

VISTA INCIDENT

Incident Action Plan

August 26, 2007

0600-2000 Day Shift

Transportation Issues

- Expect the unexpected around every corner
- Seatbelts and Headlights ALWAYS!
- High OHV use area
 - Be Aware of trails crossing roadways

Fireline Issues

- Lightning Possible
 - Review page 75 from your IRPG
- Be aware of communication "dead spots"
 - Mitigate with mobile radio or human repeater @ 22540 & 22540C intersection
- Keep focused on the tasks at hand.
 - Maintain your Situational Awareness

Sequoia National Forest

CA SQF 002842

NORCAL IMT 1

INCIDENT OBJECTIVES	1. Incident Name Vista Fire	2. Date 8/25/2007	3. Time 1600
4. Operational Period Day Shift August 26 0600 - 2000			
5. General Control Objectives for the Incident: <ol style="list-style-type: none"> 1. Provide for firefighter and public safety utilizing the risk management process. 2. Confine the fire south and east of Sherman Pass Road (22S05). 3. West of Dark Canyon Trail (34E08) 4. East of Trout Creek. 5. North of Woodpecker Trail (34E12) 			
6. Weather Forecast for Period Please see attached.			
7. General Safety Message See IAP Cover Safety Message & Risk Analysis.			
8. Attachments (mark if attached)			
<input checked="" type="checkbox"/> Organization List - ICS 203 <input checked="" type="checkbox"/> Div. Assignment Lists - ICS 204 <input checked="" type="checkbox"/> Communications Plan - ICS 205	<input checked="" type="checkbox"/> Medical Plan - ICS 206 <input checked="" type="checkbox"/> Incident Map <input type="checkbox"/> Traffic Plan	<input checked="" type="checkbox"/> (Other) Spot forecast <input type="checkbox"/> <input type="checkbox"/>	
9. Prepared by (Planning Section Chief) Valery Lambeth	10. Approved by (Incident Commander) Kent Swartzlander		

DIVISION ASSIGNMENT LIST			1. Branch		2. Division/Group A		
3. Incident Name Vista			4. Operational Period Date: 8/26/2007 Time: 0600-2000				
5. Operations Personnel							
Operations Chief		Pete Duncan / Alec Lane (T)		Division/Group Supervisor		Dave Pereira / Steve Watkins (T)	
Branch Director				Air Attack Supervisor No.			
6. Resources Assigned this Period							
Strike Team/Task Force/ Resource Designator		Leader		Number Persons	Trans. Needed	Drop Off PT./Time	Pick Up PT./Time
Cobra #2		William Riggle / Matt Ball (T)		20	No	Per DIVS	Per DIVS
SHF Engine 43		Jim Yacoub		5	No	Per DIVS	Per DIVS
SHF Engine 63		Drew Graham		5	No	Per DIVS	Per DIVS
WT Waterboy (E-16)		Ernest Engressia		1	No	Per DIVS	Per DIVS
WT BBD 3192		Matt Robinson		1	No	Per DIVS	Per DIVS
7. Control Operations -- Continue to mop-up 300+ feet in.							
8. Special Instructions -- Backhaul all unnecessary equipment. -- Water roads in camp and in fire area. -- Follow specifications for waterbar repair work on handlines.							
9. Division/Group Communication Summary							
Function	Frequency	System	Channel	Function	Frequency	System	Channel
Command	TX 170.575 Rx 168.675	NIRSC	Ch. 2- Tone 7, 9 or 14	Logistics			
Tactical Div/Group	168.050	NIRSC	Ch. 3 NIFC Tac 1	Air to Ground	166.6875	NIRSC	Ch. 6
Prepared by (Resource Unit Leader) Gary R. Deboi / Erin Ernst (T)		Approved by (Planning Section Chief) Valery Lambeth			Date 8/25/07		Time 1600

