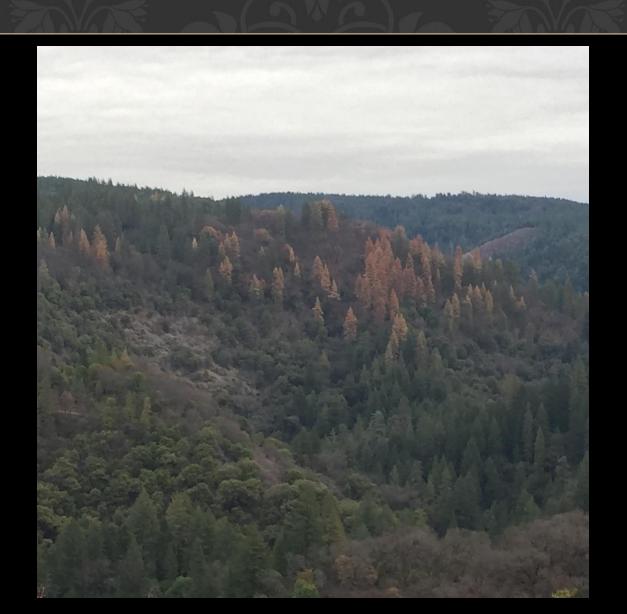
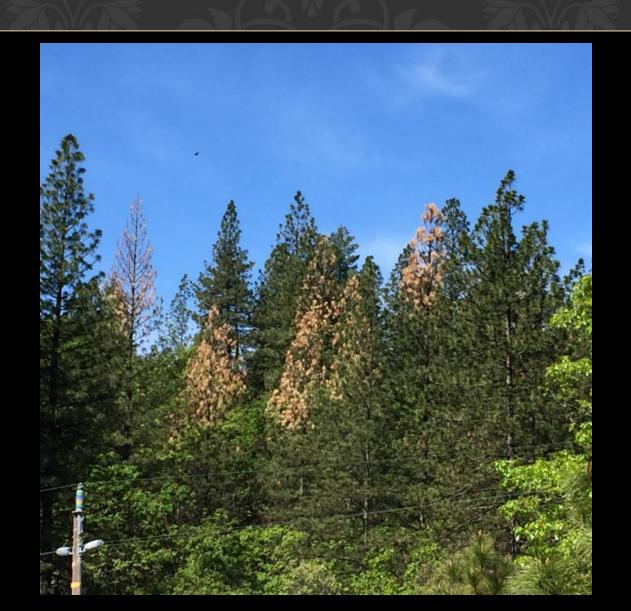
BARK BEETLE STATUS 2016



