

<p align="center">U.S. Department of Agriculture Forest Service</p>	<p align="center"><b>1. WORK PROJECT/ACTIVITY</b> Station Fire Burned Area Project Work</p>	<p align="center"><b>2. LOCATION</b></p> <p align="center">Angeles National Forest</p>	<p align="center"><b>3. UNIT</b></p>
<p align="center"><b>JOB HAZARD ANALYSIS (JHA)</b> References-FSH 6709.11 and -12 (Instructions on Reverse)</p>	<p align="center"><b>4. NAME OF ANALYST</b></p> <p align="center">Ronald Ashdale (rev. by Mcl, 10/1/09)</p>	<p align="center"><b>5. JOB TITLE</b></p> <p align="center">Forest Safety Officer</p>	<p align="center"><b>6. DATE PREPARED</b></p> <p align="center">9-8-2009</p>
<p align="center"><b>7. TASKS/PROCEDURES</b></p>	<p align="center"><b>8. HAZARDS</b></p>	<p align="center"><b>9. ABATEMENT ACTIONS</b> <b>Engineering Controls * Substitution * Administrative Controls * PPE</b></p>	
<p>General Ground Work</p>	<p>Footing on steep, rough, uneven terrain;</p> <p>Communications</p> <p>Fire Safety</p> <p>Driving</p> <p>Ticks</p> <p>Poison oak</p> <p>Heavy brush</p>	<ul style="list-style-type: none"> <li>• Wear suitable footwear (i.e, eight-inch-high leather boots with lug soles).</li> <li>• Be careful not to slip, trip or fall, especially on wet ash.</li> <li>• If going to a remote area alone let someone know specifically where you will be; be sure someone knows when you have returned.</li> <li>• Conduct tailgate safety sessions.</li> <li>• Drive defensively with headlights on. Be aware of suppression efforts within the area you are working in. Be aware of road conditions.</li> <li>• Be aware of the potential for Lyme Disease.</li> <li>• Check clothing and person every evening.</li> <li>• Consider using repellent</li> <li>• Learn to identify the plant.</li> <li>• Avoid contact as much as possible.</li> <li>• Have Technu on hand.</li> <li>• If symptoms appear, get medical treatment as needed. Zanafel may be purchased to alieve symptoms of poison oak.</li> <li>• Wear long sleeve shirt; goggles.</li> </ul>	