DIVISION ASSIGNMENT LIST		1. Branch		2. Division/Group B			
3. Incident Name Vista		4. Operational Period Date: 8/26/2007 Time: 0600-2000					
5. Operations Personnel							
Operations Chief	Pete Duncan / Alec Lane (T)		Division/Group Supervisor	Mike Campbell			
Branch Director			Air Attack Supervisor No.				
6. Resources Assigned this Period							
Strike Team/Task Force/ Resource Designator	Leader		Number Persons	Trans. Needed	Drop Off PT./Time	Pick Up PT./Time	
Springville	Joquin Medina		20	No	Per DIVS	Per DIVS	
SHF Engine 73	Josiah Obst		5	No	Per DIVS	Per DIVS	
SQF Engine 41	Eric Hagemeyer		5	No	Per DIVS	Per DIVS	
WT Waterboys (E-43)	Larry Anderson		1	No	Per DIVS	Per DIVS	
WT Peterson (E-66)	Tim Scouille		1	No	Per DIVS	Per DIVS	
WT SNF (E-67)	David Einwalter		2	No	Per DIVS	Per DIVS	
7. Control Operations -- Continue to mop-up 300+ feet in							
8. Special Instructions -- Backhaul all unnecessary equipment. -- Water roads in camp and in fire area. -- Follow specifications for waterbar repair work on handlines.							
9. Division/Group Communication Summary							
Function	Frequency	System	Channel	Function	Frequency	System	Channel
Command	TX 170.575 Rx 168.675	NIRSC	Ch. 2- Tone 7, 9 or 14	Logistics			
Tactical Div/Group	168.600	NIRSC	Ch. 5 NIFC Tac 3	Air to Ground	166.6875	NIRSC	Ch. 6
Prepared by (Resource Unit Leader) Gary R. Deboi / Erin Ernst (T)		Approved by (Planning Section Chief) Valery Lambeth		Date 8/25/07		Time 1600	

DIVISION ASSIGNMENT LIST		1. Branch		2. Division/Group W			
3. Incident Name Vista		4. Operational Period Date: 8/26/2007 Time: 0600-2000					
5. Operations Personnel							
Operations Chief	Pete Duncan / Alec Lane (T)		Division/Group Supervisor	Mark Vardanega			
Branch Director			Air Attack Supervisor No.				
6. Resources Assigned this Period							
Strike Team/Task Force/ Resource Designator	Leader	Number Persons	Trans. Needed	Drop Off PT./Time	Pick Up PT./Time		
Eldorado H.S.	Mike Beckett	21	No	Per DIVS	Per DIVS		
Black Eagle #2	Nate Orsburn / Greg Carter (T)	20	No	Per DIVS	Per DIVS		
SHF Engine 21	John Wynn	5	No	Per DIVS	Per DIVS		
WT John Ryan	John Jones	1	No	Per DIVS	Per DIVS		
WT Glakeler	Thomas Glakeler	1	No	Per DIVS	Per DIVS		
7. Control Operations -- Continue to mop-up 300+ feet in							
8. Special Instructions -- Backhaul all unnecessary equipment. -- Water roads in camp and in fire area. -- Follow specifications for waterbar repair work on handlines.							
9. Division/Group Communication Summary							
Function	Frequency	System	Channel	Function	Frequency	System	Channel
Command	TX 170.575 Rx 168.675	NIRSC	Ch. 2- Tone 7, 9 or 14	Logistics			
Tactical Div/Group	168.050	NIRSC	Ch. 3 NIFC Tac 1	Air to Ground	166.6875	NIRSC	Ch. 6
Prepared by (Resource Unit Leader) Gary R. Deboi / Erin Ernst (T)		Approved by (Planning Section Chief) Valery Lambeth		Date 8/25/07		Time 1600	

DIVISION ASSIGNMENT LIST		1. Branch		2. Division/Group Y			
3. Incident Name Vista		4. Operational Period Date: 8/26/2007 Time: 0600-2000					
5. Operations Personnel							
Operations Chief		Pete Duncan / Alec Lane (T)		Division/Group Supervisor		Chris Stevens	
Branch Director				Air Attack Supervisor No.			
6. Resources Assigned this Period							
Strike Team/Task Force/ Resource Designator		Leader		Number Persons	Trans. Needed	Drop Off PT./Time	Pick Up PT./Time
SQF Crew 2				10	No	Per DIVS	Per DIVS
WNP Engine 2		Jesse Brunk		5	No	Per DIVS	Per DIVS
PNF Engine 12		Donald Fregulia		5	No	Per DIVS	Per DIVS
WT BBD 3191		James Davis		1	No	Per DIVS	Per DIVS
WT Floodgate H2O (E-42)		Robert Paula		1	No	Per DIVS	Per DIVS
7. Control Operations -- Continue to mop-up 300+ feet in							
8. Special Instructions -- Backhaul all unnecessary equipment. -- Water roads in camp and in fire area. -- Follow specifications for waterbar repair work on handlines.							
9. Division/Group Communication Summary							
Function	Frequency	System	Channel	Function	Frequency	System	Channel
Command	TX 170.575 Rx 168.675	NIRSC	Ch. 2- Tone 7, 9 or 14	Logistics			
Tactical Div/Group	168.200	NIRSC	Ch. 4 NIFC Tac 2	Air to Ground	166.6875	NIRSC	Ch. 6
Prepared by (Resource Unit Leader) Gary R. Deboi / Erin Ernst (T)		Approved by (Planning Section Chief) Valery Lambeth			Date 8/25/07		Time 1600