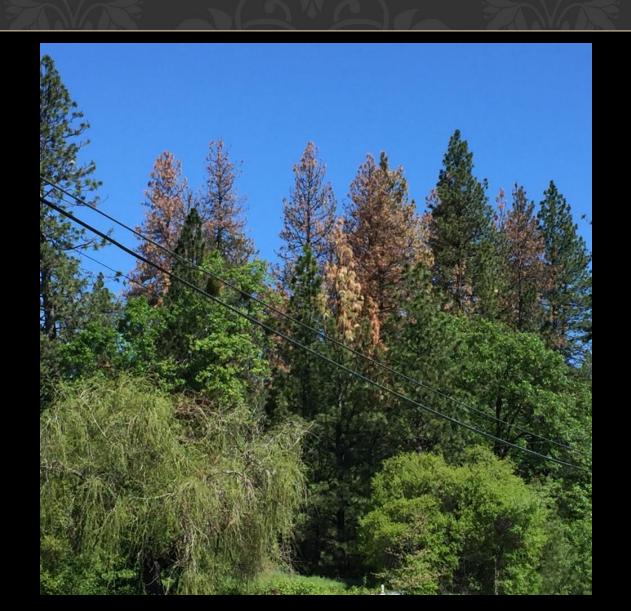










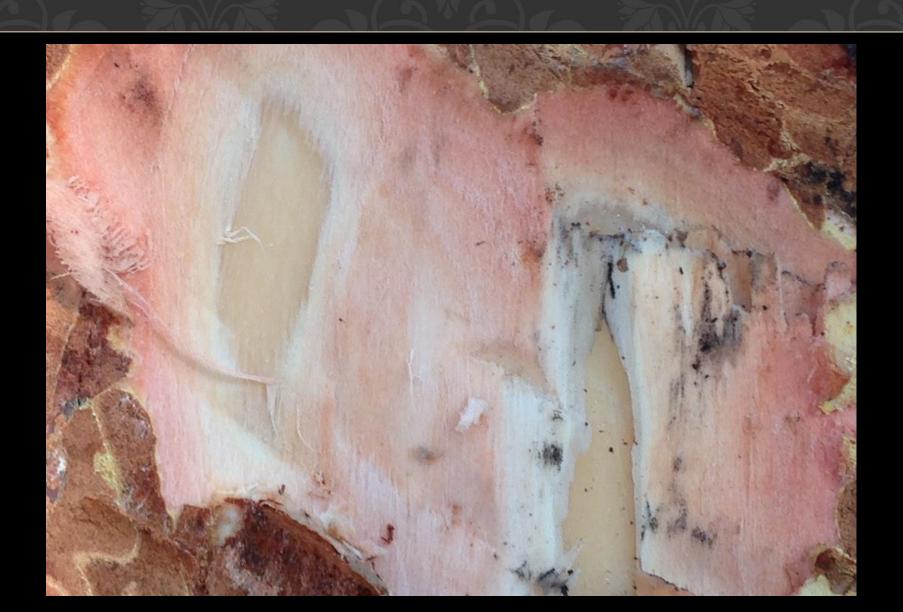


BARK BEETLES KILL THE CAMBIUM LAYER

Healthy Cambium



PINK NEW BARK, WHITE SPONGY CAMBIUM AND CREAM-COLORED NEW WOOD



GREEN PONDEROSA PINE - DEAD

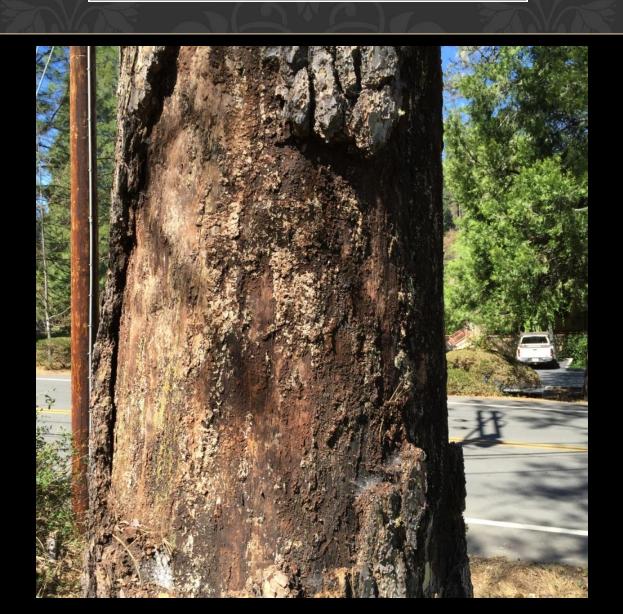
Green, But Dead



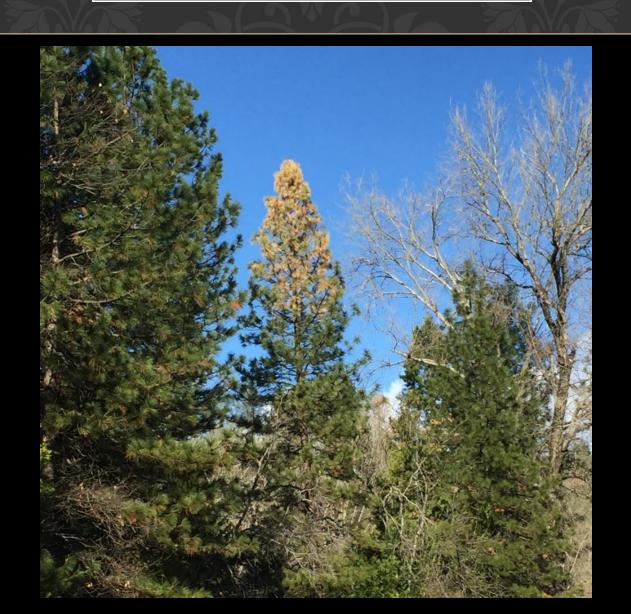
Due to Bark Beetle Attack



MASSIVE BARK BEETLE ATTACK



IPS. SP. BARK BEETLE



WESTERN OR MOUNTAIN BARK BEETLE PITCH TUBES



WESTERN PINE BARK BEETLE

Small White, Red, or Pink Pitch Tubes on the Bole of the Tree

Woodpeckers Mine for Larvae Hiding in the Bark





MOUNTAIN PINE BARK BEETLE

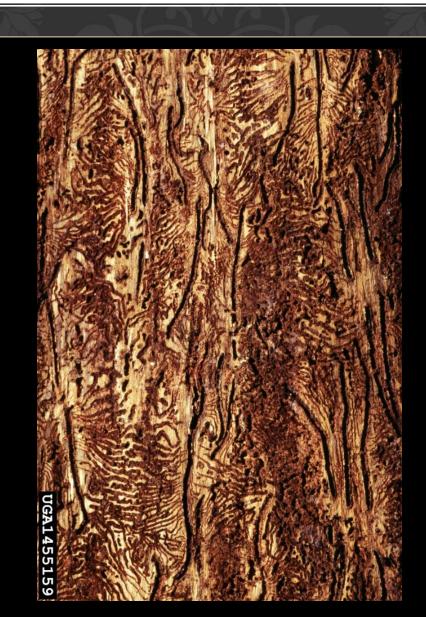
Small White, Red, or Pink Pitch Tubes on the Bole of the Tree







IPS. SP. BARK BEETLE GALLERIES



TURPENTINE BARK BEETLE

Large, Usually Reddish, Pitch Tubes

Always at the Base of the Tree





RED TURPENTINE BARK BEETLE



PONDEROSA PINE



TWO TYPES OF CROWN LOSS

Lion's Tailing Due to Age in Ponderosa Pine

Crown Weakness Due to Western Gall Rust in Ponderosa Pine





PARASITE WEAKENED PONDEROSA PINE

Dwarf Mistletoe Fruiting Body

Deformed Branching Due to Dwarf Mistletoe





WHAT CAN BARK TELL YOU?

Bark Exhibits Rapid Growth Bark Exhibits Slow Growth





CAN YOU SEE THE FOREST FOR THE TREES?

