

\* CORRECTED IAP \*

# DEER INCIDENT

CA-TGU-006768



**Incident Action Plan**  
**Friday, August 30, 2013**  
**to**  
**Sunday, September 1, 2013**  
**Operational Period: 0700-1900 hrs.**

<b>INCIDENT OBJECTIVES</b>	1. Incident Name <b>DEER CA TGU 006768</b>	2. Date <b>8/29/2013</b>	3. Time <b>1900</b>
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4. Operational Period  
**8/30/13 to 9/1/13                      0700-1900**

5. General Control Objectives for the incident (include alternatives)

**Management Objectives:**

1. Provide for emergency response personnel and public safety.
2. Keep costs commensurate with values at risk.
3. Maintain cooperative relationships with assisting agencies.
4. Ensure all actions on the Ishi Wilderness Area are within the suppression guidelines.

**Control Objectives:**

Keep the fire within the current perimeter.

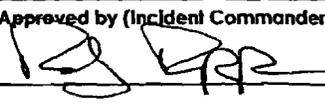
6. Weather Forecast for Period

**See attached Weather Forecast**

7. General Safety Message

**See attached Safety Message**

8. Attachments (mark if attached)		
<input checked="" type="checkbox"/> Organization List - ICS 203	<input checked="" type="checkbox"/> Medical Plan - ICS 206	<input checked="" type="checkbox"/> Base Camp Map
<input checked="" type="checkbox"/> Div. Assignment Lists - ICS 204	<input checked="" type="checkbox"/> Incident Map	<input checked="" type="checkbox"/> Finance Message
<input checked="" type="checkbox"/> Communications Plan - ICS 205	<input checked="" type="checkbox"/> Traffic Plan	<input checked="" type="checkbox"/> Training Message.

9. Prepared by (Planning Section Chief) 	10. Approved by (Incident Commander) 
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<b>DIVISION ASSIGNMENT LIST</b>				1. Branch		2. Division/Group <b>DEER OPERATIONS</b>				
3. Incident Name <b>Deer CA-TGU-006768</b>				4. Operational Period Date: <b>8/30 to 9/1/13</b> Time: <b>0700-1900 Hrs.</b>						
5. Operations Personnel										
Operations Chief		<b>Dan Dennett</b>			Division/Group Supervisor		<b>Dan Dennett</b> ↘			
Branch Director					Air Attack Supervisor No.					
6. Resources Assigned this Period										
Strike Team/Task Force/ Resource Designator		Briefing	Leader	Number Persons	Trans. Needed	Report Location		On Shift	Arrival Time	Off Shift
STC TGU 9250C *		↘	Dan Dennett	16		Fairgrounds			0700	
STG TGU 9253G **		↘	Felix Berbena	31		Ishi Camp			0700	
WT PVT E-43 Montz Bros		↘	Jeff Bailly	1		Fairgrounds			0700	
WT PVT E-44 Shumas		↘	Justin Schultz	1		Fairgrounds			0700	
7. Control Operations										
Maintain and improve existing control lines. Coordinate with Fire Suppression Repair on work assignments.										
8. Special Instruction										
Engines will be left on the line over night. Personnell will be flown to and from Red Bluff Fairgrounds each shift. *1 ENG to DP 1, 2 ENG's to DP 3, 2 ENG's to DP 6 **Crews will be flown from Ishi Camp to H10 <b>Maintain accountability of your resources and utilize the "On Shift/Off Shift" column on this ICS-204.</b> Watch for oak snags & widow makers. Utilize Ishi Wilderness Restrictions. Avoid disturbance of flagged avoidance areas (red flagging).										
9. Division/Group Communication Summary										
Function	Frequency		System	Channel		Function	Frequency		System	Channel
Command	RX 151.4600 N TX 159.3900 N			CDF CMD 7 Tone 1		Tactical Div/Group	RX/TX 151.1375 N			VTAC 11
Air to Ground	RX/TX 159.3450 N			CDF TAC 18						
Prepared by (Resource Unit Ldr.)			Approved by (Planning Sect. Ch.)			Date		Time		
<i>Randy Fregoso</i>			<i>Randy A. Bruno</i>			<i>8/29/13</i>		<i>1630</i>		

