseline information on the biological activity and environmental conditions over the SCT ownership and evaluating effectiveness of actions taken. Monitoring of pest populations within harvest units is important to ensure that conifer seedlings are not being subject to undue stress or mortality.

The primary concerns of the IPM plan on the SCT ownership is to monitor the presence of 1) pests that may damage/stunt plantation growth, 2) pests that may damage surrounding stands, or 3) presence/spread of noxious/invasive weeds.

### ***Noxious Weeds***

Invasive and noxious weeds will be monitored and treated on a case by case basis. Many invasive weeds have become so widespread that they are now naturalized. In this case, treatment will occur as part of the routine pest control program (i.e. when harvest units typically are treated). For invasive weeds, such as scotch broom that are not naturalized, populations are mapped with their treatment timing. Treated scotch broom locations are checked at least once every two years to ensure no new germinates which would require additional treatment.

### ***Routine Inspection***

Routine field inspection of harvest units will generally be adequate to determine the current pest population levels within harvest units. Field observations will be adequate for weeds and vertebrates. Insects might initially be observed through field inspection, but when increased insect activity is observed pheromone traps and sticky traps may be required to determine population level and life stage.

Monitoring frequency and field inspection timing for weeds is dynamic and changes throughout plantation age classes. During the first two years of conifer plantation establishment weed populations need to be monitored late in the year to determine if treatment is needed before damage to the seedlings has been incurred. Once seedlings have been established, monitoring frequency will lessen.



## Identification

Identification of pests is vital to determine an appropriate mitigation strategy. Proper identification helps to provide an understanding of actions and the steps necessary to safely and effectively treat different pest species.

# THRESHOLD AND TREATMENT

## THRESHOLD

In addition to developing and implementing monitoring and mitigation strategies, a threshold for pest activity must be established. Threshold are points at which action needs to be taken to correct the presence of pests. The threshold will be different for each conifer plantation age class, and pest present.

Plantation age -2-0 years- Preharvest vegetation management helps to reduce postharvest treatments. Preharvest treatment is required if weeds, brush and hardwoods are encroaching on the growth of crop trees.

Plantation age 0-2 years- In the early establishment stage of conifer plantations it is crucially important to control grasses and other weed complexes to ensure conifer survival. Any form of vegetation that competes with the establishment and growth of plantation trees is considered a pest organism or weed. During this stage, weed cover of >25% of the harvest unit will merit treatment. The pest management goal for this stage is to have as close to no competing vegetation as possible.

Plantation age 3-5 years- In this stage conifer seedlings have been established and grasses and forbs because less of a concern. Brush species continue to be monitored. Brush ground coverage of >20% of the harvest unit may merit treatment.

Plantation age 5-10 years- Typically, plantations are well established, and grass and forbs do not require treatment. Brush species continue to be monitored; however, only merit treatment if brush species overtake the plantation trees.

## TREATMENT

When a preharvest treatment is required a mix of imazapyr, glyphosate, and surfactant adjuvant will be used to get preharvest control of brush and other weed species. This is especially important with areas with heavy brush components, as this is the only mix that can reliably control tanoak (*Notholithocarpus densilorus*), a heavy brush component over the SCT ownership.

Where road access allows for proper application timing, a mix of hexazinone and aminopyralid or hexazinone by itself will be used as a pre-emergent grass and forb spray directly before or after seedlings planting.

When release spray is determined to be needed glyphosate, triclopyr, or clopyralid maybe be used depending on target species.

New treatments are always being developed and tested. SCT is a member and contributes to the Sierra Cascade Intensive Forest Management Research Co-op (SCIFMRC) and the Certified Forest Research

Group (CFRG). The mission of the Sierra Cascade Intensive Research Co-Op is to conduct applied reforestation and young stand management research focusing on intensive silviculture of conifer species and how they interact with their biotic and abiotic environments in the interior region of Northern California and Southwestern Oregon. Primary research objectives include maximization of conifer survival, volume, growth and value while meeting other quality objectives of sound land stewardship. Through the SCIFMRC new treatments, and mixes have been tested and developed allowing for more effective treatments and less frequent treatments.

The Certified Forest Research Group (CFRG) was founded in 2009 by Ed Fredrickson of Thunder Road Resources Company. The objective of the group is to assist forest landowners certified by the Forest Stewardship Council (FSC) to comply with certification requirements to continually evaluate alternatives to their current forest management program with heavy emphasis on vegetation management. The group focuses on improving the efficacy and efficiency of reforestation programs through scientifically designed replicated experiments that are both informative and defensible to the landowner as well as the certification agencies. The primary objectives have been to streamline vegetation management programs to maximize efficacy while at the same time minimizing chemical use through different strategies, more efficient application techniques to testing new low use rate products with favorable environmental profiles. Since its inception, the CFRG has expanded to include forest landowners that are certified by other agencies than FSC as well as companies that just desire to improve their reforestation programs through sound research.

## **MANAGEMENT ACTIONS**

### **RECORDKEEPING**

Units identified and marked for field evaluation for each year in the FWS Forestry Vegetative Spray Plan. Before a unit is treated a field evaluation and a written recommendation made by a Pest Control Advisor (PCA) will be obtained. The PCA recommendation will be kept for a minimum of 3 years. Copies can be found digitally on the FWS Forestry file server.

FWS Forestry hires licensed Pest Control Operators (PCO) to apply all treatments. All treatments are documented and use reports are kept digitally on the FWS Forestry file server. The PCO submits a copy of the use report to the County Agriculture Commissioners office, the local branch of the Department of Pesticide Regulation. Additionally, treatment location, application date, pesticide used, REI, REI expiration date, and the 30-day Worker Protection Standard expiration date are documented and available for all FWS Forestry employees on the FWS Forestry file server.

### **STAFF INVOLVEMENT**

FWS Forestry staff are trained annually in accordance with Field Worker pesticide training. Training records are kept in the FWS Forestry's Redding office. The majority of FWS Forestry staff are not involved with the pest control program on the SCT ownership. They are informed on the general area of treatment and know how to determine if a unit has been treated and/or is safe to enter.

## **OTHER ENVIRONMENTAL RISKS**

### **HUMAN THREATS**

FWS Forestry personnel monitors activities on the Shasta Cascade Timberlands in addition to employing a part-time fire & security patrol, Rick Danielson, from mid-April through December. Rick works closely with Siskiyou and Shasta County Sheriff's departments where he coordinates on monitoring and reporting criminal activity on or near the SCT asset. Rick also closely coordinates with the Northern California Fire Cooperative Association (NCFCA) who monitors the lightning and fire activity in our region across public, private, and state lands.

## **ENCROACHMENT / ADVERSE POSSESSION**

### **SMITH CAMP ENCROACHMENT**

#### **RISK SUMMARY**

The "Smith Camp" consists of approximately 20 to 40 acres which has a community of squatters who claim rights of adverse possession of the land. The risks posed by Smith Camp include fire, illegal activities, and the continual expansion of their settlement. The residents of Smith Camp have occupied this site for over 30 years and have refused to accept title to the land. The residents have also recently embarked on establishing a very large marijuana grow on the property. The grow operation may extend beyond their current footprint and there is a risk that Smith Camp may expand. This an illegal grow operation and unregulated processing of marijuana into concentrate has led to butane-gas explosions at numerous locations in California. This potentially could lead to a wildfire.