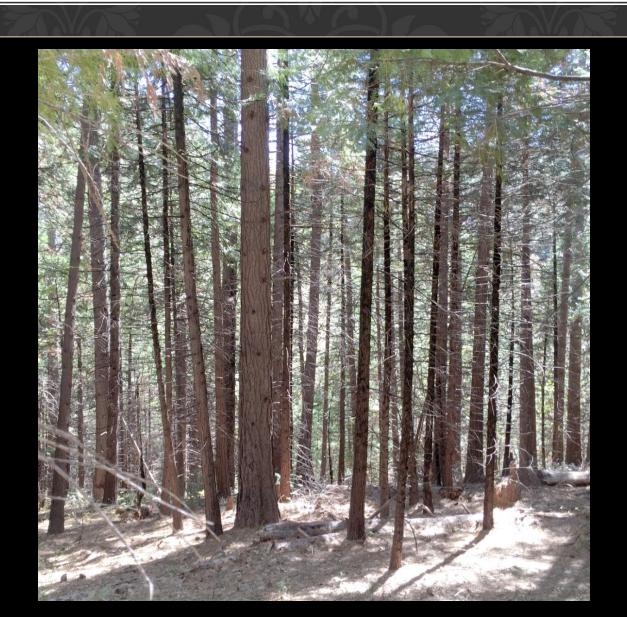
Fire Exclusion and

Plantation 50 Years after the No Stocking Control in this
120 Year-Old Stand
1959 Mountain House Fire
Prescribed Burned 3 Times Prescribed Burned 3 Times





EXTREMELY HIGH STOCKING



EXCESSIVE UNDERSTORY COMPETITION

Dense Foliage Consumes Water Destined for Trees Dense Foliage Consumes Nutrients Destined for Trees





CALFIRE DROUGHT EXEMPTION

DROUGHT MORTALITY EXEMPTION HARVESTING DEAD OR DYING TREES RELATED TO DROUGHT FOR FUELWOOD OR SPLIT PRODUCTS 14 CCR § 1038(k)

FOR ADMIN. USE ONLY

Ex. #____

Date of Receipt ____

Date Expires ____

STATE OF CALIFORNIA

DEPARTMENT OF FORESTRY AND FIRE PROTECTION

NOTICE OF TIMBER OPERATIONS THAT ARE EXEMPT FROM

TIMBER HARVESTING PLAN REQUIREMENTS; RM-73 (§1038(k)) (07/15)

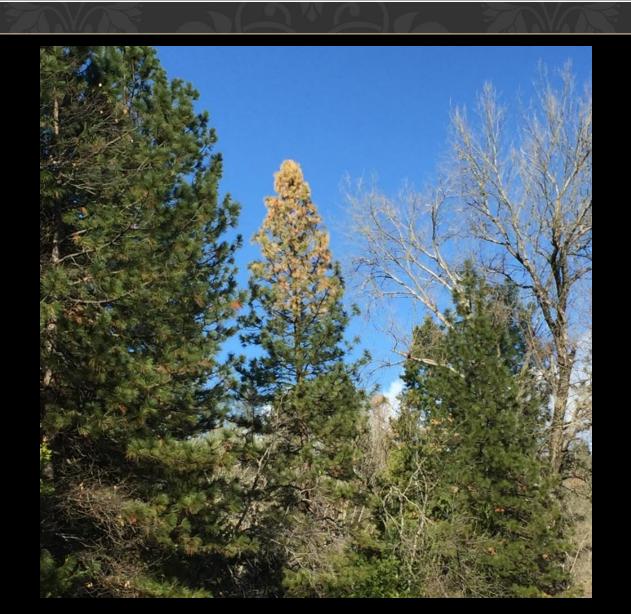
VALID FOR ONE YEAR FROM DATE OF RECEIPT BY CAL FIRE

The Director of the Department of Forestry and Fire Protection (CAL FIRE) is hereby notified of timber operations under the requirements of 14 CCR § 1038(k).

The timber owner shall complete this form both pages, then sign on page three.

		BER OWNER(S) e	OF RECORD:				
Α	ddr	ess					
C	ity			State	Zip	Phone	
ec. 38 ot exc cempt all the	interestion	6). Some small of d \$3,000 within a i, please complet tate Board of Eq	nber owners owe timber yield tax worlow value harvests may be exem quarter, according to BOE Harves et items A, B, C, and D below. For qualization, 1-800-400-7115 or writ 279-0060; or contact the BOE Web	pt from the timber yield it Value Schedules, Rule timber yield tax inform te: Timber Tax Section,	tax: timber removed 1024. If you believ lation or for further MIC: 60, State Boar	I from an operation we your harvest may or assistance with the dof Equalization, P.0	whose value doe qualify for this ese questions
Α		Circle the option log):	that most closely estimates the to	tal volume for this harve	st, in thousands of b	ooard feet (mbf - Net	Scribner short
		Under 8 mbf	8-15 mbf	16-25 mbf	Over 25 mbf		
В	Ş	Estimate what p	ercentage of timber will be remove	d during this harvest:			
		Redwood	%; Ponderosa/Sugar pine	%; Douglas-fir _	%; Fir	%;	
		Port-Orford Ced	ar%; Cedar (IC, WRC)	%; Other con	ifer %;; O	ther hardwood	%.
С		Fuelwood over	150 cords? Yes No				
Т	IME	BERLAND OWNE	ER(S) OF RECORD:				
N	am	e	r 10 3 10 10 10 10 10 10 10			(
Α	ddr	ess					
С	ity			State	Zip	Phone	
1	cer	tify, that I am th	e Timber Landowner of record fo	or the property where	harvesting under t	he exemption will b	e conducted.
S	IGI	NATURE		10 V 10	10. 10. 10. 10. 10. 10.	Date	n
LI	ICE	NSED TIMBER	OPERATOR(S):				
N	am	е				Lic. No	
Α	ddr	ess					
C	ity			State	Zip	Phone	