Fire Weather Forecast

FORECAST NO: 2

NAME OF FIRE: Vista Wildfire

PREDICTION FOR: Day SHIFT

UNIT: USFS/CDF

SHIFT DATE: 8/26/07

SIGNED: _____

TIME AND DATE

FORECAST ISSUED: 8/25/07

Dan Harty
Incident Meteorologist

WEATHER DISCUSSION:

High pressure centered over the desert southwest will keep a southerly flow over the fire area through Monday. Tropical moisture from the remnants of Hurricane Dean will bring more clouds today along with a slight chance of thunderstorms. Relative humidity will increase while temperatures remain about the same. Winds will generally be light and terrain driven, although could become gusty and erratic near any thunderstorms. Lingering moisture will allow for some cumulus buildups and possibly some isolated thunderstorms again on Monday. A drier southwest flow will develop on Tuesday with mostly clear and warmer conditions expected through midweek.

WEATHER FORECAST:

WEATHER: Mostly cloudy with a slight chance (20 percent) of thunderstorms.

CWR (> .10): 10 percent.

MAX TEMPERATURES: Little change. Highs 78-82.

MINIMUM HUMIDITY: Up 5-10 percent...25 to 30 percent.

20 FT WINDS: ***Winds variable and gusty near thunderstorms***

RIDGETOP – South to southwest 5 to 10 mph.

SLOPE/VALLEY - Variable 1-3 mph in the morning becoming upslope 3 to 6 mph in the afternoon.

LAL: 2

STABILITY/INVERSION: Moderately stable in the morning becoming unstable in the afternoon.

OUTLOOK FOR NEXT SHIFT:

Monday...Partly cloudy with a 20 percent chance of afternoon thunderstorms. Lows 50 to 55. Highs 79 to 83. Maximum relative humidity 65 to 75 percent. Minimum relative humidity 25 to 30 percent. South southwest wind 5 to 10 mph.

EXTENDED FORECAST:

Tuesday and Wednesday...Mostly clear and dry. Lows 48 to 52 with maximum relative humidity 55 to 65 percent. Highs 82 to 86. Minimum relative humidity 15 to 23 percent. West southwest wind 5 to 10 mph.

FIRE BEHAVIOR FORECAST

FORECAST NO: 04

NAME OF FIRE: Vista Fire CA-SQF-002842

PREDICTION FOR: Day Shift

DATE: 8/26/2007

TIME AND DATE

OF FORECAST: 8/25/2007 2000 hrs

SIGNED: _____

Chris Waters, FBAN

WEATHER SUMMARY

Mostly cloudy with a chance of thunderstorm development. Max Temps. High 70's to Low 80's. Min RH 25-30%. Eye Level Winds Up Slope 3-6 mph. Ridgetop Winds South to Southwest 5-10 mph.

FIRE BEHAVIOR

GENERAL:

Fire is continuing to burn down with most of the activity confined to large heavy fuels, stump holes, and small brush patches that remain within containment lines. This fire activity will continue throughout the day with less intensity than yesterday's shift.

Possible thunderstorm development could present strong erratic winds which could carry brands to receptive fuel beds within and outside the fire perimeter. This is especially true in Division B. Division B continues to be the most active part of the fire with unburned fuels still available to burn along the 22S38 Road and Drop Point #1.

Fuel beds adjacent to the fire area consist of heavy dead fuels that are extremely receptive to spotting. If thunderstorms create strong erratic winds, stray fire brands could quickly develop into well established spot fires. The chance of full thunderstorm development is only 20%, however the possibility will require consideration for today's shift.