#### **INSPECTION & MONITORING**

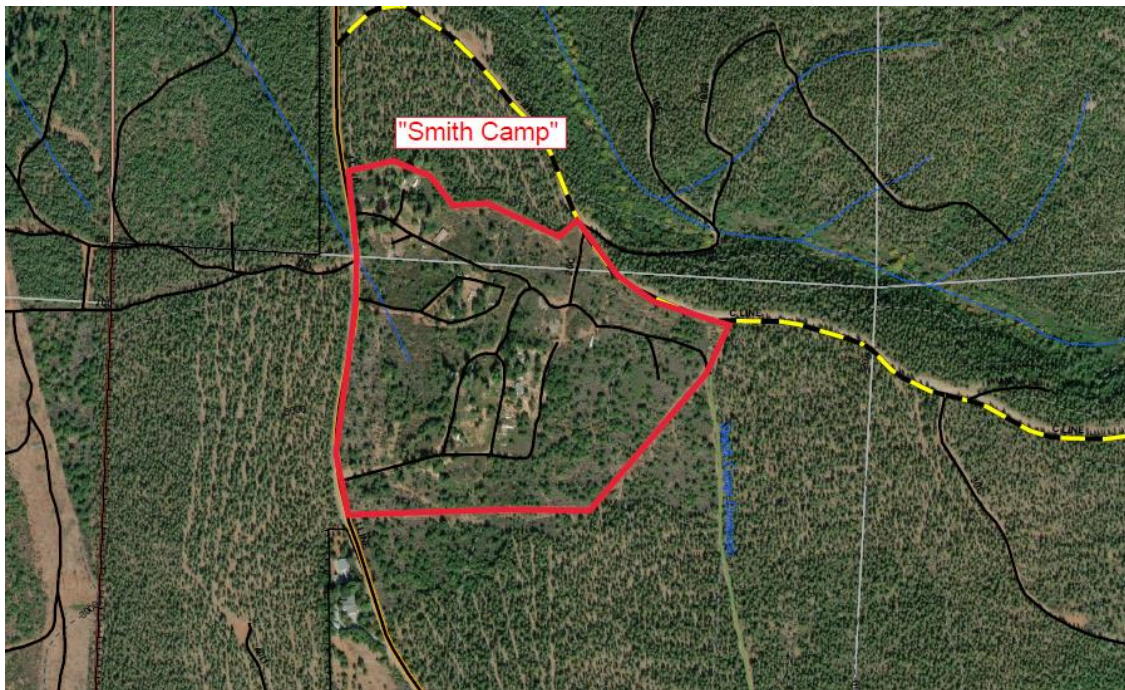
FWS is coordinating with the Sheriff regarding the illegal grow but eradicating the grow will not resolve the long-term threat.

#### **PROJECT RECOMMENDATION**

FWS strongly recommend developing a strategy to move Smith Camp into tribal hands or deed it the residents in fee simple.

- Below are 3 images showing different vantage points of Smith Camp:





Shasta County Map User Guide

Find address or place

HOFFMAN PL

027130050

Parcel: 027-130-050

APN	027130050000
Situs Address	
Tax Rate Area	106000
Document Number	2018R0001465
Recorded Acres	40.00
Assessor Page	<a href="#">More info</a>
Assessor Inquiry	<a href="#">More info</a>
Taxroll Inquiry	<a href="#">More info</a>

[Zoom to](#)

300ft

121 904 40 878 Degrees

# **ILLEGAL ACTIVITY**

## **ILLEGAL MARIJUANA CULTIVATION ON SCT**

### **RISK SUMMARY**

SCT had 3 illegal marijuana grow operations in 2020. These grows were detected by the California Department of Fish and Wildlife inspectors and Shasta County Sheriffs. These grows totaled approximately 5 acres in size and located on Big Bend Road in the Fountain plantations. The Sheriff raided the grow, removed over 762 marijuana plants, and arrested the attending farmers, (Mexican cartel purportedly). There was little to no damage to crop trees as they the plants were in clearings.

### **INSPECTION & MONITORING**

FWS is coordinating with the Sheriff regarding illegal marijuana grow operations.

### **PROJECT RECOMMENDATION**

FWS has installed more game cameras and new locks and is working with the Sheriff regarding next steps.

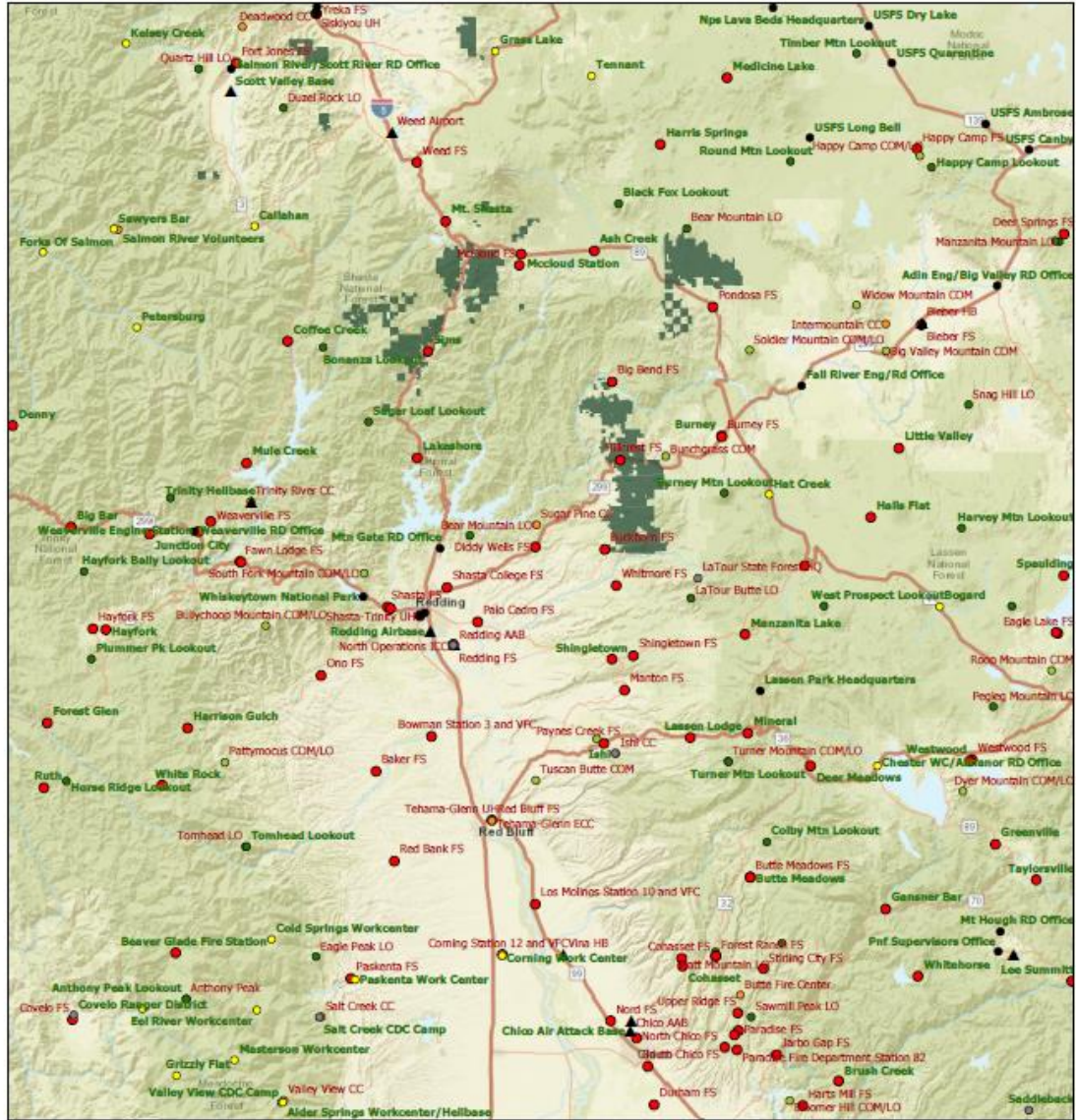


# LIST OF EXHIBITS

- Exhibit A: Federal and State Fire Stations in the SCT Region
- Exhibit B: Historical Fire Incident Overview
- Exhibit C: MOU with Adjacent Landowners and State and Federal Agencies
- Exhibit D: Dip Tanks
- Exhibit E: Proposed Dip Tank Locations
- Exhibit F: Proposed Roads Brushing & Fuel Break Plan
- Exhibit G: Fire Assessment Project
- Exhibit H: Initial Attack Helicopters
- Exhibit I: Excerpts from California State Forest Practice Rules for reference
- Exhibit J: Proposed Fuel Break Map in Fountain Plantations