<p>General Field Work and Monitoring</p>	<p>General personal safety</p> <p>Fatigue</p> <p>Trip and Fall, eye poking</p> <p>Crossing creeks</p> <p>Giardia</p> <p>Stream channel work</p> <p>Stump and root holes</p> <p>Snags and hazard trees</p> <p>Slippery and unstable footings</p> <p>Rattlesnakes and bears</p>	<ul style="list-style-type: none"> <li>• Wear required suitable and protective clothing including gloves, hardhat and safety goggles (depending on the activity).</li> <li>• Be prepared to spend the night if necessary. Take care of cuts, bruises, and blisters immediately.</li> <li>• Let someone know specifically where you will be.</li> <li>• Be sure someone knows when you have returned.</li> </ul> <ul style="list-style-type: none"> <li>• Limit shifts to 12 hours or less (going beyond 12 hours is a rare exception). Provide 2:1 work/rest ratios and ensure eight hours off between shifts. Manage for cumulative physical, cognitive or emotional fatigue.</li> </ul> <ul style="list-style-type: none"> <li>• Watch for down trees and debris on forest floor.</li> <li>• Wear goggles when walking in thick, shrubby areas.</li> </ul> <ul style="list-style-type: none"> <li>• Watch where you walk in stream, expect rocks to be slippery, don't cross if you feel unsafe.</li> </ul> <ul style="list-style-type: none"> <li>• Don't drink unfiltered or untreated water from creeks.</li> </ul> <ul style="list-style-type: none"> <li>• Use extra caution in stream bottoms to prevent falling.</li> </ul> <ul style="list-style-type: none"> <li>• Keep your eyes on your path of travel. If your attention is diverted, stop and complete the task before proceeding.</li> <li>• Excessive amounts of white ash may indicate the presence of a stump or root hole.</li> </ul> <ul style="list-style-type: none"> <li>• Wear an approved hardhat</li> <li>• Size up your surroundings. Avoid work in areas where hazards exist.</li> <li>• Be aware of anticipated conditions. Avoid the common BAER condition of spending all of your time looking down, not noticing hazards in the air.</li> <li>• Use spot lookouts, and establish safety zones. If the wind is blowing (trees swaying), stop working. Look up, down, and around.</li> </ul> <ul style="list-style-type: none"> <li>• Be extra careful in areas of wet ash, retardant drops, loose rocks and unstable slopes.</li> </ul> <ul style="list-style-type: none"> <li>• Be aware at all times of the potential for encounters with rattlesnakes and/or bears.</li> </ul>
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<p>Working in hot or cold climatic conditions</p>	<p>Sun</p> <p>Dehydration</p> <p>Heat Cramps, Heat Exhaustion, and Heat Stroke</p>	<ul style="list-style-type: none"> <li>• Carry sunglasses.</li> <li>• Use sunscreen to prevent sunburn.</li> <li>• Consider deferring field work when temperatures exceed 100 degrees F.</li> </ul> <ul style="list-style-type: none"> <li>• Drink enough water supplemented with electrolyte-based drinks to keep hydrated and prevent heat exhaustion or heat stroke (at least two-three quarts of water per day in summer).</li> <li>• Pace yourself when climbing steep, open slopes.</li> </ul> <ul style="list-style-type: none"> <li>• Remain constantly aware of the four basic factors that determine the degree of heat stress (air temperature, humidity, air movement, and heat radiation) relative to the surrounding work environmental heat load.</li> <li>• Know the signs and symptoms of heat cramps, heat exhaustion, and heat stroke. Heat stroke is a true medical emergency requiring immediate emergency response action.</li> </ul> <p>NOTE: The severity of the effects of a given environmental heat stress is decreased by reducing the work load.</p> <ul style="list-style-type: none"> <li>• increasing the frequency and/or duration of rest periods, and by introducing measures which will protect employees from hot environments.</li> <li>• Maintain adequate water intake by drinking water (flavoring water with citrus flavors or extracts enhances palatability) or sport drinks periodically throughout the day. Some overhydration is strongly recommended.</li> <li>• Allow approximately 2 weeks with progressive degrees of heat exposure and physical exertion for substantial acclimatization. Acclimatization is necessary regardless of an employee's physical condition (the better one's physical condition, the quicker the acclimatization).</li> <li>• Tailor work schedules to fit the climate, the physical condition of employees, and mission requirements.</li> <li>• A reduction of work load markedly decreases total heat stress.</li> <li>• Lessen work load and/or duration of physical exertion the first days of heat exposure to allow gradual acclimatization.</li> <li>• Alternate work and rest periods. More severe conditions may require longer rest periods and electrolyte fluid replacement (sport drinks).</li> <li>• Curtail or suspend physical work when conditions are extremely severe (see attached Heat Stress Index).</li> </ul>
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	Hypothermia and cold	<p><u>WBGT THRESHOLD VALUES FOR INSTITUTING PREVENTIVE MEASURES</u></p> <p>80-90 degrees F    Fatigue possible with prolonged exposure and physical activity.</p> <p>90-105 degrees F    Heat exhaustion and heat stroke possible with prolonged exposure and physical activity.</p> <p>105-130 degrees F    Heat exhaustion and heat stroke are likely with</p> <ul style="list-style-type: none"> <li>• Carry extra clothes. Wear layers to prevent sweating and subsequent cooling.</li> <li>• Bring rain gear, hat, warm gloves with you everyday.</li> <li>• Use extra caution in stream bottoms to prevent falling in water and hypothermia.</li> <li>• Cover all exposed skin and be aware of frostbite. While cold air will not freeze the tissues of the lungs, slow down and use a mask or scarf to minimize the effect of cold air on air passages.</li> </ul> <p>Additional measures to avoid cold weather problems are:</p> <ol style="list-style-type: none"> <li>a. Dress in layers with wicking garments (those that carry moisture away from the body) and a weatherproof slicker. A wool outer garment is recommended.</li> <li>b. Take layers off as you heat up; put them on as you cool down.</li> <li>c. Wear head protection that provides adequate insulation and protects the ears.</li> <li>d. Maintain your energy level (i.e., positive energy balance). Avoid exhaustion and over exertion which causes sweating, dampness in clothing, and accelerates loss of body heat and increases the potential for hypothermia.</li> <li>e. Acclimate to the cold climate to minimize discomfort.</li> <li>f. Maintain adequate water/fluid intake to avoid dehydration.</li> </ol> <p><u>Wind chill greatly affects heat loss (see Wind Chill Index)</u></p>
	Personal health and safety	<ul style="list-style-type: none"> <li>• Take care of cuts, bruises and blisters immediately. Report any accidents to the project team leader.</li> <li>• Take no risks that jeopardize your personal safety or the safety of others.</li> </ul>
Storm Events	Lightning	<ul style="list-style-type: none"> <li>• Check weather report, and stay off ridge tops and open slopes during lightning storms.</li> </ul>