<b>DIVISION ASSIGNMENT LIST</b>				1. Branch		2. Division/Group <b>SUPPRESSION REPAIR</b>				
3. Incident Name <b>Deer CA-TGU-006768</b>				4. Operational Period Date: <b>8/30 to 9/1/2013</b> Time: <b>0700-1900 Hrs.</b>						
<b>5. Operations Personnel</b>										
Operations Chief		<b>Dan Dennett</b>			Rehabilitation Specialist		<b>Heather Brent</b> ✓			
Branch Director					Air Attack Supervisor No.					
<b>6. Resources Assigned this Period</b>										
Strike Team/Task Force/ Resource Designator		Briefing	Leader	Number Persons	Trans. Needed	Report Location		On Shift	Arrival Time	Off Shift
STG TGU 9258G *		✓	Patrick Purvis	33		Fairgrounds / Ishi Camp			0700	
DOZ PVT E-26 (6 way blade)		✓	Jim Jones	1		Fairgrounds			0700	
DOZ PVT E-86 (6 way blade)		✓	Tim Lamkin	1		Fairgrounds			0700	
FOBS Scott Bullock		✓		1		Fairgrounds			0700	
FOBS Bruce Cann		✓		1		Fairgrounds			0700	
FOBS David Krussow		✓		1		Fairgrounds			0700	
FOBS Chris Richert		✓		1		Fairgrounds			0700	
FOBS Eric Wahl		✓		1		Fairgrounds			0700	
<b>DOZ E-22 MOORE</b>		✓								
7. Control Operations Fire Suppression repair per plan.										
8. Special Instruction Crews will be flown from Ishi Camp to H6. *1 Crew works to and is picked up at H3, 1 Crew works to and is picked up at H5 <b>Maintain accountability of your resources and utilize the "On Shift/Off Shift" column on this ICS-204.</b> Watch for oak snags & widow makers. Utilize Ishi Wilderness Restrictions Avoid disturbance of flagged avoidance areas (red flagging).										
<b>9. Division/Group Communication Summary</b>										
Function	Frequency	System	Channel	Function	Frequency	System	Channel			
Command	RX 151.4600 N TX 159.3900 N		CDF CMD 7 Tone 1	Tactical Div/Group	RX/TX 159.4725 N		VTAC 14			
Air/Ground	RX/TX 159.3450 N		CDF TAC 18							
Prepared by (Resource Unit Ldr.) <i>Randy Fyaso</i>			Approved by (Planning Sect. Ch.) <i>Keith J. Bruno</i>			Date <i>8/29/13</i>		Time <i>1630</i>		

FORECAST NO: 5  
PREDICTION FOR: Fri-Sun Day Shifts

NAME OF FIRE: Deer Fire CA-TGU  
UNIT: CALFIRE – Tehama-Glenn

SHIFT DATE: 30 Aug-1 Sep 2013

SIGNED:   
Jason Clapp  
Incident Meteorologist

TIME AND DATE  
FORECAST ISSUED: 1700 / 29 August 2013

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**WEATHER DISCUSSION:** Dry, stable southwest flow aloft with breezy afternoon winds still dominating the area. Temperatures will trend slightly warmer through Saturday and the RH will gradually lower...but not by much. Slightly weaker wind Friday before speeds pickup Saturday and more so on Sunday as a Gulf of Alaska Low approaches the Pac NW coast, enhancing winds and increasing moisture.

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**FRIDAY FORECAST:** Mostly sunny with a few flattened cumulus over higher terrain to the east.

TEMPERATURES: 2000ft: 88-92      *Trend: Up 2 degrees*  
RELATIVE HUMIDITY: 2000ft: 19-23%      *Trend: Down 2-3%*

**20 FT WINDS:**

**RIDGETOP** - East-southeast 3 to 5 mph.

After 1000 – SSW 4-6 with gusts to 9 mph.

After 1400 – SSE 6-8 with gusts to 13 mph.

**SLOPE/VALLEY** - Downcanyon/downslope 4 to 8 mph.

After 1000 – Upslope/cross-slope at 4-7 gusting to 10 mph

After 1400 – Upcanyon 7-9 gusting to 17 mph.

**LAL: 1.**      **STABILITY/INVERSION:** Inversion breaking around 1200.

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**FRIDAY NIGHT:** Mostly clear. Low temperatures: 64-69. Max RH: Valley 40-45%. Ridge/thermal belt: 30-35%. Winds: Ridge wind SE 3-6 mph...2300-0100 gusts 10 mph.