## EXHIBIT A: FEDERAL AND STATE FIRE STATIONS

### FEDERAL AND STATE FIRE RESPONSE STATIONS

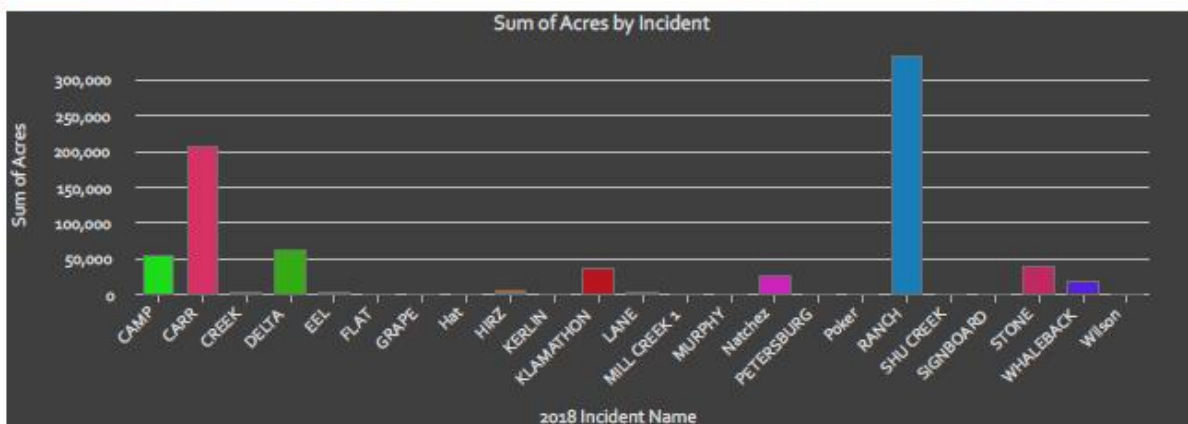
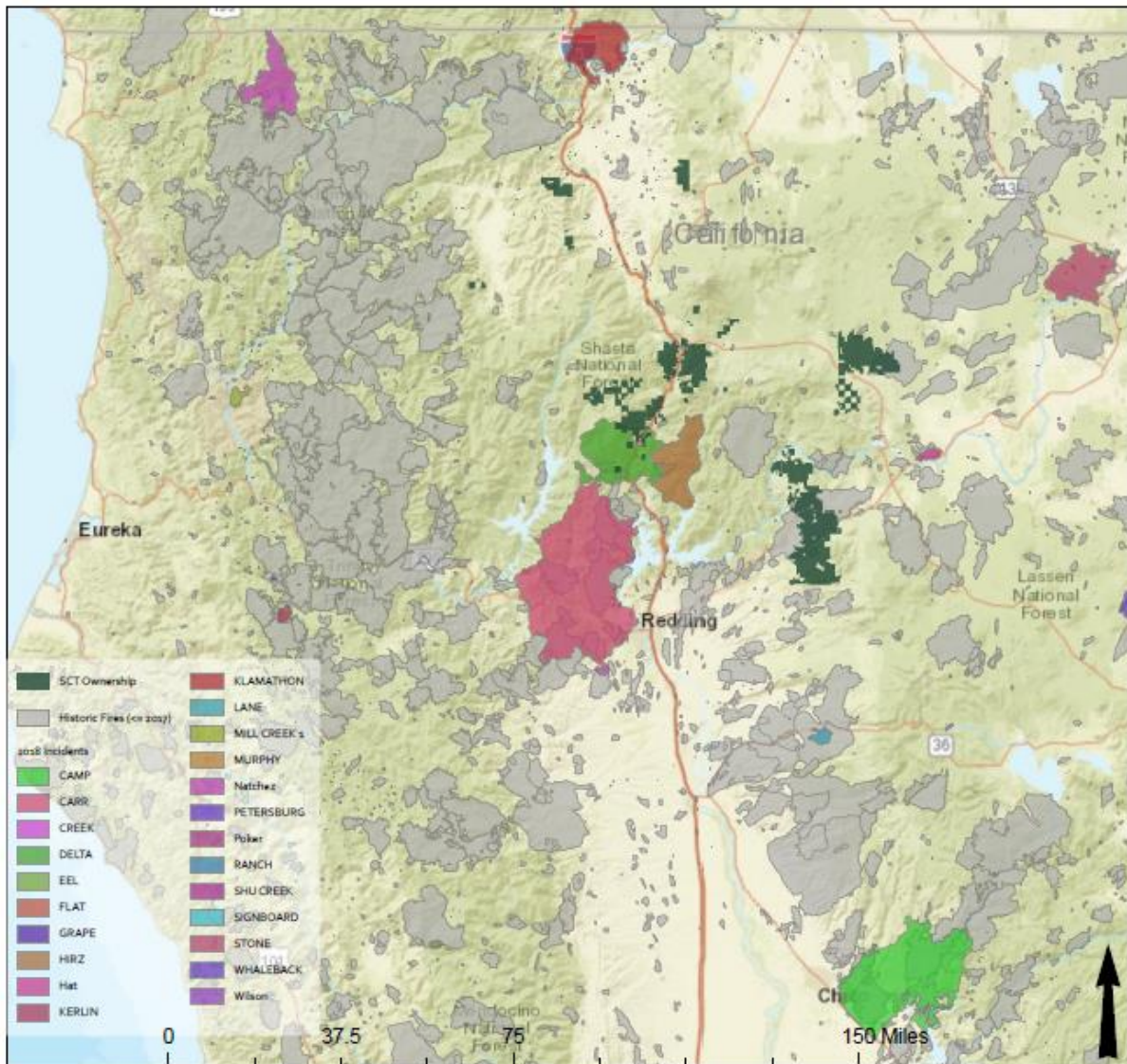


FEDERAL FACILITY TYPE (COUNT IN MAP EXTENT)	STATE FACILITY TYPES (COUNT IN MAP EXTENT)	SCT OWNERSHIP
● ENGINE STATION, FIRE STATION (42)	● FIRE STATION (53)	
▲ AIR SUPPORT (5)	▲ AIR SUPPORT (5)	
● FIRE CREW (1)	● COMMUNICATIONS (14)	
● LOOKOUT (19)	● FIRE CREW (9)	
● OFFICE (17)	● LOOKOUT (14)	
● WORK CENTER (18)	● OFFICE (3)	
● OTHER (5)	● OTHER (2)	

0 20 40 80 Miles

## EXHIBIT B: HISTORICAL FIRE INCIDENT OVERVIEW

### NORTHERN CALIFORNIA FIRE INCIDENT OVERVIEW





**EXHIBIT C: MEMORANDUM OF UNDERSTANDING**

**MEMORANDUM OF UNDERSTANDING  
BETWEEN  
GREEN DIAMOND RESOURCE COMPANY,  
HUMBOLDT REDWOOD COMPANY, LLC,  
MENDOCINO REDWOOD COMPANY, LLC,  
FRUITGROWERS SUPPLY COMPANY,  
CAMPBELL GLOBAL,  
OLYMPIC RESOURCE MANAGEMENT,  
W. M. BEATY AND ASSOCIATES,  
HEARST FORESTS, LLC,  
MICHIGAN-CALIFORNIA TIMBER COMPANY,  
SHASTA-CASCADES TIMBERLAND, LLC,  
SIERRA PACIFIC INDUSTRIES,  
AND THE CALIFORNIA DEPARTMENT OF FORESTRY  
AND FIRE PROTECTION,  
AND THE  
NATIONAL FISH AND WILDLIFE FOUNDATION, AND THE  
USDA, FOREST SERVICE PACIFIC SOUTHWEST REGION**

This MEMORANDUM OF UNDERSTANDING (MOU) is hereby made and entered into by and between Green Diamond Resource Company, Humboldt Redwood Company, LLC, Mendocino Redwood Company, LLC, Fruit Growers Supply Company, Campbell Global, Olympic Resource Management, W. M. Beatty and Associates, Hearst Forests, LLC, Michigan-California Timber Company, Shasta-Cascades Timberland Company, and Sierra Pacific Industries referred to as “Commercial Forest Landowners” or “CFLs,” California Department of Forestry and Fire Protection referred to as “CAL FIRE,” the National Fish and Wildlife Foundation referred to as “NFWF,” and the United States Department of Agriculture (USDA), Forest Service, Pacific Southwest Region, referred to as the “U.S. Forest Service.”