SPECIFIC:

Division B: This division will continue to be the most active part of the fire. Hot stump holes and heavy fuels will continue to burn throughout the day. The potential for spotting as a result of this fire activity is pretty small, however gusty winds could cause increases in fire activity capable of producing fire brands.

Division A, Y, & W: Fire activity is expected to remain limited to interior hot spots and stump holes.

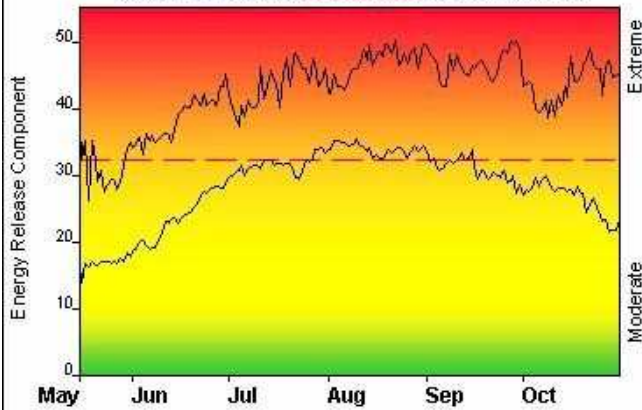
SAFETY:

The threat of thunderstorm development, no matter how small, will always require consideration for operations. This is mostly a result of the difficulty to predict the exact magnitude of resulting winds. Consider the possibilities in areas that still have active fire.

Fire damaged trees and hot stump holes will continue to present hazards to line personnel throughout the day.

FIRE DANGER -- FDRA 440

Maximum, Average, and 60th Percentile, based on 30 years data



Fire Danger Area:

- ◆ Western Divide
- ◆ Tulare Co Mountains
- ◆ Sierra Nevada Mtns
- * Meets NWCG Wx Station Standards



Fire Danger Interpretation:



- EXTREME** -- Use extreme caution
- (Caution)** -- Watch for change
- Moderate** -- Lower Potential, but always be aware

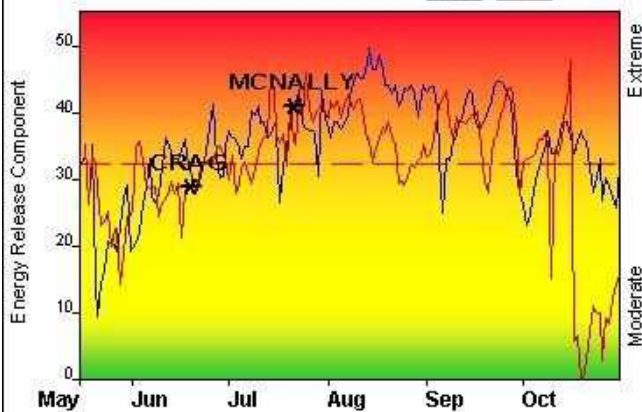
Maximum -- Highest Energy Release Component by day for 1977 - 2006

Average -- shows peak fire season over 30 years (4734 observations)

60th Percentile -- Only 40% of the 4734 days from 1977 - 2006 had an Energy Release Component above 32

Local Thresholds - Watch out: Combinations of any of these factors can greatly increase fire behavior:
 20' Wind Speed over 9 mph, RH less than 21%,
 Temperature over 82, 1000-Hour Fuel Moisture less than 9

Years to Remember: 2002 2004



Fuel Model: H - Short-Needle (Normal Dead)

Remember what Fire Danger tells you:

- ✓ Energy Release Component gives seasonal trends calculated from 2 pm temperature, humidity, daily temperature & rh ranges, and precip duration.
- ✓ Wind is NOT part of ERC calculation.
- ✓ Watch local conditions and variations across the landscape -- Fuel, Weather, Topography.
- ✓ Listen to weather forecasts -- especially WIND.

Past Experience:

The terrain is incumbered with steep rocky slopes, having canyon diurnal wind patterns in combination with flashy fuels consisting of grass, brush and ladder fuels capable of producing extreme fire behavior.

Fire analysis shows fires start to occur when the ERC exceeds 31. 50 acre fires were used in performing the analysis.

The McNally fire started on 7/21/02 with an ERC of 70 and burned 150,696 total acres.

The Crag fire started on 6/19/04 with an ERC of 53 and burned 861 total acres.