**SATURDAY FORECAST:** Saturday is still under insignificant dry/stable southwest flow. Mostly sunny with some mid to high clouds main west of fire. A few flattened cumulus may form to the east over higher terrain in the afternoon.

Max temp 88-92.      Min RH 18-22%.

Winds S/upcanyon to 8-11 mph with gusts 17-20 mph.

**SATURDAY NIGHT:** Mostly clear. Low temperatures: 61-66. Max RH: Valley 45-50%. Ridge/thermal belt: 30-35%. Winds: Ridge wind SE 5-8 mph...2300-0100 gusts 14 mph.

**SUNDAY FORECAST:** A Gulf of Alaska Low descends near the Pac NW coast today resulting in partly cloudy skies, cooler temps, higher RH, and enhanced winds.

Max temp 85-89.      Min RH 22-25%.

Winds S/upcanyon 10-13 with gusts 20-25 mph (higher in canyons).

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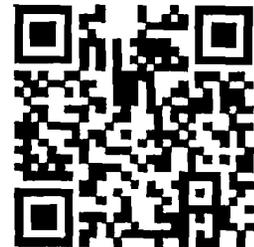
Request a Spot  
NWS Sacramento:



Spot Instructions:



Local RAWs:



# Deer Incident General Weather Outlook

For Planning Purposes Only

Forecast made 29 Aug/1500 - Incident Meteorologist (IMET) Jason Clapp

Day	Fri	Sat	Sun	Mon	Tue	Wed
	30-Aug	31-Aug	1-Sep	2-Sep	3-Sep	4-Sep
Watch/Warning	None	None	None	None	None	None
Clouds @ 1500 (%)	0	8	40	35	10	10
Avg. Max Temp (F)	91	91	87	85	87	88
TS Chance (%)	0	0	0	0	0	0
LAL	1	1	1	1	1	1
Ridge Wind (mph)	10	12	14	11	8	10
Wind Direction*	SSW	S	SSE	S	S	SSW
Min Humidity (%)	19	18	23	26	23	20
CWR (%)	0	0	0	0	0	0

## KEY:

Moderate Burning  
Conditions

Take Caution - Critical  
Burning Conditions

Extreme Burning  
Conditions

Clouds	> 50 %	15 to 50 %	< 15 %
Avg Max Temp	< 85 F	85 to 95 F	> 95 F
Thunderstorm (TS) Chance	< 10 %	10 to 30 %	> 30 %
Lightning Activity Level	< 2 or 4-5	2 to 3	6
Sustained Ridge Wind	< 8 mph	8 to 12 mph	> 12 mph
*Daytime Wind Direction	Criticality of wind direction highly dependent on burn operations and/or structures threatened		
Min Humidity	> 25 %	20 to 25 %	< 20 %
Chance Wetting Rain	0 or $\geq$ 40 %	10 to 40 %	< 10 %

This forecast matrix was developed for the *Deer Wildfire* and uses criteria specific for these incidents. Every incident will respond to conditions differently and adjustments to the formulas and or categories used may be needed.

# FIRE BEHAVIOR EXTENDED FORECAST

FORECAST NUMBER: # 6	TYPE OF FIRE: Wildland
FIRE NAME: DEER	OPERATIONAL PERIOD: EXENDED
DATE ISSUED: 08/29/2013	TIME ISSUED: 1800
UNIT: TGU	SIGNED: <i>Scott Jones</i>
	Typed/printed: Scott Jones

## INPUTS

### WEATHER SUMMARY:

#### Friday

Warmer and mostly sunny with a few cumulus to the east over higher terrain

MAX temp 89-92 MIN RH 17-22%

Wind (20 ft) Ridgetop – SSW 5-7 mph with gusts to 12 mph. Cross slope/upcanyon winds 6-9 mph with gusts 15-18 mph

#### SAT-MON

A Low pressure system descends into the pacific NW coast late in the weekend. This LOW may bring partly cloudy skies, cooler temps and enhanced winds late this weekend and early next week. Temps should remain in the mid 80s with RHs between 21-30%

## OUTPUTS

### FIRE BEHAVIOR

#### GENERAL:

The initial large fire growth was aided by wind and slope alignment; a receptive fuel arrangement of flashy fuels with moderate to heavy loads of brush; and an extended delay in getting ground resources to the front lines due to inaccessibility. New fire starts in the area are expected to have moderate rates of spread. When conditions are in optimal alignment resources should expect the higher ends from the model predictions. Table 1.