Background: Large scale, high-severity fire poses a risk to Northern spotted owls and their habitat. Increased Northern spotted owl habitat resilience and resistance to multiple disturbances is needed to promote Northern spotted owl persistence.

The U.S. Forest Service, the CFL’s, and CAL FIRE manage forest lands in California that are frequently adjacent to each other, and have ongoing programs to protect and enhance habitat for fish and wildlife and also manage forest fuels to reduce fire risk and its potential impacts on wildlife species. Under State law, the CFL’s have the authority to participate in fire suppression on their own lands while CAL FIRE, contract counties, the U.S. Forest Service, and other government agencies have primary fire suppression responsibility for all federal, State, and private timberlands in California. The parties also have responsibilities and interests in the inventory of their respective lands for federally- and State-recognized threatened, endangered, proposed, candidate, and sensitive species and in the development of appropriate protection measures for these species.

Due to these natural resource challenges, we believe it is important to establish a coordinated, multi-stakeholder agreement to help protect and enhance our forest resources. This will involve

establishing a strategic conservation framework to help restore and protect areas where sensitive species - particularly the Northern spotted owl - are threatened by habitat degradation due to uncharacteristically extensive and severe adverse fire effects.

Roles: The U.S. Forest Service, under the laws of the United States and regulations of the Secretary of Agriculture, is responsible for the protection of fish, wildlife, and plant habitats on National Forest lands and for providing special attention to federally- recognized threatened, endangered, proposed, and candidate species and U.S. Forest Service sensitive species and species of conservation concern, including the Northern spotted owl.

The CFL's are responsible under the laws of the United States and the State of California for the assessment of wildlife and plant resources on their lands when developing timber harvest plans.

Under the laws of the State of California, CAL FIRE must consider the public need for watershed protection, consider fish, wildlife, and plant habitats on nonfederal lands, and provide special attention to federal and State- recognized threatened and endangered species.

NFWF is an independent 501(c) (3) nonprofit organization that is governed by a Board of Directors appointed by the Secretary of the Interior. NFWF works with public and private sectors to protect and restore fish, wildlife, plants and habitats. NFWF has invested tens of millions of dollars in conservation projects throughout California. This includes a California-wide fuels management program to protect valuable natural resources, post-fire restoration programs in Southern California, wet meadow restoration in the Sierra Nevada, Klamath Basin watershed restoration, in-stream flow, and watershed habitat improvement in Northern California, and efforts to recover select declining, threatened, and endangered species.

Many of NFWF's existing programs and projects are threatened by the deteriorating conditions resulting from forest fires and untreated post-fire sites. As a result, NFWF has a vested interest in working with the U.S. Forest Service, the CFL's and CAL FIRE to maximize the health of California's forests. NFWF also has extensive experience serving as a grant maker or fiduciary to assist federal agencies in identifying, awarding, and managing projects that achieve mutually beneficial outcomes. This includes the development of, or update to, implementation documents that guide investments to achieve targeted outcomes.

Title: Forest Fuels Reduction and Species Conservation in California; Northern Spotted Owl.

## **I. PURPOSE:**

The purpose of this MOU is to document the agreement between the parties to coordinate on certain actions that may contribute to Forest Fuels Reduction and species conservation in accordance with the provisions of the MOU.

## **II. STATEMENT OF MUTUAL BENEFIT AND INTERESTS**

The U.S. Forest Service benefits and interests: The U.S. Forest Service will have more information and be able to make better decisions regarding the management of forest fuels on lands adjacent to the CFL's in California, and enhance conservation, with a focused priority on Northern Spotted Owl, in these areas.

CFL's benefits and interests: The CFL's will have more information regarding the management



of forest resources and fuels on its lands, and important to the conservation of Northern Spotted Owl when meeting its responsibilities with respect to developing and implementing its timber harvest plans and land management objectives.

**CAL FIRE benefits and interests:** CAL FIRE will be able to make better decisions regarding the management of forest resources and fuels on lands adjacent to the CFL's in California that may contain habitat important to the conservation of Northern Spotted Owl.

**NFWF benefits and interests:** As a grant maker that leverages public and private resources to implement conservation projects, NFWF will have more information regarding the management of forest resources and fuels important to the conservation of Northern Spotted Owl.

**Mutual benefits and interests:** The U.S. Forest Service, CFL's, CAL FIRE, and NFWF will be better able to fulfill their respective obligations and goals to manage resources and increase effectiveness of management to contribute to the conservation of Northern Spotted Owl and its habitat by considering data and information applicable to whole landscapes, regardless of ownership.

### **III. THE CFL'S SHALL:**

- A. Provide the U.S. Forest Service, CAL FIRE, and NFWF with:
  - 1. Information concerning their forest fuels management plans near U.S. Forest Service timber lands and CAL FIRE Demonstration State Forests.
  - 2. Information that may contribute to the conservation of Northern Spotted Owl and other sensitive species.
  - 3. Other data and information requested by the U.S. Forest Service, CAL FIRE, and NFWF, if agreeable to the CFL's.
- B. Meet and coordinate regularly with the U.S. Forest Service and CAL FIRE, or as otherwise mutually agreed by the parties, regarding forest fuels management actions on the parties' respective lands.
- C. Upon the request of the U.S. Forest Service, CAL FIRE, or NFWF, meet with the requesting party and the U.S. Fish and Wildlife Service to discuss Northern Spotted Owl conservation strategies and conservation measures on CFL lands identified through the implementation of this MOU.

### **IV. CAL FIRE SHALL:**

- A. Provide the U.S. Forest Service, the CFL's, and NFWF with:
  - 1. Information concerning CAL FIRE's forest fuels management plans near CFL timber lands and U.S. Forest Service timber lands.
  - 2. Information that may contribute to the conservation of Northern Spotted Owl and other sensitive species.
  - 3. Other data and information requested by the U.S. Forest Service, the CFL's, and NFWF that is not exempt pursuant to the California Public Records Act.

- B. Meet and consult regularly with the CFL's and CAL FIRE, or as mutually agreed by the parties, regarding forest fuels management actions on U.S Forest Service lands.
- C. Upon the request of the U.S. Forest Service, CAL FIRE, or the CFL's, meet with the requesting party and the U.S. Fish and Wildlife Service to discuss Northern Spotted Owl conservation strategies on lands identified through the implementation of this MOU.

**V. U.S. FOREST SERVICE SHALL:**

- A. Provide the CFL's, CAL FIRE, and NFWF with:
  - 1. Information concerning the U.S. Forest Service's forest fuels management plans near CFL timber lands and CAL FIRE Demonstration State Forests.
  - 2. Information that may contribute to the conservation of Northern Spotted Owl and other sensitive species.
  - 3. Other data and information requested by the CFL's relating to these subjects if agreeable to the U.S. Forest Service.
- B. Meet and coordinate regularly with the CFL's and CAL FIRE, or as mutually agreed by the parties, regarding forest fuels management actions on U.S. Forest Service lands.
- C. Implement applicable conservation measures as identified in the applicable Forest Plans and/or finalized Northern Spotted Owl Conservation Strategy on National Forest System lands identified through the implementation of this MOU.
- D. Coordinate with the CFL's and the U.S. Fish and Wildlife Service to discuss Northern Spotted Owl conservation strategies and conservation measures on National Forest System lands identified through the implementation of this MOU.
- E. Encourage direct coordination between the National Forests of Pacific Southwest Region with the parties to this MOU regarding its implementation.