DOES NOT MEET DROUGHT EXEMPTION



ADDITIONAL CALFIRE EXEMPTION FORMS \$350 - \$750 EACH

10% Dead and Dying

CHRISTMAS TREE; DEAD FUELWOOD OR SPLIT PE			FOR ADMIN. USE ONLY
		Ex.#	
STATE OF CA			
DEPARTMENT OF FORESTR		Date of	Receipt
NOTICE OF TIMBER OPERATION			
TIMBER HARVESTING PLAN REQUI	REMENTS; RM-73(1038ab) (9/	99) Date E	pires
VALID FOR ONE YEAR FROM	DATE OF RECEIPT BY CDF		
The Director of the Department of Forestry and The following type(s) of timber operation is to t		d of timber operations	s under the requirements of 14 CCR 1038(a) or (b).
Harvesting Christmas trees.			
Harvesting dead, dying or diseased transet the conditions listed in 14 CCR 1038(b).		han 10 percent of the	average volume per acre, where timber operations will
Harvesting fuelwood or split products conditions listed in 14 CCR 1038(b).	n amounts less than 10 percent	of the average volume	e per acre, where timber operations will meet the
The Timber Owner shall complete this form bo	th pages, then sign on Page Tw	0.	
1. TIMBER OWNER(S) OF RECORD: Name	1		
Address			

<3 Acre Conversion

LESS ITANS	ACRE CONVERSION EXEMP	'TION	FOR ADMIN, USE ONLY
DEPARTMEN	STATE OF CALIFORNIA		Ex. #
	BER OPERATIONS THAT ARE EXEMPT FRO D TIMBER HARVESTING PLAN REQUIREM		Date of Receipt
	RM-73(1104.1a) (9/99)		Date Accepted
TIMBER OPERAT	E YEAR FROM DATE OF RECEIPT BY TIONS CANNOT START UNTIL VALID F ACCEPTANCE IS RECEIVED FROM	COPY	Date Expires
description of the conditions on the through 8, on both pages of this no 1. TIMBER OWNER(S) OF RECO Address	otice.	and additional information	on that is <i>required</i> to be submitted.) Complete Items 1.
	State	Zip	Phone
City			
SSR-			Date

Emergency Notice

	RGENCY TIMBER OPERATION: HAZARD REDUCTION		FOR ADMIN. USE ONLY
		EM.#	
NOTICE OF TIME	PARTMENT OF FORESTRY AND FIRE PROTEC' IBER OPERATIONS THAT ARE EXEMPT IG PLAN REQUIREMENTS RM-65(1052.4) (2/24	Date of	Receipt
	10 10	Date Ac	cepted by CDF
OPERATIONS CANNOT C	OMMENCE FOR 15 WORKING DAYS FROM DA OF RECEIPT BY CDF ¹	TE Date Ex	pires
VAL	ID THROUGH June 24, 2005*		
1052.4 to remove timber on an emerge on Page Two and provide additional inf 1. TIMBER OWNER(S) OF RECO	prestry and Fire Protection is hereby notified of timber noy basis. The Registered Professional Forester (RP martion. The Tritber Owner must sign the declarati RD: Name	F) should complete items 1 - 7 and on of intent to pay the yield tax in it	shall sign the Declaration of Emergency
1052.4 to remove timber on an emerge on Page Two and provide additional int 1. TIMBER OWNER(S) OF RECC Address	ncy basis. The Registered Professional Forester (RP ormation. The Timber Owner must sign the declarati RD: Name	F) should complete items 1 - 7 and on of intent to pay the yield tax in i	d shall sign the Declaration of Emergency
1052.4 to remove timber on an emerge on Page Two and provide additional int 1. TIMBER OWNER(S) OF RECC Address	ncy basis. The Registered Professional Forester (RP ormation. The Timber Owner must sign the declarati RD: Name	F) should complete items 1 - 7 and on of intent to pay the yield tax in it	d shall sign the Declaration of Emergency arm 1. Phone
052.4 to remove timber on an energy or hage to water of the Page Two and provide additional int. I. TIMBER OWNER(S) OF RECC Address City MIMBER TAX NOTICE: The Timit ander penalty of perjury, that a superpose of the signature between the signature that the signature	nry basis. The Registered Professional Forester (IPPormotion. The Timber Owner must sign the declarate (RD. Name State Owner in responsible for payment of a yio per Owner is responsible for payment of a yio per Owner is responsible for payment of a yio yir yapplicable timber yield traces will be payment of a yio yii TIMBERT 1AX EXEMPTION. Timber owners see. 38110). Some small or low value harvest means a Commission of the	F) should complete items 1 - 7 and on of intent to pay the yield tax in I in a first to pay the yield tax in I in a first to pay the yield tax in I in a first to fir	shall age the Destration of Emergency tem 1. ———————————————————————————————————