Table 1  
Fire Behavior for Optimal Alignment

	ROS FWD	ROS FLNK	FL (Ft)	P(i)G
Grass FM 1	50-225 ft/min	8-20 ft/min	1-7 ft	88
Brush FM 5	15-60 ft/min	3-5 ft/min	4-10 ft	88

For the area in general there should be little change to the overall dead fuel dryness. Live fuels are at or near critical levels in most areas, lighter dead fuels have been fairly moist due to the prolonged cool, onshore flow pattern. Below are the predicted ERC (table 2) and IC (table 3) for the listed Predictive Service Areas. Both the ERC and IC are within the moderate level of fire danger.

Table 2  
ERC Predicted Level

ERC	90% / 97%	Aug 29	Aug 30	Aug 31
Sac Valley	83 / 86	73	72	73
Northern Sierra	83 / 86	70	71	72

Energy Release Component – Energy (BTU) per sq. foot within the flaming front at the head of a fire

Table 3  
IC Predicted Level

Ignition Component	Scale	Aug 29	Aug 30	Aug 31
Sac Valley	0 - 100	43	43	47
Northern Sierra	0 - 100	35	39	42

Ignition Component is a rating of probability that a firebrand will cause a fire requiring suppression action.

### Safety

Working in a fire weakened landscape. Watch for loose rocks, ash pits and falling limbs from Oak trees.

Be Safe

# SAFETY MESSAGE

**EVENT: Deer Fire**

**DATE: August 30-Sept. 2, 2013**

## Major Hazards and Risks:

**Steep Rocky Terrain:** -Watch your footing.  
-Heads-up for rolling rocks.

**Heat Disorders:** - Drink plenty of fluids. Hydrate early and often.  
-Recognize signs and symptoms of heat disorder (dizziness, cold and clammy skin , no longer sweating, etc.)

**As per Suppression Repair:** “ It’s no longer an emergency so take your time but we still have a job to do. ”

**PACE YOURSELF, REGULAR BREAKS, WATCH YOURSELF AND YOUR CREW!**

**Driving:** -Drive Defensively!  
-Seat belts and headlights on.  
-Watch your speed.  
-Check your tires when returning to pavement.  
➤ **ALWAYS USE A BACKER>>>**

**Communications:** Remain in communications with your supervisor at all times.

**Stump holes and Snags...**Look Up, Down and Around.

**Rattlesnakes:** They are out there! Leave them be!

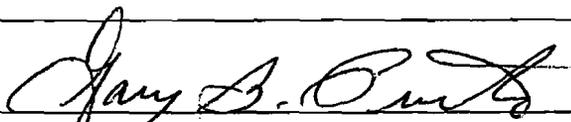
**Air Craft:** “Is this flight necessary?” Ensure all manifests and briefings have been done.

**COMPLACENCY: MAINTAIN SITUATIONAL AWARENESS...**

## General Safety

- All Supervisors give good, detailed safety briefings to all personnel.
- Wear appropriate Personal Protective Equipment for the assigned task.
- Review medical plan in case of any injuries and accidents related to the incident.

**Safety Officer**

  
**Gary B. Curtis**

**MEDICAL PLAN**1. INCIDENT NAME:  
Deer Fire2. DATE PREPARED:  
08/29/133. TIME PREPARED:  
10304. OPERATIONAL PERIOD  
8/30/13-9/1/13 0700-1900**5. INCIDENT MEDICAL AID STATIONS**

MEDICAL AID STATIONS	LOCATION	Medic	EMT

**6. TRANSPORTATION****A. Ambulance Services**

NAME	LOCATION	PHONE	PARAMEDICS	
			YES	NO
St. Elizabeth Ambulance	2550 Sister Mary Columba Dr. Red Bluff, CA	530-529-8000	X	

**B. AIR AMBULANCE**

NAME	LOCATION	PHONE	Medic	Nurse
			X	X
Reach Airship 5 Night Capabilities	Redding, CA	877 939-6300	X	X
Enloe Flight Care Night Capabilities	Chico CA	530 895-9221	X	X
H-205 With Hoist Capabilities	Contact TGU ECC	530 529-8541		