**VI. IT IS MUTUALLY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES THAT:**

- A. **PRINCIPAL CONTACTS.** Individuals listed below are authorized to act in their respective areas for matters related to this agreement.

**Principal Cooperator Contacts:**

<b>Cooperator Program Contact</b>	<b>Cooperator Administrative Contact</b>
Name: Dan Tomascheski, SPI Address: P.O. Box 496028 City, State, Zip: Redding, CA 96049-6028 Telephone: (530) 378-8000 FAX: (530) 378-8109 Email: <a href="mailto:dtomascheski@spi-ind.com">dtomascheski@spi-ind.com</a>	Name: Ed Murphy, SPI Address: P.O. Box 496028 City, State, Zip: Redding, CA 96049-6028 Telephone: (530) 378-8000 FAX: (530) 378-8109 Email: <a href="mailto:emurphy@spi-ind.com">emurphy@spi-ind.com</a>

<b>Cooperator Program Contact</b>	<b>Cooperator Administrative Contact</b>
Name: Jonathan Birdsong, NFWF Address: 90 New Montgomery Street, Suite 1010 City, State, Zip: San Francisco, CA 94105 Telephone: 415-778-0999 FAX: 415-778-0998 Email: <a href="mailto:Jonathan.Birdsong@nfwf.org">Jonathan.Birdsong@nfwf.org</a>	Name: Grants Department, NFWF Address: 1133 Fifteenth St. NW, Suite 1000 City, State, Zip: Washington, D.C. 20005 Telephone: 202-857-0166 FAX: 202-857-0162 Email: <a href="mailto:info@nfwf.org">info@nfwf.org</a>

<b>Cooperator Program Contact</b>	<b>Cooperator Administrative Contact</b>
Name: Helge Eng, CAL FIRE Address: 1416 9th Street, PO Box 944246 City, State, Zip: Sacramento, CA 94244 Telephone: 916-653-5000 FAX: 916-651-1435 Email: <a href="mailto:Helge.Eng@fire.ca.gov">Helge.Eng@fire.ca.gov</a>	Name: Director, CAL FIRE Address: 1416 9th Street, PO Box 944246 City, State, Zip: Sacramento, CA 94244 Telephone: 916-653-5000 FAX: 916-651-1435

**Principal U.S. Forest Service Contacts:**

<b>U.S. Forest Service Program Manager Contact</b>	<b>U.S. Forest Service Administrative Contact</b>
Name: John Exline Address: 1323 Club Drive City, State, Zip: Vallejo, CA 94590 Telephone: 707-562-8689 FAX: 707-562-9229 Email: <a href="mailto:jexline@fs.fed.us">jexline@fs.fed.us</a>	Name: Constance Zipperer Address: 1323 Club Drive City, State, Zip: Vallejo, CA 94590 Telephone: 707-562-9120 FAX: 707-562-9144 Email: <a href="mailto:czipperer@fs.fed.us">czipperer@fs.fed.us</a>

- B. **OTHER AGREEMENTS.** Nothing in this MOU shall modify any other agreements between the parties.
- C. **ASSURANCE REGARDING FELONY CONVICTION OR TAX DELINQUENT STATUS FOR CORPORATE ENTITIES.** This agreement is subject to the provisions contained in the Department of Interior, Environment, and Related Agencies Appropriations Act, 2012, P.L. No. 112-74, Division E, Section 433 and 434

regarding corporate felony convictions and corporate federal tax delinquencies. Accordingly, by entering into this agreement, the signatory acknowledges that it: (1) does not have a tax delinquency, meaning that it is not subject to any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, and (2) has not been convicted (or had an officer or agent acting on its behalf convicted) of a felony criminal violation under any Federal law within 24 months preceding the agreement, unless a suspending and debarring official of the USDA has considered suspension or debarment is not necessary to protect the interests of the Government. If the CFL's, CAL FIRE, or NFWF fails to comply with these provisions, the U.S. Forest Service will annul this agreement as to the violating party, and may recover any funds expended in violation of sections 433 and 434.

- D. **NOTICES.** Any communications affecting the operations covered by this agreement given by the U.S. Forest Service or the CFL's is sufficient only if in writing and delivered in person, mailed, or transmitted electronically by e-mail or fax, as follows:

To the U.S. Forest Service Program Manager, at the address specified in the MOU.

To the CFL's at each of the CFL's addresses shown in the MOU above, or at such other address designated within the MOU.

To CAL FIRE, at CAL FIRE's address shown in the MOU or such other address designated within the MOU.

To NFWF, at NFWF's address shown in the MOU or such other address designated within the MOU.

Notices are effective when delivered in accordance with this provision, or on the effective date of the notice, whichever is later.

- E. **PARTICIPATION IN SIMILAR ACTIVITIES.** This MOU in no way restricts the U.S. Forest Service, the CFL's, CAL FIRE, or NFWF from participating in similar activities with other public or private agencies, organizations, and individuals.
- F. **ENDORSEMENT.** Any of the CFL's contributions made under this MOU do not by direct reference or implication convey U.S. Forest Service, CAL FIRE, or NFWF endorsement of CFL's products or activities.
- G. **NONBINDING AGREEMENT.** This MOU creates no right, benefit, or trust responsibility, substantive or procedural, enforceable by law or equity. The parties shall manage their respective resources and activities in a separate, coordinated and mutually beneficial manner to meet the purpose(s) of this MOU.

Nothing in this MOU authorizes any of the parties to obligate or transfer anything of value.

Specific, prospective projects or activities that involve the transfer of funds, services, property, and/or anything of value to a party requires the execution of separate agreements and are contingent upon numerous factors, including, as applicable, but not limited to: agency availability of appropriated funds and other resources; cooperator availability of funds and other resources; agency and cooperator administrative and legal requirements (including agency authorization by statute); etc. This MOU neither provides, nor meets these criteria. If the parties elect to enter into an obligation agreement that involves the transfer of funds, services, property, and/or anything of value to a party, then the applicable criteria must be met. Additionally, under a prospective agreement, each party operates under its own laws, regulations, and/or policies, and any Forest Service obligation is subject to the availability of appropriated funds and other resources. The negotiation, execution, and administration of these prospective agreements must comply with all applicable law.

Nothing in this MOU is intended to alter, limit, or expand the agencies' statutory and regulatory authority.

- H. USE OF A PARTY'S INSIGNIA. In order for any party to use another party's insignia on any published media, such as a Web page, printed publication, or audiovisual production, permission must be granted in writing, and in the case of the U.S. Forest Service or CAL FIRE, from the U.S. Forest Service's or CAL FIRE's Office of Communications. In the case of the U.S. Forest Service, a written request must be submitted and approval granted in writing by the Office of Communications (Washington Office) prior to use of the insignia.
- I. MEMBERS OF U.S. CONGRESS. Pursuant to 41 U.S.C. 22, no U.S. member of, or U.S. delegate to, Congress shall be admitted to any share or part of this agreement, or benefits that may arise therefrom, either directly or indirectly.
- J. FREEDOM OF INFORMATION ACT (FOIA). Public access to this MOU or agreement records must not be limited, except when such records must be kept confidential and would have been exempted from disclosure pursuant to Freedom of Information Act regulations (5 U.S.C. 552) or the California Public Records Act (California Government Code Section 6250, et seq).
- K. TEXT MESSAGING WHILE DRIVING. In accordance with Executive Order (EO) 13513, "Federal Leadership on Reducing Text Messaging While Driving," any and all text messaging by Federal employees is banned: a) while driving a Government owned vehicle (GOV) or driving a privately owned vehicle (POV) while on official Government business; or b) using any electronic equipment supplied by the Government when driving any vehicle at any time. All cooperators, their employees, volunteers, and contractors are encouraged to adopt and enforce policies that ban text messaging when driving company owned, leased



or rented vehicles, POVs or GOVs when driving while on official Government business or when performing any work for or on behalf of the Government.

