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U.S. Department of Agriculture Forest Service		1. WORK PROJECT/ACTIVITY BAER Team		2. LOCATION:		3. UNIT	
JOB HAZARD ANALYSIS (JHA) References -- FSH 6709.11 and -- 12 (Instructions on Reverse)		4. NAME OF ANALYST		5. JOB TITLE		6. DATE PREPARED	
7. TASKS/PROCEDURES		8. HAZARDS		9. ABATEMENT ACTIONS			
General Air Reconnaissance	No Low level flights without WO approval (<500 feet)	Engineering Controls * Substitution * Administrative Controls * PPE Is this flight really necessary? Is there another way to do the job? Follow instructions from helitack and the pilot. Ask questions if you do not understand the instructions. Do not fly in hazardous situations. Ask questions of pilots and others to determine what hazardous situations exist. Minimize time in the air. Follow agency guidelines to include flight following and communications. Wear required personal protective equipment (PPE).					
General Ground Reconnaissance	Footing on steep, rough, uneven terrain; falling trees; heavy vehicle traffic on narrow, winding roads; reburn potential; suppression efforts; dehydration and fatigue; burned out holes.	Wear eight-inch-high leather boots with lug soles. Stay in communication with incident personnel (division supervisors and BAER Team members). Read daily safety message. Establish Lookouts, Communications, Escape Routes and Safety Zones (LCES). Drive defensively with headlights on. Be aware of suppression efforts within the area you are working in. Be careful not to slip, trip or fall, especially on wet ash. Be aware of possible exposure to hypothermia. Be aware of road conditions. Conduct tailgate safety sessions with your colleagues. Utilize "Six Minutes for Safety" (http://www.nifc.gov/sixminutes/dsp_sixminutes.php). Everyone will have a copy of current IAP, know the radio frequency of the division he or she is in, and check in when entering and leaving. If unable to reach the division supervisor, radio Incident Command Post (ICP) Communications or contact the Division Safety Officer (name in ICP).					
	Poison ivy	Learn to identify the plant. Avoid contact as much as possible. If symptoms appear, get medical treatment as needed.					
Office	Tight quarters	Keep work space clean and take frequent breaks . Clean up your own messes.					
General Field Work and Monitoring	General personal safety	Work in pairs. Keep fresh batteries in your radio, and carry an extra battery pack. All personnel within the fire perimeter need a working radio. If needed, get one from ICP-communications if necessary. If folks separate in the field, each individual WILL have a radio. Wear required PPE. Carry reserved energy food or Meals-Ready-to-Eat (MREs). Be prepared to spend the night if necessary.					
	If driving to a remote area alone	Let someone know specifically where you will be. Make sure your radio works before you leave. Get it fixed or replaced if necessary.					
	Check in / Check out	Be sure someone knows when you have returned. Sign in/ Sign out.					

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	Fatigue	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.
	Sun / hyperthermia	Carry sunglasses. Use sunscreen to prevent sunburn. Consider deferring field work when temperatures exceed 100 degrees F.
	Dehydration	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). Pace yourself when climbing steep, open slopes.
	Hypothermia and cold	Carry extra clothes. Wear layers to prevent sweating and subsequent cooling. Bring rain gear, hat, and warm gloves with you everyday.
	Stream channel surveys	Use extra caution in stream bottoms to prevent falling. Fire-caused stream temperature increases might have already caused rock-slickness to increase.
Field Surveys, Monitoring	Steep slopes and remote worksites	Wear lugged soled shoes with eight-inch tops, with good ankle support. Carry a radio, and leave your itinerary with someone.
Mapping/Inventory Within Fire Perimeter	Working within fire perimeter.	Wear PPE (hard hat, leather boots, NOMEK, fire shelter, goggles, and gloves) at all times. Recognize that the fire is not controlled. Know your ten standard fire orders and 18 "watch out" situations. Area command and the BAER Team Leader will determine on a daily basis whether line-qualified personnel will be needed to escort BAER personnel in high hazard areas.
	Stump and root holes	Keep your eyes on your path of travel. If your attention is diverted, stop and complete the task before proceeding. Excessive amounts of white ash may indicate the presence of a stump or root hole.
	Snags and hazard trees	Size up your surroundings. Avoid work in areas where hazards exist. Be aware of anticipated conditions. Avoid the common BAER condition of spending all of your time looking down, not noticing hazards in the air. Use spot lookouts, and establish safety zones. If the wind is blowing (trees swaying), stop working.
	Slippery and unstable footings	Be extra careful in areas of wet ash, retardant drops, loose rocks and unstable slopes.
	Rattlesnakes and bears	Be aware at all times of the potential for encounters with rattlesnakes and/or bears. Withdraw from the area.
	Personal health and safety	Take care of cuts, bruises and blisters immediately. Report any accidents to the Team Leader and complete an accident report. Take no risks that jeopardize your personal safety or the safety of others.
Storm Events	Lightning	Check weather report, and stay off ridge tops and open slopes during lightning storms. 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. Keep as