**7. HOSPITALS**

NAME	ADDRESS	TRAVEL TIME		PHONE	TRAUMA		HELIPAD		BURN CENTER	
		AIR	GRND		Yes	No	YES	NO	YES	NO
St. Elizabeth Hospital	2550 Sister Mary Columba Dr. Red Bluff, CA. 96080	10 Min	10 Min	530-662-3961		X	X			
Enloe Medical Center Level II	1531 Esplanade Ave. Chico, CA.	15 Min	50 Min	530-332-7300	X		X			X
Mercy Medical Center Level II	2175 Rosaline Ave, Redding, CA	12 Min	37 Min	(530) 225-6000	X		X			X
UC Davis Burn Center Level I	2315 Stockton, Sacramento CA 38 33.18 x 121 27.20	45 Min	---	916-734-3636	X		X		X	

**8. MEDICAL EMERGENCY PROCEDURES****Emergency Frequency: Command CDF CMD 7****Line Emergency:**

Crew Supervisor will contact Incident Commander with patient complaint/condition and location.

- Incident Commander contact Tehama- Glenn ECC

**Injury Reporting Procedures:**

Nature/Type of Emergency \_\_\_\_\_

Location of Patient \_\_\_\_\_

Point of Contact \_\_\_\_\_

Transportation Requested by: Air \_\_\_ or Ground \_\_\_

Point of Pickup \_\_\_\_\_

Lat. \_\_\_\_\_ Long \_\_\_\_\_

Patient Unit ID \_\_\_\_\_

Is EMT/Paramedic with Patient: Yes \_\_\_ No \_\_\_

Age \_\_\_ Male \_\_\_ Female \_\_\_

**ICS 206**

(Rev 03/12)

9. PREPARED BY: (Medical Unit Leader)

Dave Morrison MEDL

10. REVIEWED BY: (Safety Officer)



# AIR OPERATIONS SUMMARY

OPERATIONAL PERIOD DATE: DAY SHIFT DATE: 08/30-31/2013

START: 0700 END: 2200

(Expanded Form for Large Operations)

9/1/2013

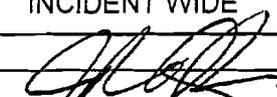
<b>1. INCIDENT NAME:</b> Deer	<b>2. PREPARED BY:</b> Rob Sonsteng	<b>3. Prepared Date:</b> 08/29/13 1800
<b>4. REMARKS (Safety Notes, Hazards, Air Operations Special Equipment, etc.):</b> 500KV Power lines  All GPS data to be collected (degrees, minutes & decimal minutes) ** <u>Avoid</u> aerial application of retardant or foam within 300' of waterways, bodies of water. If retardant is dropped within these areas, <u>notify</u> AOBD with Lat & Long, est. of gallons, and a map. Chico AAB or for Air Tanker reloading		<b>5. TFR: A#</b> Altitude: 7,000 7 mile Freq. 40 06.807 121 58 105  NOTAM
<b>TRACK RETARDANT DROP LOCATIONS</b>		

6. PERSONNEL	Phone	FREQUENCIES	AM	FM	8. FIXED-WING # Avail / Type/ Make-Model / FAA N# / Base(s)
AOBD:		AIR/AIR FW:		167.0750	Air Tactical
ATGS: ATGS:		AIR/AIR RW:	135.250		
HLCO: HLCO:		AIR/GROUND:		159.345	Lead planes L-
ASGS:		DECK:		168.350	L-
HEBM. Jerry Magana		Command			Airtankers
		AIR GUARD		168.625	
Chico Tanker Base		TOLC	123.0250		Other: Deer incident communication with Helicopters will go to Red Bluff when Deer Helibase shuts down.