- L. TRIBAL EMPLOYMENT RIGHTS ORDINANCE (TERO). The U.S. Forest Service recognizes and honors the applicability of the Tribal laws and ordinances developed under the authority of the Indian Self-Determination and Educational Assistance Act of 1975 (PL 93-638).
- M. PUBLIC NOTICES. It is the U.S. Forest Service's policy to inform the public as fully as possible of its programs and activities. The CFL's, CAL FIRE, and NFWF are encouraged to give public notice of the receipt of this agreement and, from time to time, to announce progress and accomplishments. Press releases or other public notices should include a statement substantially as follows:

“Pacific Southwest Region of the U.S. Forest Service, Department of Agriculture,”

The CFL's, CAL FIRE, and NFWF may call on the U.S. Forest Service's or CAL FIRE's Office of Communication for advice regarding public notices. The CFL's, CAL FIRE, and NFWF are requested to provide copies of notices or announcements to the U.S. Forest Service and CAL FIRE Program Manager and to The U.S. Forest Service's and CAL FIRE's Office of Communications as far in advance of release as possible.

- N. U.S. FOREST SERVICE ACKNOWLEDGED IN PUBLICATIONS, AUDIOVISUALS AND ELECTRONIC MEDIA. The CFL's, CAL FIRE, and NFWF shall acknowledge U.S. Forest Service support in any publications, audiovisuals, and electronic media developed as a result of this MOU\_

- O. NONDISCRIMINATION STATEMENT- PRINTED, ELECTRONIC, OR AUDIOVISUAL MATERIAL. The CFL's, CAL FIRE, and NFWF shall include the following statement, in full, in any printed, audiovisual material, or electronic media for public distribution developed or printed with any Federal funding.

*In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability.*

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

If the material is too small to permit the full statement to be included, the material must, at minimum, include the following statement, in print size no smaller than the text:

***"This institution is an equal opportunity provider."***

- P. **TERMINATION.** Any of the parties, in writing, may terminate this MOU in whole, or in part, at any time before the date of expiration.
- Q. **DEBARMENT AND SUSPENSION.** The CFL's, CAL FIRE, and NFWF shall immediately inform the U.S. Forest Service if they or any of their principals are presently excluded, debarred, or suspended from entering into covered transactions with the federal government according to the terms of 2 CFR Part 180. Additionally, should the CFL's CAL FIRE, or NFWF, or any of their principals, receive a transmittal letter or other official Federal notice of debarment or suspension, then they shall notify the U.S. Forest Service without undue delay. This applies whether the exclusion, debarment, or suspension is voluntary or involuntary.
- R. **MODIFICATIONS.** Modifications within the scope of this MOU must be made by mutual consent of the parties, by the issuance of a written modification signed and dated by all properly authorized, signatory officials, prior to any changes being performed. Requests for modification should be made, in writing, at least 30 days prior to implementation of the requested change.
- S. **COMMENCEMENT/EXPIRATION DATE.** This MOU is executed as of the date of the last signature and is effective through **December 31, 2022** at which time it will expire.
- T. **AUTHORIZED REPRESENTATIVES.** By signature below, each party certifies that the individuals listed in this document as representatives of the individual parties are authorized to act in their respective areas for matters related to this MOU. In witness whereof, the parties hereto have executed this MOU as of the last date shown below.

#### ***EXHIBIT D: DIP TANK INSTALLATION***

Firefighting helicopters use dip tanks when other water sources are not an option. Dip tanks cut the distances that helicopters must travel to the nearest body of water, help when the local water source is not deep enough, or alleviate the environmental concerns with using local water.



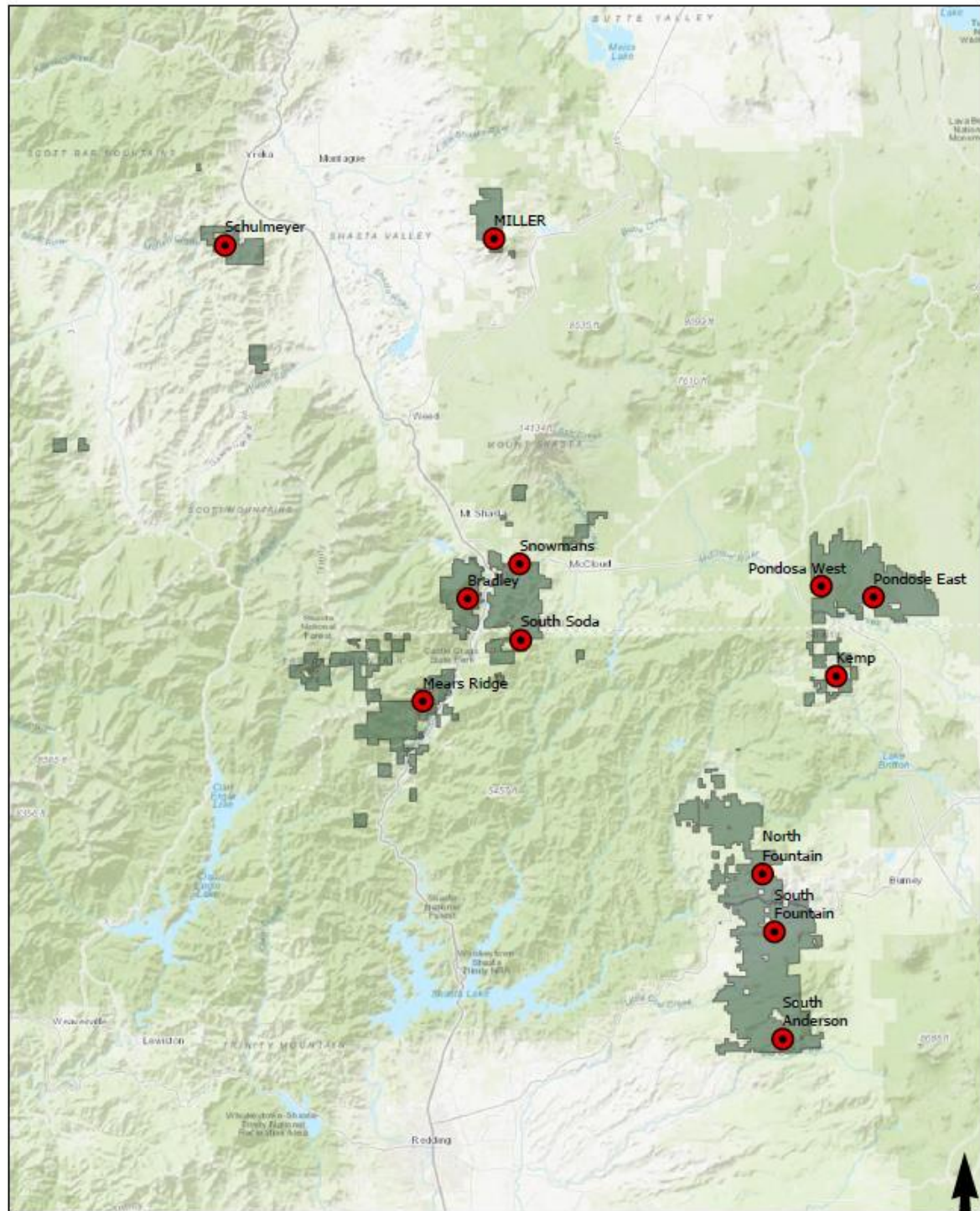
**FWS FORESTRY recommends the purchase of twelve 10,000-gallon Dip Tanks to ensure complete coverage of the SCT footprint in the event of a fire. Eight have been installed.**

**12 - 10,000 Gallon Plastic Dip Tanks**

Cost of tanks:	\$ 7,000	x 12 tanks	\$	84,000
Installation	\$ 10,000	x 12		<u>120,000</u>
Total Cost			\$	204,000

## EXHIBIT E: HELICOPTER DIP TANK LOCATIONS

### PROPOSED HELICOPTER WATER DIP TANK LOCATIONS



● PROPOSED HELICOPTER DIP WATER TANKS  
■ SCT OWNERSHIP

0 5 10 20 Miles

LandVest

## ***EXHIBIT F: PROPOSED ROAD BRUSHING & FUEL BREAK PLAN***

### **Road Brushing**

The 2022 plan includes allocating \$150,000 in the budget for Road Brushing of existing roads to ensure passage of vehicular traffic as well as to act as ensuring roads act as fuel breaks.