Weather stations used: Johnsondale, Blackrock, Peppermint, Breckenridge

Responsible Agency: CA-SQF STEVE PHILLIPS ECC MGR

FF+3.0.5 05/15/2007-14:30 (C:\Documents and Settings\sjphill\My Documents\...sqf.mdb)

Design by NWCG Fire Danger Working Team

INCIDENT RADIO COMMUNICATIONS PLAN			1. INCIDENT NAME		2. DATE / TIME PREPARED	3. OPERATIONAL PERIOD
			VISTA FIRE		8/25/07 1200 HRS	8/26/2007 DAY
4. BASIC RADIO CHANNEL UTILIZATION						
SYSTEM / CACHE	CHANNEL	FUNCTION	FREQUENCY / TONE		ASSIGNMENT	REMARKS
NIRSC	1	SQF FIRE NET RPT	Rx	168.7750	COMMAND 1	TONE 8
			Tx	170.6000		
NIRSC	2	SQF EMERG NET RPT	Rx	168.6750	COMMAND 2	TONES 7,9,14
			Tx	170.5750		
NIRSC	3	NIFC TAC 1	Rx	168.0500	DIV A / W	TACTICAL
			Tx	168.0500		
NIRSC	4	NIFC TAC 2	Rx	168.2000	DIV Y	TACTICAL
			Tx	168.2000		
NIRSC	5	NIFC TAC 3	Rx	168.6000	DIV B	TACTICAL
			Tx	168.6000		
NIRSC	6	NV AIR TO GROUND-S	Rx	166.6875	AIR TO GROUND	AIR TO GROUND
			Tx	166.6875		
			Tx			
NIRSC	13	MED EVAC	Rx	173.9125	MED EVEC	FOR MEDICAL EMERGENCIES ONLY
			Tx	173.9125		
NIRSC	14	AIR GUARD	Rx	168.6250	AIR GUARD	FOR EMERGENCY USE ONLY
			Tx	168.6250		
NIRSC	16	AIR GUARD	Rx	168.6260	AIR GUARD	FOR EMERGENCY USE ONLY
			Tx	168.6250		
ICS 205 9/86 NFES 1330	5. PREPARED BY: (COMMUNICATIONS UNIT) KEN EARLE COM UNIT LEADER (T)					

AIR OPERATIONS SUMMARY

OPERATIONAL PERIOD DATE: **8-26-2007**

START: **0800** END: **2000**

1. INCIDENT NAME: Vista	2. PREPARED BY: Scott Whitmire PREPARED DATE/TIME: 8-25-2007 / 1800	3. Sunrise: 0623 Sunset: 1930
--------------------------------	---	---

4. REMARKS (Safety Notes, Hazards, Air Operations Special Equipment,, etc.): Do not over fly structures with external load missions. CAUTION: Military operations area and low level route in Kern Canyon. Hazards: Snags, non-incident aircraft, and winds. Use the local Unicom 122.8 for Kernville traffic, expect weekend activity.	MEDIVAC A/C: H-523	5. TFR: 7/4322 Radius: 5 NM Altitude: 12,000' MSL Centerpoint: Lat: 36° 00.0' Long: 118° 18.0'
---	---------------------------	---

6. PERSONNEL	Phone	7. REQUENCIES	AM	FM	8. FIXED-WING # Avail / Type/ Make-Model / FAA N# / Base(s) Airtankers By Request Leadplanes By Request ATB FAX # ATG S Aircr aft AA - 13R Aero Commander (N9175) <i>Other</i>
AOBD		AIR/AIR FW:		166.675	
ATGS:		AIR/AIR RW:	131.475		
HLCO:		AIR/GROUND:		166.6875	
ASGS: Scott Whitmire		COMMAND:			
HEBM: Isidoro Solis	760 376-3781	COMMAND RPT	Rx:168.675 Tx:170.575 Tone 4 transit to Kernville, 9 over fire, or 7 at dip site		
ATBM:Craig French / Raul Contraras	559 789-0191				
		TOLC:			
		DECK:			

9. HELICOPTERS (Use Additional Sheets As Necessary)

FAA N# or Designator	TY	MAKE/MODEL	BASE	AVAIL	START	REMARKS	FAA N# or Designator	TY	MAKE/MODEL	BASE	AVAIL	START	REMARKS
523	2	Bell 212 hp	L05	0800	0730								

10. TASK/MISSION/ASSIGNMENT (Use ICS-220a if additional space needed; Type/Function includes: Air Tactical, Retardant, Recon, Personnel Transport, Water Dropping, etc.)