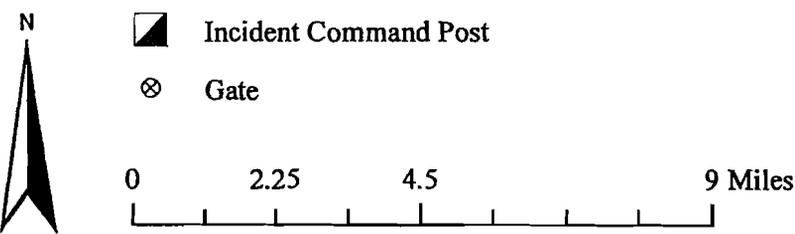
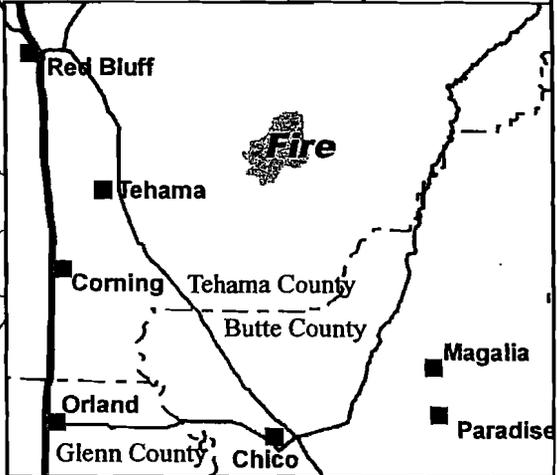
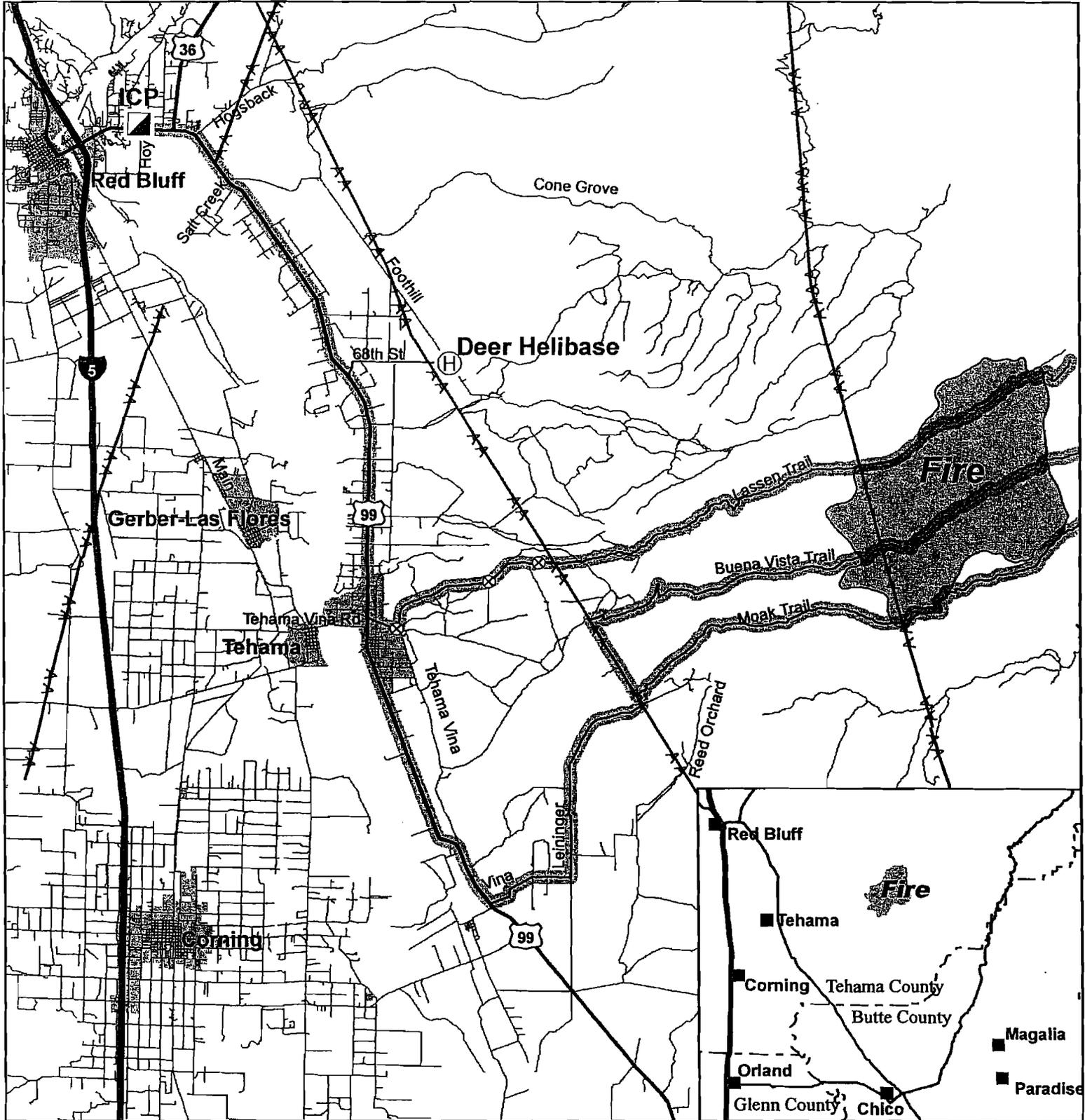
**9. HELICOPTERS (Use Additional Sheets As Necessary)**