150' Structure Exemption

	L OF FIRE HAZARD TREES		FOR ADMIN, USE ONLY
WITHIN 100 FEE	T OF A STRUCTURE EXEMPTION	F	ix.#
	STATE OF CALIFORNIA		Date of Receipt
	OF FORESTRY AND FIRE PROTECTION		or receipt
	R OPERATIONS THAT ARE EXEMPT FROM RVESTING PLAN REQUIREMENTS	E.	Date Accepted by CDF
	RM-73(1038d) (11/99)	C C	Date Expires
VALID FOR ONE	YEAR FROM DATE OF RECEIPT BY CDF		
OPERATIONS MAY NOT COMMEN	ICE FOR FIVE WORKING DAYS FROM DATE OF	RECEIPT BY CDF	
emove trees in compliance with Put	orestry and Fire Protection is hereby notified of timb plic Resources Code Sections 4290 and 4291. RD; Name	er operations under th	ne requirements of 14 CCR 1038(d) to cut or
	blic Resources Code Sections 4290 and 4291.	er operations under th	ne requirements of 14 CCR 1038(d) to cut or
emove trees in compliance with Put 1. TIMBER OWNER(S) OF RECO	olic Resources Code Sections 4290 and 4291. RD; Name	er operations under th	
emove trees in compliance with Pul 1. TIMBER OWNER(S) OF RECOL Address City IMBER TAX EXEMPTION: Timber	plic Resources Code Sections 4290 and 4291. RD: Name St rowners owe timber yield tax when they harvest tre	ateZip _ es unless the harvest	Phone is exempt (Revenue and Taxation Code soc.
emove trees in compliance with Put 1. TIMBER OWNER(S) OF RECOL Address City TIMBER TAX EXEMPTION: Timber 8116). Some small or low value ha	pile Resources Code Sections 4290 and 4291. BD: Name St. rowners owe timber yield tax when they harvest for evertee may be exempt from timber yield tax: timber yield tax: timber	ateZip _ es unless the harvest removed from an ope	Phone is exompt (Revenue and Taxation Code sec. ration whose value does not exceed \$3,000
emove brees in compliance with Put 1. TIMBER OWNER(S) OF RECOI Address City TIMBER TAX EXEMPTION: Timber 8116). Some small or low value ha thithin a quarter, according to BOE it	pile Resources Code Sections 4290 and 4291. 8D. Name St. rowners owe timber yield tax when they harvest for rovest may be exempt from timber yield tax: timber invest one than the code tax. Timber the code tax.	ateZip_ es unless the harvest removed from an ope your harvest may qua	Phone is exempt (Revenue and Taxation Code sec. ration whose value does not exceed \$3,000 lifty for this exemption, please complete items
smove trees in compliance with Put I. TIMBER OWNER(S) OF RECOI Address City IMBER TAX EXEMPTION: Timbes 8116). Some small or low value ha thin a quarter, according to BOE I- and B below. For timber yield It and	pile Resources Code Sections 4290 and 4291. BD: Name St. rowners owe timber yield tax when they harvest for evertee may be exempt from timber yield tax: timber yield tax: timber	ateZip es unless the harvest removed from an ope your harvest may qui e questions call 1-81	Phone is exempt (Revenue and Taxation Code sec. ration whose value does not exceed \$3,000 iilly for this exemption, please complete items 04-00-011s; or with Timber Tax Section
move bress in compliance with Put TIMBER OWNER(S) OF RECOI Address City MBER TAX EXEMPTION: Timbe 1116). Some small or low value ha thin a quarter, according to BOE I and Below. For timber yield It and	pile Resources Code Sections 4290 and 4291. 8D: Name sometimes when they harvest the rowners owe timber yield tax when they harvest the revest may be exempt from timber yield tax: timber larvest Value Schedules, Rivie 1024. If you believe is information or for further assistance with thes	ateZip es unless the harvest removed from an ope your harvest may qui e questions call 1-81	Phone is exempt (Revenue and Taxation Code sec. ration whose value does not exceed \$3,000 illy for this exemption, please complete items 04-040-11fs, or with: Timber Tax Section 15