### **Fuel Break Proposal: Fountain Plantations**

Location: Former Fountain Fire Plantation, approximately 10,000 acres

Age: Currently 25 years-old conifer plantations

Recommendation: Install fuel-breaks on approximately 570 acres or 20-miles along critical ridges to mitigate the spread of catastrophic wildfire

Cost: \$150,000



## **EXHIBIT G: FIRE RISK ASSESSMENT PROJECT**

**ISSUE:** The forests of Northern California are at increasing risk of catastrophic fire due to a convergence of population and climate weather conditions. Dense and multi-storied mature forests on steep ground are conducive to fueling severe fire behavior. In 2018, the timberland manager facilitated a sixteen-mile emergency fuel break during the Delta-Hirz Fires, which minimized loss of inventory to fires. A comprehensive fire risk assessment is needed to coordinate additional fuel reduction decisions across the entire estate.

**AIM:** Provide improved situational awareness of fire risk on the SCT estate. Integrate this knowledge by prioritizing contingency fuel breaks and scheduling THP planning units to minimize risk of inventory loss due to fire.

**RECOMMENDATION:** Fund a value project that provides a fire risk assessment on the SCT estate using well known fuel models (FVS Fires and Fuels Extension), existing forest inventories, and the FlamMap fire model. Strategies for mitigating fire spread through fuel reductions will be investigated using “state of the science” scenarios in the SCT Strategic Model.

**REQUEST:** Approve Budget.

Upland Douglas Fir Forest	CTT82420CA	2	7174
southern torrent salamander	AAAAJ01020	291	A2843
southern torrent salamander	AAAAJ01020	292	A2848
Sonoma tree vole	AMAFF23030	57	41076
California globe mallow	PDMAL0K040	15	63698
giant fawn lily	PMLIL0U0C0	37	99036
Bald Mountain milk-vetch	PDFAB0F990	19	96727
coast fawn lily	PMLIL0U0F0	19	73709
Bald Mountain milk-vetch	PDFAB0F990	18	96726
Pacific fuzzwort	NBHEP2U010	50	81385

\* Materials, hardware and software licensing are included in total.

## **EXHIBIT H: HELICOPTER INITIAL ATTACK**

**ISSUE:** The forests of Northern California are at increasing risk of catastrophic fire due to a convergence of population and climate weather conditions. Dense and multi-storied mature forests on steep ground are conducive to fueling severe fire behavior. The rapid request, dispatch, and response of wildfire aviation assets for initial attack is an effective approach to suppressing wildfire growth.

There is limited availability of wildfire aviation assets for initial attack to the SCT estate. Cal Fire and Forest Service recognize the need for Increased availability of initial attack wildfire aviation assets for rapid response to timberlands in counties in and surrounding the SCT estate.

Landowner attempts to protect their properties in California with contracted aviation resources is viewed poorly by Cal Fire, Forest Service, and FAA; and exposes the landowner, contractor and pilot to considerable civil and criminal liability if determined they worsened or otherwise interfered with agency firefighting efforts.

There is no known means in California for cost recovery by “going it alone” directly contracting aviation assets for firefighting. Landowner association efforts to increase availability of wildfire aviation assets for initial attack will require a multi-year and ongoing effort. That said, water dropped on a neighbor’s property in a coordinated fashion mitigates the risk of inventory loss on the estate. The 2022 fire season is now.

**AIM:** Increase availability of initial attack wildfire aviation assets for rapid response to timberlands in counties in and surrounding the SCT estate. Communicate the importance of rapid requests to local fire fighters. Encourage private helicopter service companies having “carded” aircraft, pilots, and support to enter into contract with Cal Fire at any time, register with the Cal Fire HEMS program, and geographically stage for severity.

### **RECOMMENDATIONS:**

FWS Forestry will solicit requests for proposals and pursue service contract(s) with private helicopter service companies (vendor). The service to be provided is “staging”. The cost of staging includes the customary daily three-hour minimum flight time, fuel truck mileage, and crew per diem as specified on the vendor’s Cal Fire contract.

Staging is defined as locating the helicopter, fuel support and crew in a ready to respond “available” status for Cal Fire Dispatch. Staging locations will include local and regional airports. Daily staging assignments will be decided by FWS Forestry. The costs of staging reflect the “lost opportunity” cost of the vendor to provide services elsewhere.

On days when the helicopter is dispatched to a fire, the payment for “staging” services will be the responsibility of the dispatching agency. When the helicopter is released from agency control, it will be available again for SCT staging in the next operational period.

### **BUDGET**

The estimated daily cost of staging is pursuant to a minimum 90-day contract to be negotiated by FWS Forestry (estimated \$250,000 per helicopter). Up to three helicopters, and/or equivalent extensions of contracts are recommended. An administrative fee for FWS Forestry services will be assessed as a direct charge.

**REQUEST:** Approve next budget.

- \$750,000 for contracted fire aviation resources
- 3.5% administrative fee \*

\* 190 hours for each 90-day period at FWS Forestry analyst rate (\$140 per hour).



**EXHIBIT I: EXCERPTS FROM STATE FOREST PRACTICE RULES, REGULATIONS AND STATUTES:**

**14-CCR Article 8 Fire Protection**

**918, 938, 958 Fire Protection [Coast, Northern, Southern]**

When burning permits are required pursuant to Public Resource Code 4423, timber operators shall:

(a) Observe the fire prevention and control rules within this article, and

(b) Submit each year, either before April 1st or before the start of timber operations, a fire suppression resources inventory to the Department as required by the rules.

**918.1, 938.1, 958.1 Fire Suppression Resource Inventory [All Districts]**

The Fire Suppression Resource Inventory shall include, as a minimum, the following information:

(a) Name, address and 24-hour telephone number of an individual and an alternate who has authority to respond to Department requests for resources to suppress fires.

(b) Number of individuals available for fire fighting duty and their skills.

(c) Equipment available for fire fighting. The Fire Suppression Resource Inventory shall be submitted to the ranger unit headquarters office of the Department having jurisdiction for the timber operation.

**918.3, 938.3, 958.3 Roads to be Kept Passable [All Districts]**

Timber operators shall keep all logging truck roads in a passable condition during the dry season for fire truck travel until snag and slash disposal has been completed.

**918.4, 938.4, 958.4 Smoking and Matches [All Districts]**

Subject to any law or ordinance prohibiting or otherwise regulating smoking, smoking by persons engaged in timber operations shall be limited to occasions where they are not moving about and are confined to cleared landings and areas of bare soil at least three feet (.914 m) in diameter. Burning material shall be extinguished in such areas of bare soil before discarding. The timber operator shall specify procedures to guide actions of his employees or other persons in his employment consistent with this subsection.