FAA N#	TY	MAKE/MODEL	BASE	AVAIL	START	REMARKS	FAA N#	TY	MAKE/MODEL	BASE	AVAIL	START	REMARKS
301	3	B206-B3	Deer	0730	0800	Recon/Helco	820	1	UH60	MCC			Night Medevac
C205	2	UH-1H	Deer	0730	0800	Unit need							
C102	2	UH-1H	Deer	0730	0800	Released 8/31							
73 HL	2	Bell 212	Deer	0730	0800	Unit need							
Guard 821	1	UH60	Deer	0730	0800	Released 8/30							
Guard 822	1	UH60	Deer	0730	0800	Released 8/30							



INCIDENT RADIO COMMUNICATIONS PLAN		Incident Name				Date/Time Prepared			Operational Period Date/Time	
		DEER INCIDENT				8/29/2013 0800			08/30/13 -- 09/01/13 0700 - 0700	
Ch #	Function	Channel Name/Trunked Radio	Assignment	RX Freq N or W	RX Tone/NAC	TX Freq N or W	TX Tone/NAC	Mode A, D or M	Remarks	
1	COMMAND	CDF CMD 7	INCIDENT WIDE	151.4600 N	103.5	159.3900 N	110.9 (1)	A	CAL FIRE LOAD BK Grp 16, Ch 7; KW Grp 3, Ch 7	
2										
3	TACTICAL	VTAC 11	FIRE OPERATIONS	151.1375 N	156.7	151.1375 N	156.7	A	CAL FIRE LOAD BK Grp 24, Ch 7; KW Grp 3, Ch 119	
4	TACTICAL	VTAC 14	FIRE SUPPRESSION REPAIR	159.4725 N	156.7	159.4725 N	156.7	A	CAL FIRE LOAD BK Grp 24, Ch 10; KW Grp 3, Ch 122	
5										
6										
7										
8										
9										
10										
11										
12										
13										
14	AIR TO GROUND	CDF TAC 18	INCIDENT WIDE	159.3450 N	192.8	159.3450 N	192.8	A	CAL FIRE LOAD BK Grp 19, Ch 11; KW Grp 3, Ch 65	
15	MEDICAL	CALCORD	INCIDENT WIDE	156.0750 N		156.0750 N	156.7	A	MEDICAL EMERGENCIES ONLY	
16	GUARD	AIR GUARD	INCIDENT WIDE	168.6250 N		168.6250 N	110.9	A	EMERGENCIES ONLY	
17										
18										
19										
20	GUARD	AIR GUARD	INCIDENT WIDE	168.6250 N		168.6250 N	110.9	A	EMERGENCIES ONLY	
Prepared By (Communications Unit)						Incident Location Tehama County, CA				
John Aguilera, COML, IMT #2						County Tehama State CA Latitude Longitude				
<p>The convention calls for frequency lists to show four digits after the decimal place, followed by either an "N" or a "W", depending on whether the frequency is narrow or wide band. Mode refers to either "A" or "D" indicating analog or digital (e.g. Project 25) or "M" indicating mixed mode. All channels are shown as if programmed in a control station, mobile or portable radio. Repeater and base stations must be programmed with the Rx and Tx reversed.</p>										

# Travel Map



-  Incident Command Post
-  Gate

**CA-TGU-006768**  
**August 27, 2013**

**FIRE SUPPRESSION REPAIR  
DEER INCIDENT: CA TGU-006768**

**Fire Suppression Repair is the repair of damage caused directly from fire suppression activities, it is not the repair of areas damaged by the fire. We cannot upgrade facilities beyond their pre-fire condition. Any projects too large or complicated to be completed by the Fire Suppression Repair Group shall be turned over to the local Unit or the Comp/ Claims Unit.**

**Start Early!**

Fire Suppression Repair needs should be reported on the attached form as soon as discovered. To the extent feasible, repair work should start as soon as practical. However, repair activities shall not hamper or conflict with fire suppression actions. When possible, construct waterbreaks (waterbars) on all dozer lines, handlines, and safety zones concurrent with line construction or mop-up operations. Scattered trash shall be collected and deposited at Drop Points. Police your areas.