TIMBER HARVEST PLAN \$6,000 PLUS

his Timb nd Fire F HP is div ypewritte hange, b his THP director cone Forest	Protection rules. All rule referent vided into six sections. See sepa ten. Additional space may be is bold or underline. conforms to my/our plan and of Forestry and Fire Protection, at Practice Act and Forest Practice MBER OWNER(S) OF RECORE	DEPARTMEN AND FIRE RM-6 THP Name: If this is a MODIFIE! when properly completed, is desi, cess are from Title 14 CCR; when or or inserted, as needed, to provide re SECTION I - GENER upon approval, I/we agree to cond and his or her agents and employee e Rules.	DTHP, check box: gned to comply with the lited, the form text will on a completing this form. Quired information. Plea AL INFORMATION luct harvesting in accord-	FOR ADMIN. USE ONLY THP No. Dates Rec'd: Date Filed Date Approved Date Expired Extension: [] Am #
had Fire F P is div pewritte priestor c prie	10	AND FIRE RM-6 THP Name: If this is a MODIFIE! when properly completed, is desi, cose are from Title 14 CCR; when crate instructions for information or inserted, as needed, to provide re SECTION I - GENER upon approval, I/we agree to cond and his or her agents and employee e Rules.	PROTECTION 3 (03-15) DIHP, check box: [] gned to comply with the ited, the form text will on a completing this form. N quired information. Ple AL INFORMATION luct harvesting in accord-	Dates Rec'd: Date Filed Date Approved Date Expired Extension: [] Am # Forest Practice Act (FPA) and Board of Forest now make reference to the rule number itself. TNOTE: The form must be printed legibly in ink ease distinguish answers from questions by form the provided of the provided in t
Addictions of the Control of the Con	11. 12. 13. 14. ber Harvesting Plan (THP) form, Protection rules. All rule referer vided into six sections. See sepa ten. Additional space may be i bold or <u>underline</u> . conforms to my/our plan and of Forestry and Fire Protection, ist Practice Act and Forest Practic MBER OWNER(S) OF RECORD	THP Name: If this is a MODIFIE when properly completed, is desi sinces are from Title 14 CCR; when co ate instructions for information or nserted, as needed, to provide re SECTION I - GENER upon approval, I/we agree to cond and his or her agents and employee e Rules. Name	DTHP, check box: [] gned to comply with the ited, the form text will on a completing this form. N quired information. Ple AL INFORMATION luct harvesting in accord-	Date Filed Date Approved Date Expired Extension: [] Am # Forest Practice Act (FPA) and Board of Forest now make reference to the rule number itself. TNOTE: The form must be printed legibly in ink lase distinguish answers from questions by forward the provided of the provided in the provided i
had Fire F P is div pewritte price to re price Forest Add Cit Sig	12. 13. 14. 14. ber Harvesting Plan (THP) form, Protection rules. All rule reference vided into six sections. See sepaten. Additional space may be is bold or underline. conforms to my/our plan and of Forestry and Fire Protection, ast Practice Act and Forest Practic MBER OWNER(S) OF RECORD	If this is a MODIFIE When properly completed, is desi, ces are from Title 14 CCR; when or atte instructions for information for information store inserted, as needed, to provide re SECTION I - GENER Upon approval, I/we agree to cond and his or her agents and employee e Rules. Name	DTHP, check box: gned to comply with the lited, the form text will on a completing this form. Quired information. Plea AL INFORMATION luct harvesting in accord-	Date Approved Date Expired Extension: [] Am # Forest Practice Act (FPA) and Board of Forest nly make reference to the rule number itself. T NOTE: The form must be printed legibly in ink lease distinguish answers from questions by form the form must be printed to the rule number itself. The form must be printed legibly in ink lease distinguish answers from questions by form and the rule of t
his Timb nd Fire F HP is div pewritte hange, b his THP irector can Forest 1. TIM Add Cit	ber Harvesting Plan (THP) form, Protection rules. All rule referer vided into six sections. See sepa ten. Additional space may be i bold or <u>underline</u> . conforms to my/our plan and to f Forestry and Fire Protection, is t Practice Act and Forest Practic MBER OWNER(S) OF RECORE	If this is a MODIFIE! when properly completed, is desi, sces are from Title 14 CCR; when c rate instructions for information or sserted, as needed, to provide re SECTION I - GENER upon approval, I/we agree to cond and his or her agents and employee e Rules. Name	DTHP, check box: gned to comply with the lited, the form text will on a completing this form. Quired information. Plea AL INFORMATION luct harvesting in accord-	Date Expired Extension: [] Am # Forest Practice Act (FPA) and Board of Forest nly make reference to the rule number itself. TNOTE: The form must be printed legibly in ink ase distinguish answers from questions by forward the properties of
his Timb nd Fire F HP is div pewritte hange, b his THP irrector cone Forest 1. TIM Add	ber Harvesting Plan (THP) form, Protection rules. All rule referet vided into six sections. See sepa ten. Additional space may be i bold or <u>underline</u> . conforms to my/our plan and of Forestry and Fire Protection, as the Protection of the	when properly completed, is desi, cost are from Title 14 CCR; when clate instructions for information or inserted, as needed, to provide re SECTION I - GENER upon approval, I/we agree to cond and his or her agents and employee Rules. Name	gned to comply with the ted, the form text will on a completing this form. N quired information. Ple AL INFORMATION luct harvesting in accord-	Extension: [] Am # Forest Practice Act (FPA) and Board of Forest nly make reference to the rule number itself. TNOTE: The form must be printed legibly in ink ase distinguish answers from questions by forward the properties of the propertie
nd Fire F HP is div pewritte hange, b his THP irector of he Foresi Add City	Protection rules. All rule referent vided into six sections. See sepa ten. Additional space may be is bold or underline. conforms to my/our plan and of Forestry and Fire Protection, at Practice Act and Forest Practice MBER OWNER(S) OF RECORE	when properly completed, is desi, cost are from Title 14 CCR; when clate instructions for information or inserted, as needed, to provide re SECTION I - GENER upon approval, I/we agree to cond and his or her agents and employee Rules. Name	gned to comply with the ted, the form text will on a completing this form. N quired information. Ple AL INFORMATION luct harvesting in accord-	Forest Practice Act (FPA) and Board of Forest nly make reference to the rule number itself. T NOTE: The form must be printed legibly in ink ase distinguish answers from questions by for the form the forest number of the
nd Fire F HP is div pewritte hange, b his THP irector of he Foresi Add City	Protection rules. All rule referent vided into six sections. See sepa ten. Additional space may be is bold or underline. conforms to my/our plan and of Forestry and Fire Protection, at Practice Act and Forest Practice MBER OWNER(S) OF RECORE	inces are from Title 14 CCR; when coate instructions for information or inserted, as needed, to provide respectively. SECTION I - GENER upon approval, I/we agree to conduid his or her agents and employee e Rules.	ted, the form text will on a completing this form. No quired information. Plea AL INFORMATION luct harvesting in accordance.	nly make reference to the rule number itself. T NOTE: The form must be printed legibly in ink lase distinguish answers from questions by fo lance therewith. Consent is hereby given to t
1. TIN Add City Sig	of Forestry and Fire Protection, st Practice Act and Forest Practic MBER OWNER(S) OF RECORE	ipon approval, I/we agree to cond ind his or her agents and employee e Rules. b: Name	luct harvesting in accord	
rector of e Foresi 1. TIN Add Cit	of Forestry and Fire Protection, st Practice Act and Forest Practic MBER OWNER(S) OF RECORE	and his or her agents and employee e Rules. b: Name		
Cit				
Sig	ty	Chata		
		State	Zip	Phone
				Date
ww	ard of Equalization, P.O. Box 942879 vw.boe.ca.gov/proptaxes/timbertax MBERLAND OWNER(S) OF RE	.htm.	Phone 1-800-400-7115. For	r Timber Tax information, please see our website at
Adr	ldress	**		
Cit	ty	State	Zip	Phone
	1.07		#	Date
	CENSED TIMBER OPERATOR(Lic. No.
	•	(If unknown, so state.	You must notify CAL FIRE o	of LTO prior to start of operations)
Add	ldress			
Cit	ty	State	Zip	Phone
Sie	gnature			Date
2,6				
	AN SUBMITTER(s): Name			
4. PL		wns, leases, contracts, or operates		bmitter is not identified in (1), (2), or (3),
		s/her authority to submit the plan	siloulu de provideu ili set	ction III. [1032.7(a) and 1034(e)].
The		s/her authority to submit the plan	snould be provided in ser	ction III. [1032.7(a) and 1034(e)].
Add	above, an explanation of hi			ction III. [1032.7(a) and 1034(e)] Phone