**918.5, 938.5, 958.5 Lunch and Warming Fires [All Districts]**

Subject to any law or ordinance regulating or prohibiting fires, warming fires or other fires used for the comfort or convenience of employees or other persons engaged in timber operations shall be limited to the following condition:

1. There shall be a clearance of 10 feet (3.05 m) or more from the perimeter of such fires and flammable vegetation or other substances conducive to the spread of fire.

2. Warming fire shall be built in a depression in the soil to hold the ash created by such fires.

3. The timber operator shall establish procedures to guide actions of his employees or other persons in their employment regarding the setting, maintenance, or use of such fires that are consistent with (a) and (b) of this subsection.

**918.6, 938.6, 958.6 Posting Procedures [All Districts]**

Timber operators shall post notices which set forth lists of procedures that they have established consistent with Sections 918.4 [938.4, 958.4] and 918.5 [938.5, 958.5]. Such notices shall be posted in sufficient quantity and location throughout their logging areas so that all employees, or other persons employed by them to work, shall be informed of such procedures. Timber operators shall provide for diligent supervision [*Southern: and enforcement*] of such procedures throughout their operations.

**918.7, 938.7, 958.7 Blasting and Welding [All Districts]**

Timber operators shall provide for a diligent fire watch service at the scene of any blasting or welding operations conducted on their logging areas to prevent and extinguish fires resulting from such operations.

#### **918.8, 938.8, 958.8 Inspection for Fire [All Districts]**

The timber operator or his/her agent shall conduct a diligent aerial or ground inspection within the first two hours after cessation of felling, yarding, or loading operations each day during the dry period when fire is likely to spread. The person conducting the inspection shall have adequate communication available for prompt reporting of any fire that may be detected.

#### **918.10, 938.10, 958.10 Cable Blocks [All Districts]**

During the period when burning permits are required, all tail and side blocks on a cable setting shall be located in the center of an area that is either cleared to mineral soil or covered with a fireproof blanket that is at least 15 ft. in diameter. A shovel and an operational full five-gallon back pump or a fire extinguisher bearing a label showing at least a 4A rating must be located within 25 feet of each such block before yarding.

#### **Public Resources Code, Division 4, Chapter 6.**

**4427. Operation of fire causing equipment.** During any time of the year when burning permits are required in an area pursuant to this article, no person shall use or operate any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tarpots, or grinding devices from which a spark, fire, or flame may originate, which is located on or near any forest-covered land, brush-covered land, or grass-covered land, without doing both of the following:

(a) First clearing away all flammable material, including snags, from the area around such operation for a distance of 10 feet.

(b) Maintain one serviceable round point shovel with an over all length of not less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

This section does not apply to portable powersaws and other portable tools powered by a gasoline-fueled internal combustion engine.

#### **4428. Use of hydrocarbon powered engines near forest, brush or grass covered lands**

**without maintaining firefighting tools.** No person, except any member of an emergency crew or except the driver or owner of any service vehicle owned or operated by or for, or operated under contract with, a publicly or privately owned utility, which is used in the construction, operation, removal, or repair of the property or facilities of such utility when engaged in emergency operations, shall use or operate any vehicle, machine, tool or equipment powered by an internal combustion engine operated on hydrocarbon fuels, in any industrial operation located on or near any forest, brush, or grass-covered land between April 1 and December 1 of any year, or at any other time when ground litter and vegetation will sustain combustion permitting the spread of fire, without providing and maintaining, for firefighting purposes only, suitable and serviceable tools in the amounts, manner and location prescribed in this section.

(a) On any such operation a sealed box of tools shall be located, within the operating area, at a point accessible in the event of fire. This fire toolbox shall contain: one backpack pump-type fire extinguisher filled with water, two axes, two McLeod fire tools, and a sufficient number of shovels so that each employee at the operation can be equipped to fight fire.



(b) One or more serviceable chainsaws of three and one-half or more horsepower with a cutting bar 20 inches in length or longer shall be immediately available within the operating area, or, in the alternative, a full set of timber-felling tools shall be located in the fire toolbox, including one crosscut falling saw six feet in length, one double-bit ax with a 36-inch handle, one sledge hammer or maul with a head weight of six, or more, pounds and handle length of 32 inches, or more, and not less than two falling wedges.

(c) Each rail speeder and passenger vehicle, used on such operation shall be equipped with one shovel and one ax, and any other vehicle used on the operation shall be equipped with one shovel. Each tractor used in such operation shall be equipped with one shovel.

(d) As used in this section:

(1) "Vehicle" means a device by which any person or property may be propelled, moved, or drawn over any land surface, excepting a device moved by human power or used exclusively upon stationary rails or tracks.

(2) "Passenger vehicle" means a vehicle which is self-propelled and which is designed for carrying not more than 10 persons including the driver, and which is used or maintained for the transportation of persons, but does not include any motor truck or truck tractor.

**4429. Camps or local headquarters, firefighting equipment.** During any time of the year when burning permits are required in an area pursuant to this article, at any camp maintained in such area for the residence of employees, or at any local headquarters in such area of any industrial, agricultural, or other operations on or near any forest-covered land or brush-covered land, there shall be provided and maintained at all times, in a specific location, for firefighting purposes only, a sufficient supply of serviceable tools to equip 50 percent of the able-bodied, personnel, resident of such camp, or working out of such headquarters, for fighting fires. Among these tools shall be included shovels, axes, saws, backpack pumps, and scraping tools. With such tools there shall also be one serviceable headlight adaptable for attachment to at least one-half of the tractor-bulldozers used on the operation, and a sufficient number of canteens and flashlights to equip a third of the able-bodied personnel.

**4431. Gasoline powered saws, etc.; firefighting equipment.** During any time of the year when burning permits are required in an area pursuant to this article, no person shall use or operate or cause to be operated in the area any portable saw, auger, drill, tamper, or other portable tool powered by a gasoline-fueled internal combustion engine on or near any forest-covered land, brush-covered land, or grass-covered land, within 25 feet of any flammable material, without providing and maintaining at the immediate locations of use or operation of the saw or tool, for firefighting purposes one serviceable round point shovel, with an overall length of not less than 46 inches, or one serviceable fire extinguisher. The Director of Forestry and Fire Protection shall by administrative regulation specify the type and size of fire extinguisher necessary to provide at least minimum assurance of controlling fire caused by use of portable power tools under various climatic and fuel conditions.

The required fire tools shall at no time be farther from the point of operation of the power saw or tool than 25 feet with unrestricted access for the operator from the point of operation.

**4442. Spark arresters or fire prevention measures; requirement; exemptions.**

(a) Except as otherwise provided in this section, no person shall use, operate, or allow to be used or operated, any internal combustion engine which uses hydrocarbon fuels on any forest-covered land, brush-covered land, or grass-covered land unless the engine is equipped with a spark arrester, as defined in subdivision (c), maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443.

**(b)** Spark arresters affixed to the exhaust system of engines or vehicles subject to this section shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material.

**(c)** A spark arrester is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles over 0.0232 of an inch in size from the exhaust flow of an internal combustion engine that uses hydrocarbon fuels or which is qualified and rated by the United States Forest Service.

**(d)** Engines used to provide motive power for trucks, truck tractors, buses, and passenger vehicles, except motorcycles, are not subject to this section if the exhaust system is equipped with a muffler as defined in the Vehicle Code.

**(e)** Turbocharged engines are not subject to this section if all exhausted gases pass through the rotating turbine wheel, there is no exhaust bypass to the atmosphere, and the turbocharger is in effective mechanical condition.

**(f)** Motor vehicles when being operated in an organized racing or competitive event upon a closed course are not subject to this section if the event is conducted under the auspices of a recognized sanctioning body and by permit issued by the fire protection authority having jurisdiction.

# **EXHIBIT J: PROPOSED FUEL BREAKS ON 25-YEAR OLD FOUNTAIN PLANTATION**