	NAME OF PERSONNEL OR CARGO (if applicable) OR INSTRUCTIONS FOR	MISSION	FLY FROM	FLY
Air Attack	Over fire at 0800 and continuous coverage while using helicopters			
Water Drops	As requested by divisions. When Air attack is not flying, request thru Air Ops.			

MEDICAL PLAN	1. Incident Name Vista	2. Date Prepared Aug. 25, 2007	3. Time Prepared 1830	4. Operational Period 8/26/2007 – Day				
	5. Incident Medical Aid Station							
Medical Aid Stations	Location			Paramedics Yes No				
Medical Unit (Frontline Medical)	Incident Base @ Troy Overflow Campground			X				
6. Transportation								
A. Air Ambulance Services								
Name	Address	Phone	Paramedics Yes No					
Mercy Air	Mojave	911	X					
Hall Air Ambulance	Bakersfield	911	X					
H523 Bell 212HP High Altitude/Primary Medivac	Committed to Incident Medivac Ship			X				
H408 Kern County Fire Bell 212HP Hoist Capable/Flies @ night	Bakersfield Night Medivac or Hoist Work	911						
Paloma Meadow Medivac site	N 36 01.357 W 118 19.180 Elev. 8323'							
Rendezvous with Air Amb at Vista Helibase, Kern Valley Airport in Kernville	Helibase Lat/Long: N 35 43.37 W 118 24.04							
B. Ground Ambulances								
Name	Location	Phone	Paramedics Yes No					
Kern Ambulance	DP 3 during Day Shift and ICP @ night	Command Channel	X					
Liberty Ambulance	Ridgecrest	760 374-6565	X					
7. Hospitals								
Name	Address	Travel Time Air Ground		Phone	Helipad Yes No		Burn Center Yes No	
Kern Medical Cntr. Level 1 Trauma	Bakersfield	30m	2.5h	661 326-266	X			X
Univ. Med. Cntr. Level 1 Trauma	Fresno	45m	3 hr	559 459-5111	X		X	
Kern Valley Hosp Closest Basic Services	Mountain Mesa	10m	1.5h	760 379-2681	X			X
Ridgecrest Regional Basic Services	Ridgecrest	15m	1h	760 446-0652	X			X
Sherman Oaks Burn Center	Los Angeles	90m	3h	818 986-2876			X	
8. Medical Emergency Procedures								
<p>Notify "Vista Communications" on Command channel. Declare a medical emergency advising your location and situation, use Communication Protocol on following page. The closest Division Supervisor will respond to the location to take control, direct necessary actions, coordinate appropriate care and patient transportation. Secure the area and identify witnesses for later investigation. Keep a log of events.</p>								
Prepared by (Medical Unit Leader) Ken Kumpe, MEDL				10. Reviewed by (Safety Officer) Richard Rubin & Michele Tanzi, SOF2				

Injury or Incident Communications Protocol

Notify the Communications Unit (ICP) on Command Channel

Provide the following information - Do not transmit the injured persons name

Location _____

Situation _____

Any special equipment required _____

Number of injured _____ Type of injuries _____

Immediate transport required: Yes No

Best method: Ambulance Helicopter Vehicle

Closest pick up point (DP, Helispot) _____

Radio procedures for Communications Unit at ICP

1. Clear the Command or other appropriate channel for Emergency traffic
2. Communications unit will notify the DIVS, OSC, SOF, Med Unit Leader and IC. IC will notify PSC, LSC and PLAN OPS if declaring "Incident with-in an Incident."
3. Notify Air OPS if air transport is requested

Additional Patient Information:

PATIENT #1

Age _____ Gender _____ Agency/Position _____

LOC _____ Vital Signs _____

Injury _____

Weight _____ Medical History/Allergies _____

PATIENT #2

Age _____ Gender _____ Agency/Position _____

LOC _____ Vital Signs _____

Injury _____

Weight _____ Medical History/Allergies _____

Vista Incident Risk Analysis (215a)