**Repair Site Inventory:**

Field Observers and Fire Suppression Repair Group resources will be traveling throughout the fire looking for repair needs. All fire line resources are asked to contribute any known issues. The Suppression Repair Group will then evaluate each site, develop a specific repair plan, and schedule an appropriate repair with necessary resources.

**Infrastructure Damage:**

Report the location and type of suppression damage to infrastructure. Common examples of such features include:

- Fences /gates
- Culvert/ Bridge/ Other watercourse crossings
- Water sources
- Utility distribution line; above/below ground.
- Restore barriers on roads previously closed but opened for suppression activities.
- Remove trash and debris, including flagging and signs when no longer needed.
- Misc. damage to residential property

**Natural Resource Damage:**

This category represents repairing existing problems caused by fire suppression activities (direct effect) and to prevent likely future problems such as accelerated erosion caused by winter rains (indirect effect).

- Construct drivable waterbars or rolling dips on unsurfaced roads.
- Construct waterbars on all dozer and hand lines according to the following Specifications: Waterbreaks shall be cut diagonally with a minimum depth of 6" into existing grade with a 12" berm for a minimum height of 18". Waterbreaks will be installed at a 30-45 degree angle. Outlets shall be open and directed onto least erodible material possible.

<b>Line or Road Gradient (%)</b>	<u>0-10%</u>	<u>11-25%</u>	<u>26-50%</u>	<u>&gt;50%</u>
<b>Waterbreak Spacing</b>	100'	100'	75'	50'

- Remove all berms created by suppression activities unless necessary to divert runoff from a sensitive site.
- Clean culverts and drainage facilities plugged with soil and debris by fire suppression activities.
- All slash, soil, and debris deposited into watercourses shall be removed and stabilized.
- All work within 100 feet of a watercourse, cultural site or other sensitive location shall be performed by hand crews to avoid further damage. This applies to all direct and indirect lines.

**Cultural Site Damage:**

Report any disturbance to a known or suspected archaeological/historical site through chain of command to the incident Archaeologist and/or the Fireline Suppression Repair Group immediately. This includes any air tanker drops upon a site. Use least disturbing suppression methods possible unless life safety is at risk. Flag site perimeter for identification. Removing or disturbing any artifact is not permissible.

**Comp Claims Issues:**

Damaged resources that are too large or complex for the Fireline Suppression Group to handle shall be turned over to Comp Claims for processing. Examples of such issues include damage to pavement, bridges, pipelines, etc.

## **MINIMUM IMPACT SUPPRESSION TECHNIQUES (MIST)**

Firefighter and public safety is always the first priority in any suppression action, including operations in wilderness. Use of MIST provides for safe fireline operations while preserving the natural conditions found in wilderness areas for present and future generations.

### **FIRELINE CONSTRUCTION**

- Take advantage of natural barriers wherever possible.
- Use cold-trail and/or wet line when appropriate.
- If the decision is made to construct line, use only the width and depth necessary for halting the fire spread.
- Minimize bucking and cutting of trees to establish fire line; build line around logs when feasible and effective.
- Limb vegetation only to the extent necessary to stop fire spread.
- As an alternative to felling, consider allowing ignited trees and snags to burn themselves out. Ensure adequate safety measures are communicated to those affected by this decision.
- If burning trees or snags pose a serious threat of spreading firebrands, extinguish the fire with water and/or dirt wherever possible.

### **AIR OPERATIONS**

- Limit retardant or foam use, use water instead. If retardant and foam is appropriate, avoid drops near surface water.
- Consider long line remote hook operations instead of helispots for logistical support.

### **REHABILITATION**

- Remove all signs of human activity. Remove flagging, signs, garbage, and equipment.
- Restore disturbed areas, replace dug out soil, and eliminate berms.
- Scarify the top 2-4" of compacted areas and scatter needles, twigs, branches, and rocks over the area.
- Rehabilitate newly established trails on slopes <6%, waterbar trails created on steeper slopes.
- Scatter cut material and camouflage cut surfaces.