	<p>Fog; poor visibility, disorientation</p> <p>Rain</p> <p>Wind</p>	<ul style="list-style-type: none"> <li>• If stuck in the open, keep radio and metallic objects away from you, squat down with only your feet on the ground, using an insulated pad if possible.</li> <li>• Keep as much of your body off the ground as possible.</li> <li>• Drive with lights on low beam. If fog and/or smoke are so dense as to affect safe driving, cease operations before getting into a situation where safety is compromised.</li> <li>• Don't walk on logs; avoid small stems that are parallel to the slope; insure footing. If roads are muddy, use chains or stay off roads.</li> <li>• Check weather reports; monitor wind events. If trees are swaying, move to a safe area with no trees or snags, or get out of the wind path.</li> </ul>
Burned Over Environment	<p>Falling rocks</p> <p>Heavy brush</p> <p>Insect bites / stings</p>	<ul style="list-style-type: none"> <li>• Don't work directly above or below another person; be wary of rocks.</li> <li>• Wear long-sleeved shirt, goggles and gloves. Beware of re-burn.</li> <li>• Wear long-sleeved shirt and hat; use repellent at your discretion. Bees and yellowjackets are a problem in fires.</li> <li>• Mosquitos pose a threat with West Nile Virus. Use repellent.</li> <li>• Carry anti-histamine and sting kits for bee stings. If you know you are allergic, carry proper medication and instruct coworkers in administration. <b>Tell your Team Leader about your allergies.</b></li> </ul>
Defensive Driving	Vehicle accidents and associated injuries; general driving conditions	<ul style="list-style-type: none"> <li>• Always wear safety belts and make sure everyone else does!</li> <li>• Keep windows clean and remove garbage from the cab of the truck.</li> <li>• <b>DRIVE WITH THE LIGHTS ON!</b></li> <li>• Forest roads are narrow. Drive defensively, giving yourself enough time and space to react to other drivers or wildlife on the road.</li> <li>• If possible, remove hazards from the roadbed rather than try to drive over or around them.</li> <li>• Limit driving time to ten hours or less. Stop and take a break if you feel sleepy while driving, or let someone else drive. Stop for a break every two hours. Drive with headlights on.</li> <li>• <b><i>Don't drive if you feel sick or are taking medication that affects your ability to handle a vehicle.</i></b></li> </ul>