FUEL TREATMENT REQUIRED

Limbs and Tops

Logs and Other Large Debris





FUEL TREATMENT REQUIRED

Large Chunks, Limbs, & Tops Logs and Other Large Debris





PILE AND BURN

Release of Monoterpenes Until Burned



MASTICATION

Release of Monoterpenes-Attracting Beetles



CHIPPING

Massive Release of Monoterpenes and Nitrogen Depletion



DOMESTIC MILLS



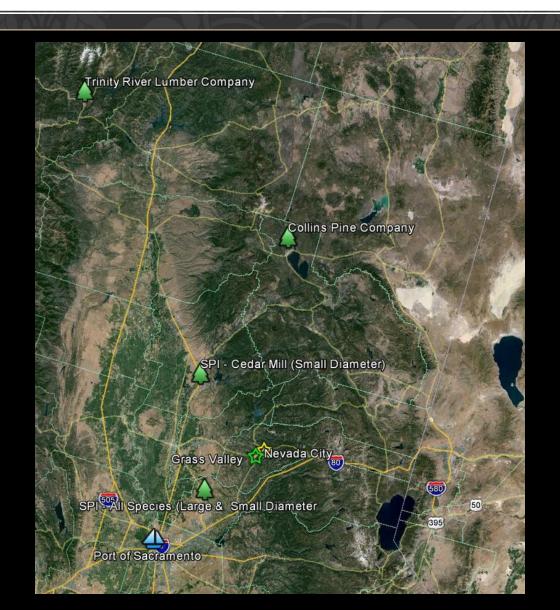
EXPORT LOGS OVERSEAS



TRANSFER LOGS TO DISTANT MILLS



PROCESSING FACILITIES AVAILABILITY MAP



BLUE STAIN FUNGUS

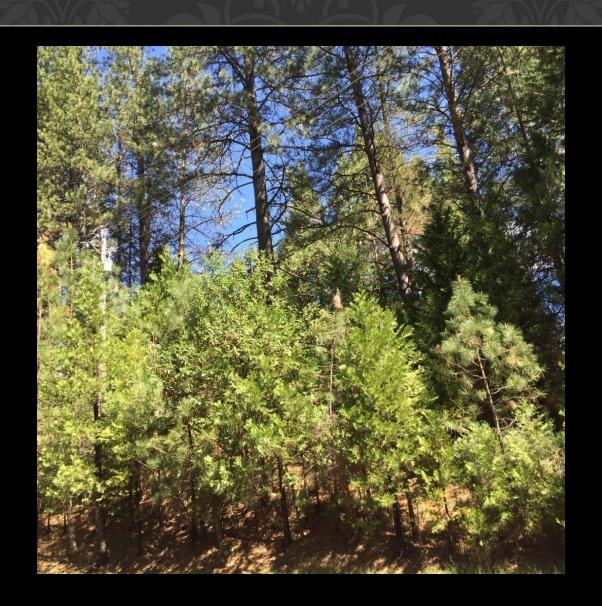
No Loss of Structural Integrity, However Loss of Grade and Value