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		much of your body off the ground as possible.
	Fog, smoke; poor visibility, disorientation	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.
	Rain	Don't walk on logs; avoid small stems that are parallel to the slope; insure footing. If roads are muddy, stay off roads.
	Wind	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.
Burned Over Environment	Falling rocks	Don't work directly above or below another person; be wary of rocks.
	Heavy brush	Wear long-sleeved shirt, goggles and gloves
	Insect bites / stings	Wear long-sleeved shirt and hat; use repellent at your discretion. Bees and yellowjackets are a problem in fires. Carry anti-histamine and sting kits for bee stings. If you know you are allergic, carry proper medication and instruct coworkers in administration. Tell your Team Leader about your allergies.
Communication/Coordination with Team Leaders and Suppression Personnel	Loss of repeaters or dead spots	Follow Communications Plan. Notify incident personnel on specific zone when working in field. Be sure to check in with the division supervisor before entering and leaving fire perimeter and/or the division.
Defensive Driving	Vehicle accidents and associated injuries; general driving conditions	Always wear safety belts and make sure everyone else does! Keep windows clean and remove garbage from the cab of the truck. DRIVE WITH THE LIGHTS ON! Forest roads are narrow. Drive defensively, giving yourself enough time and space to react to other drivers or wildlife on the road. If possible, remove hazards from the roadbed rather than try to drive over or around them. Limit driving time to ten hours or less. Stop and take a break if you feel sleepy while driving, or let someone else drive. Don't drive if you feel sick or are taking medication that affects your ability to handle a vehicle.
	Mechanical malfunction; narrow, rough roads, heavy use impacts	Conduct daily preventive maintenance checks. Each vehicle is to have a first aid kit and required equipment. Drive as far to the right as safely possible. Ensure stopping distance is ½ the sight distance on blind curves. Confirm road status, traffic patterns and the presence of heavy equipment before use. Drive defensively. Watch out for public / contractor use of roads.

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Helicopter Operations:		IS THIS FLIGHT REALLY NECESSARY?
1. Approach departure	Rotor and engine exhaust location on different helicopter types pose danger of serious injury	Approach operating helicopter only when instructed to do so by pilot, manager or helitack personnel. All personnel must receive a briefing on the specific type/model of helicopter before working around that helicopter. Each type/model may have different procedures for approach and departure. Standard procedure is as follows: 1) Approach from the front or front side of helicopter, in a slight crouch and in clear view of the pilot. 2) Never go near the rear of the helicopter unless instructed to do so (for models without a tail rotor hazard). 3) Allow helitack personnel to carry long objects, or carry them horizontally, low to the ground if authorized to do so. 4) Approach/depart helicopters to/from the downhill side (never uphill).
2. Loading/Unloading	Some aircraft components are fragile and easily broken. Improperly entering or exiting helicopter could adversely shift the position or orientation of the helicopter.	Follow directions of air operations personnel. Open/close doors only when and as instructed. Do not straddle the skid or step immediately adjacent to skid. Use only designated handholds to enter or exit--DO NOT PUT ANY WEIGHT ON THE DOOR. Enter and exit the aircraft in a carefully controlled manner to avoid shifting the aircraft position. Remain seated and belted in until directed otherwise. Secure the seatbelt back inside the helicopter upon exiting.
3. Personal Protective Equipment	Potential for flash fire and potential for serious head trauma in the event of an accident.	For all helicopter flights, PPE must include: Nomex or fire-resistant cotton shirt and trousers, leather or Nomex gloves, leather boots, *Aviator Flight Helmet*, a two-inch overlap of all PPE. *NOTE: Firefighters being transported to a managed helispot may substitute a hardhat with chinstrap and earplugs for the aviator flight helmet.
Mines	Potential exists to encounter open pit mines	Check with local district personnel and map mine hazard areas. Be on the alert for open pit mine areas in all locations. Watch out for hazardous materials.
Fatigue	Potential to affect judgment, work and relationships	Comply with work/rest ratio (two hours of work/ one hour of rest) Comply with days off - 1/14 or 2/21, or time off sooner if deemed necessary by the Team Leader. Recognize that fatigue affects cognitive (decision making) ability; physical ability (balance, stamina, etc). Emotional responses --guard against reacting to fellow workers and others. Ensure that adequate accommodations are available.
Hazardous Materials	Potential exists to encounter burned buildings that contained hazardous materials.	Avoid burned buildings. Be wary around any of the private land, or land bordering private land.

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	Potential exists to encounter areas around private land that may have hazardous materials.	
Employee Security	Potential for disgruntled publics and exposure to non-secure situations	Disengage from a situation where an irate person appears to be in an escalating angry mode. Watch out for unfamiliar objects that may be lethal. Watch out for illegal drug or hazmat sites. Travel in pairs.
Working Relationships	Inappropriate behavior, anger, disorganized effort, poor communications	Always demonstrate mutual respect for others. Guard against reacting to others' emotional anguish; be supportive and understanding. Recognize that fatigue affects cognitive (decision making) ability; physical ability (balance, stamina, etc). Emotional responses --guard against reacting to fellow workers and others
Monitoring of 30-mile Fire Hazard Abatement Plan	Putting employees at risk	Daily report by way of conference call addressing compliance with the 30-Mile Abatement Plan.
10. LINE OFFICER SIGNATURE /s/ Smokey BAER	11. TITLE Deputy Forest Supervisor	12. DATE 0/00/0000

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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) writing the JHA, the date(s) of development, and the name of the appropriate line officer approving it. The supervisor 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:

- Research past accidents/incidents
- Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.
- Discuss the work project/activity with participants
- Observe the work project/activity
- 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:

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

- Nature of the accident or injury (avoid using victim's name).
- Type of assistance needed, if any (ground, air, or water evacuation)
- Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
- Radio frequency(s).
- Contact person.
- Local hazards to ground vehicles or aviation.
- Weather conditions (wind speed & direction, visibility, temp).
- Topography.
- Number of person(s) to be transported
- Estimated weight of passengers 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 crew members, 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

Work Leader