		<ul style="list-style-type: none"> <li>• Drive carefully in snow and mud, chain up BEFORE you get stuck. Don't attempt accessing remote areas in poor conditions.</li> </ul>
	Mechanical malfunction; narrow, rough roads, heavy use impacts	<ul style="list-style-type: none"> <li>• Conduct daily preventive maintenance checks. Each vehicle is to have a first aid kit and required equipment.</li> <li>• Drive as far to the right as safely possible. Ensure stopping distance is</li> <li>• _ the sight distance on blind curves.</li> <li>• Confirm road status, traffic patterns and the presence of heavy equipment before use. Drive defensively. Watch out for public / contractor use of roads.</li> </ul>
Fatigue	Potential to affect judgment, work and relationships	<ul style="list-style-type: none"> <li>• Comply with work/rest ratio (two hours of work/ one hour of rest)</li> <li>• Comply with days off - 1/14 or 2/21, or time off sooner if deemed necessary by the Team Leader.</li> <li>• Recognize that fatigue affects cognitive (decision making) ability; physical ability (balance, stamina, etc). Emotional responses --guard against reacting to fellow workers and others.</li> <li>• Ensure that adequate accommodations are available.</li> </ul>
Employee Security	Potential for disgruntled publics and exposure to non-secure situations	<ul style="list-style-type: none"> <li>• Disengage from a situation where an irate person appears to be in an escalating angry mode.</li> <li>• Watch out for unfamiliar objects that may be lethal.</li> <li>• Watch out for illegal drug or hazmat sites.</li> <li>• <b>Travel in pairs.</b></li> </ul>
Working Relationships	Inappropriate behavior, anger, disorganized effort, poor communications	<ul style="list-style-type: none"> <li>• Always demonstrate mutual respect for others.</li> <li>• Guard against reacting to others' emotional anguish; be supportive and understanding.</li> <li>• Recognize that fatigue affects cognitive (decision making) ability; physical ability (balance, stamina, etc).</li> <li>• Emotional responses --guard against reacting to fellow workers and others.</li> </ul>
Emergency Evacuation Procedures (EEP)	Illness/Injury	<ul style="list-style-type: none"> <li>• Activate EMS by calling Angeles National Forest EOC 661-723-3620. Contact Angeles EOC or ICP Via radio</li> <li>• Refer to <b>Emergency Information attached</b></li> <li>• Render first aid to sick or injured until relieved by a higher-level medical responder. Do not abandon the patient.</li> <li>• Use Blood borne Pathogen precautions.</li> <li>• Use care when moving patients and transporting the injured.</li> <li>• Maintain communications.</li> <li>• Notify your supervisor.</li> <li>• Complete necessary paperwork.</li> </ul>
/s/ Michael J. McIntyre		
10. LINE OFFICER SIGNATURE		11. TITLE   12. DATE

**Michael J. McIntyre**

Previous edition is obsolete

**District Ranger**

**10/01/2009**

(over)

**JHA Instructions (References-FSH 6709.11 and .12)**

The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

**Blocks 1, 2, 3, 4, 5, and 6:** Self-explanatory.

**Block 7:** Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

**Block 8:** Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

- a. Research past accidents/incidents.
- b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.
- c. Discuss the work project/activity with participants.
- d. Observe the work project/activity.
- e. A combination of the above.

**Block 9:** Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

- a. Engineering Controls (the most desirable method of abatement).  
For example, ergonomically designed tools, equipment, and furniture.
- b. Substitution. For example, switching to high flash point, non-toxic solvents.
- c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.
- d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines  
(chain saws, rock drills, and portable water pumps).
- e. A combination of the above.

**Block 10:** The JHA must be reviewed and approved by a line officer. Attach a copy of the JHA as justification for purchase orders when procuring PPE.

**Blocks 11 and 12:** Self-explanatory.

**Emergency Evacuation Instructions (Reference FSH 6709.11)**

Work supervisors and crewmembers are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.