Div.	LCES Analysis of Tactical Applications (Hazardous Actions or Conditions)	LCES Mitigations/Warnings/Remedies
All	Driving	Keep your speed down & Drive Defensively Heavy OHV use area. Be aware of trails crossing all roads. Gear Down on Steep Roads. Use experienced drivers.
All	Hazard Trees, Snags & Stump Holes	Post Lookouts, limit exposure, use qualified fallers. Watch your footing.
All	Lightning	Observe the 30/30 rule (refer to pg 75 in IRPG) Do not resume work in exposed areas until 30 minutes after storm activity has passed.
All	Communications	Adhere to Radio Communication Plan. Be aware of possible "dead spots". Don't engage in areas without communications issues mitigated. Give short clear transmissions.
All	Steep terrain and Rolling material.	Watch out for rolling material coming off steep slopes. Stay alert and watch your footing. Post lookouts, have escape routes.
All	Difficult terrain and conditions for providing emergency medical needs.	Use the emergency communication protocol. Limit high-risk activities. For major injury consider using Paloma Meadow as emergency landing zone. Use H523, and rendezvous with air ambulance.
All	Bears	Don't keep garbage stacked by Crew Vehicles. Back Haul garbage at end of shift and place in dumpsters. Don't bring food into tents.
All	Air Operations	Review Risk Analysis before ordering up air support. Maintain Air to Ground communications, Clear drop zones and flow routes.

Incident Name: Vista

Date & Time Prepared: Aug 25, 2007 @ 2030 hours

Operational Period: August 26, 2007 Prepared By: Richard Rubin & Michele Tanzi, SOF2

CA-SQF-002842
SEQUOIA NATIONAL FOREST
NORCAL IMT 1

The 5-D System for Effective Waterbars

When locating and building waterbars, place them the right **distance** apart, at a **diagonal** to the fireline, so that they **divert**, then **discharge**, then **dissipate** the energy of the flowing water. Be sure to make them deep enough so they'll be durable, and that soil does **not block** the water bar outlet.

Recommended spacing for waterbars on firelines.

Fireline slope %	Maximum Distance Apart (feet)
1-5	200
6-20	125
21-40	60
41-60	40
>60	25

Waterbars should be at least 2 pulaski widths wide and 12-24 inches high.

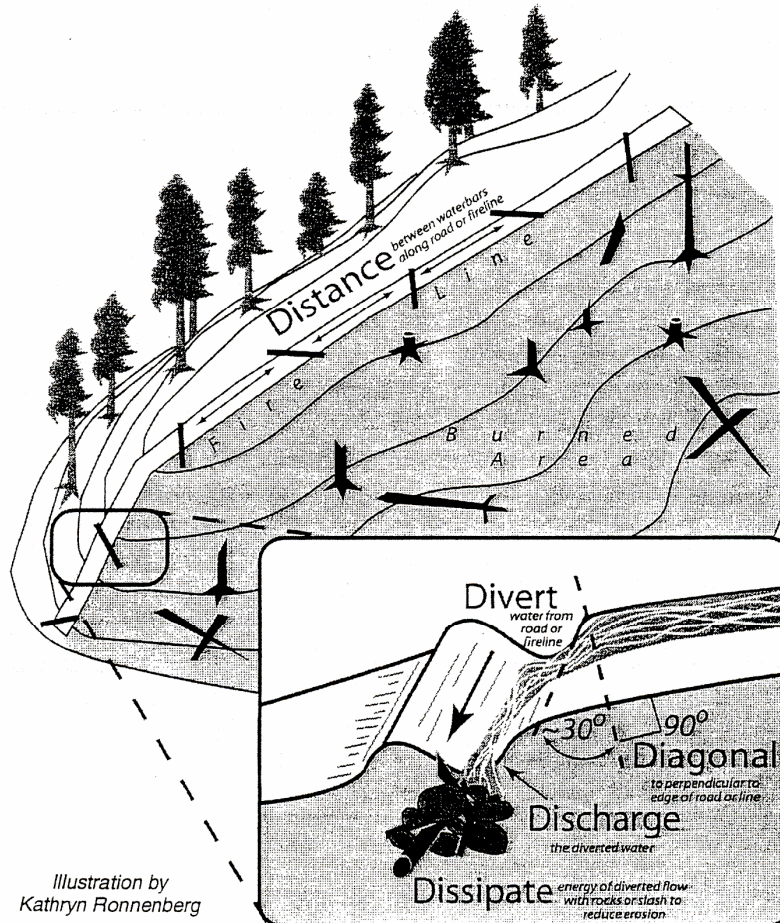


Illustration by
Kathryn Ronnenberg