EXCESSIVE ROOT COMPETITION



EXCESSIVE ROOT COMPETITION AND VOLATILE FUEL LADDER



FIRE EXCLUSION AND NO STOCKING CONTROL

Suppressed Slow-Growing

Heavily Fuel-Loaded and Trees with Poor Crowns and
Thin Bark

Extremely Susceptible to Fire
or Insect Damage







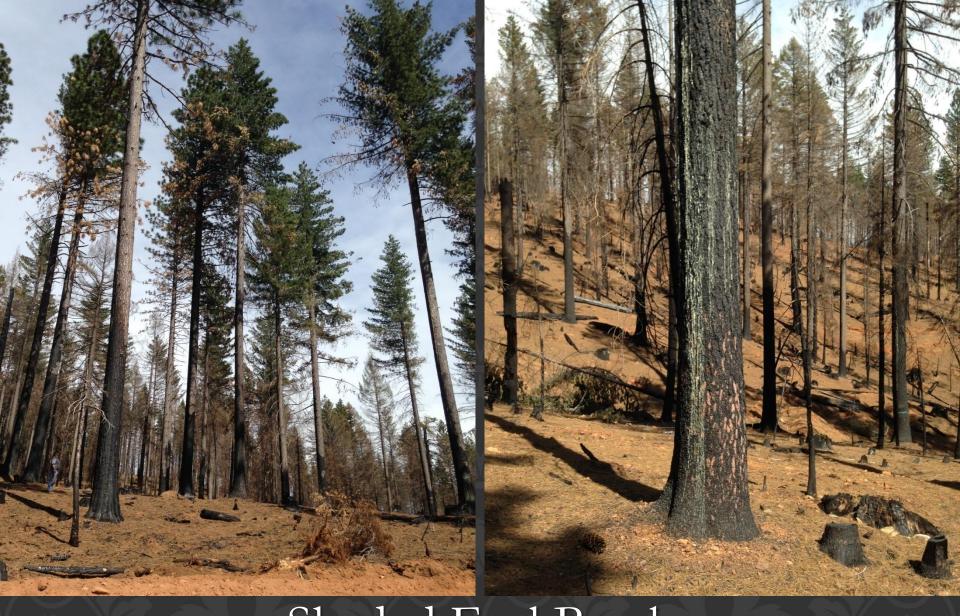
Rubicon Canyon - No Survivors



USFS Large Diameter Shaded Fuel Break No Ground Fuel Removal



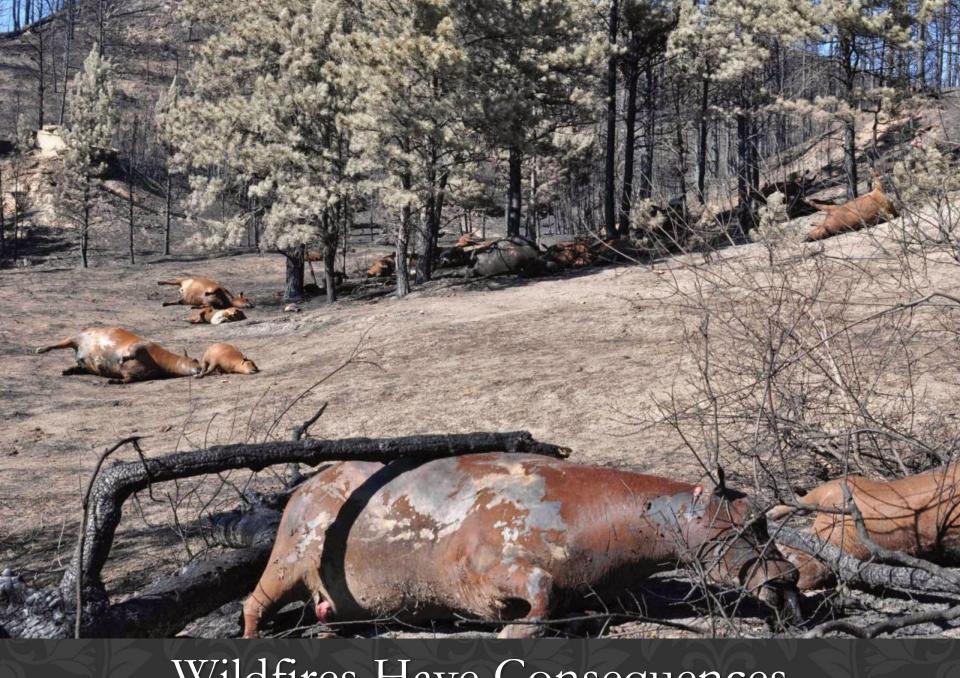
Shaded Fuel Break Limited Surface Fuel Removal



Shaded Fuel Break Limited Surface Fuel Removal



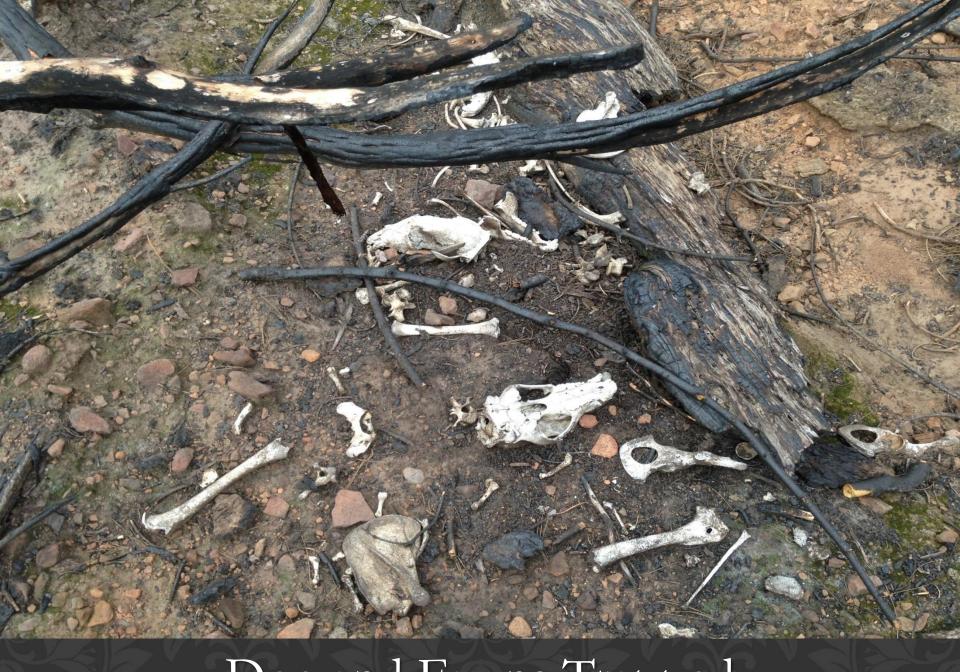
Stumpy Meadows Reservoir, El Dorado County



Wildfires Have Consequences



Starving Bobcat with Burned Pads



Doe and Fawns Trapped

WHAT A LANDOWNER CAN DO - REDUCE TREE STRESS

Thin and Remove Excessive Stocking



WHAT A LANDOWNER CAN DO - REDUCE TREE STRESS

Thin and Remove Understory Vegetation



WHAT A LANDOWNER CAN DO - REDUCE TREE STRESS

Thin and Remove Weak or Unhealthy Trees



WITHOUT PROCESSING FACILITIES LANDOWNERS ARE LEFT WITH HEAVY FUELS



DOING NOTHING, LANDOWNERS ARE LEFT WITH MASSIVE FIRE FUELS