Be prepared to provide the following information:

- a. Nature of the accident or injury (avoid using victim's name).
- b. Type of assistance needed, if any (ground, air, or water evacuation).
- c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
- d. Radio frequencies.
- e. Contact person.
- f. Local hazards to ground vehicles or aviation.
- g. Weather conditions (wind speed & direction, visibility, temperature).
- h. Topography.
- i. Number of individuals to be transported.
- j. Estimated weight of individuals for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

**JHA and Emergency Evacuation Procedures Acknowledgment**

We, the undersigned work leader and crewmembers, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

**SIGNATURE      DATE**

**SIGNATURE      DATE**

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## FIELD MEDICAL EVACUATION PLAN

### Angeles National Forest

<b>Project Name:</b>		<b>Forest:</b>		<b>District:</b>	
<b>Date:</b>		<b>Incident Number:</b>		<b>Plan Prepared By:</b>	
<p>Qualified First Responders or the most senior qualified medical provider will provide patient assessment and first aid. Evacuation of serious injuries will be coordinated with the Mendocino Emergency Communication Center. Minor injuries will be treated, and transported by vehicle to a medical facility as necessary.</p>					
<b>Contact</b>					
<b>Contact:</b>		<b>Phone Number:</b>			
<b>Frequency</b>	<b>Rx:</b>	<b>Tx:</b>	<b>Tone:</b>		
<b>Alternate Contact:</b>		<b>Phone Number:</b>			
<b>Injury Information</b>					
<b>Nature of Injury:</b> Avoid using names					
<b>Number to Transport:</b>		<b>Estimated Weights:</b>			
<b>Project Location</b>					
<b>Legal:</b>		<b>Latitude:</b>		<b>Longitude:</b>	
<b>Narrative:</b> including major landmarks or cross roads					
<b>Hazards:</b> To ground or aviation resources		<b>Weather Conditions:</b> Wind speed and direction, visibility, temperature			
<b>Closest Helispot Location</b>					
<b>Legal:</b>		<b>Latitude:</b>		<b>Longitude:</b>	
<b>Narrative:</b> including major landmarks or cross roads					
<b>Medical Facility</b>					
<b>Nearest Facility:</b>		<b>Phone Number:</b>			
<b>Travel Time:</b>		<b>Address:</b>			
<b>Directions:</b>					
<b>24-Hour Facility:</b>		<b>Phone Number:</b>			
<b>Travel Time:</b>		<b>Address:</b>			
<b>Directions:</b>					

# HEAT STRESS INDEX

RELATIVE HUMIDITY	Actual Thermometer Reading (F°)															
	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104
	HUMIDITURE F° (Equivalent Temperature)															
10%	68	70	72	75	77	78	80	82	85	87	89	91	93	95	97	98
20%	70	72	75	77	79	81	84	86	88	90	93	95	97	99	101	104
30%	73	75	77	78	80	83	85	87	90	92	95	98	101	105	108	110
40%	74	76	78	79	81	85	87	89	92	96	100	104	106	110	117	120
50%	75	77	79	81	84	86	90	93	96	100	105	108	110	120	125	132
60%	75	77	80	83	86	89	92	95	100	106	111	120	125	132		
70%	75	77	81	85	89	91	96	100	106	115	122	128				
80%	76	78	83	86	91	95	100	106	114	122						
90%	77	79	85	89	95	99	109	115	122							
HUMIDITURE F°	Below 80		80 - 90		90 - 105		105 - 130			Above 130						
DANGER CATEGORY	NONE		CAUTION		EXTREME CAUTION		DANGER			EXTREME DANGER						
NONE	Little or no danger under normal circumstances.															
CAUTION	Fatigue possible, if exposure is prolonged and there is physical activity.															
EXTREME CAUTION	Heat cramps and heat exhaustion, if exposure is prolonged and there is physical activity.															
DANGER	Heat cramps or exhaustion likely; heat stroke possible, if prolonged and there is physical activity.															

**EXTREME DANGER****HEAT STROKE IMMINENT!****WIND CHILL INDEX**

Actual Thermometer Reading (F°)

Wind Speed (mph)	Equivalent Temperature (F°)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
Calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-21	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-36	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-124
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-49	-67	-82	-98	-118	-129	-145
40	26	10	-5	-21	-37	-53	-69	-85	-100	-116	-132	-148
	LITTLE DANGER (for properly clothed person)				INCREASED DANGER				GREAT DANGER			
	DANGER OF FREEZING EXPOSED SKIN											

NOTE: Wind speeds greater than 40 mph have little additional effect.