

U.S. Department of Agriculture Forest Service		1. WORK PROJECT/ACTIVITY General Field Work – Prescriptions, surveys, site evaluations, mapping, cruising, layout, or flagging, contract administration, marking, and similar light to moderate duty work assignments.	2. LOCATION Chattahoochee-Oconee National Forest	3. UNIT Forest-wide
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)		4. NAME OF ANALYST Chip Manson	5. JOB TITLE Forest Safety Officer	6. DATE PREPARED 7/17/12
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE		
LINKAGE TO RELATED JOB HAZARD ANALYSES	See related JHAs See Driving JHA Inquire on availability of a field specific task or assignment	This “Field Work” job hazard analysis is an umbrella analysis that applies to most field activities that require travel and walking in the woods. Tasks related to this activity may include, but are not limited to the use of OHVs or other equipment, handling of paint or pesticides, or exposure to blood borne pathogens. Specific JHAs have been written to assess these risks, and generally do not address the travel and walking component of the task. This analysis is intended to be used in conjunction with other project specific analysis to assess and consider the full range of risks or hazards associated with those functions.		
DRIVING TO THE JOBSITE	General	All driving under all conditions requires the wearing of seatbelts. Operators are responsible for securing objects both in the driving compartment and in truck beds before operating vehicles.		
	Dusty, winding, narrow roads	Drive confidently and defensively at all times. Go slow around corners, occasionally clearing the windshield.		
	Rocky or one-lane roads	Stay clear of gullies and trenches, drive slowly over rocks. Yield right-of-way to oncoming vehicles---find a safe place to pull over.		
	In an unfamiliar vehicle	Check brakes, steering, seatbelts, fluid levels, lights. Use maintenance checklist in vehicle logbook.		
	Stormy weather	Inquire about conditions before leaving the office. Be aware of oncoming storms. Drive to avoid accident situations created by the mistakes of others.		
	When angry, irritated or rushed	Attitude adjustment; work out the problem before driving the vehicle. Let someone else drive if possible, reschedule the trip if necessary. Allow plenty of time for arrival. Obey traffic laws.		
	Turning around on narrow roads	Safely turn out with as much room as possible. Know what is ahead and behind the vehicle. Use a backer if available. Face the danger – back towards hillside, use backing guide when possible		
	Sick or medicated;	Seriously ill individuals where work might impair health should not work or drive and should request sick leave. For employees with minor illnesses, let others know you do not feel well. Let someone else drive. When not working with a crew, take medications that do not impair senses or do not drive. Arrange alternatives with supervisor. Single resource employees who become sick in the field should call for assistance and transportation if driving is impaired.		
	Wet roads	Drive slow and safe, avoid sharp maneuvers.		
	Animals on road	Drive slowly, watch for other drivers and animals nearby.		
COMMUNICATION	Personal Safety, Crew whereabouts	Talk to each other. Let other crewmembers know when you see a hazard. Avoid working near known hazard trees. Warn others if you see impending hazards such as rolling rocks or dislodging limbs by yelling “ROCK!”, “LIMB!” or similar warnings. Always know the whereabouts of fellow crewmembers. Carry a radio and spare batteries. Sign out and provide an itinerary or utilize established “reporting” procedures. Report accidents/injuries to the Supervisor, District office, dispatcher, or other designated monitoring individual. Request assistance as appropriate to first aid, hospital etc.		
Working Alone	Injury, overdue, late arrival,	Carry a radio (or phone) and spare batteries. Sign out and provide an itinerary or utilize established “district reporting ” procedures. Report accidents/injuries to the District office, dispatcher, or other designated individual. Request assistance as appropriate to established first aid facility. Have map, compass, GPS etc. on hand, ensure radio or phone is operable. Let others know of your location and/or departure. Establish and keep a check-in or out time. Drive Defensively.		

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE
WALKING AND WORKING IN THE FIELD	General	This work is considered light to moderate depending upon terrain and individual activity. Maps, photographs and compass are generally considered part of the work equipment. Most work is off trail or road and surfaces are often uneven and/or steep with periodic obstacles that must be negotiated. Individuals are subject to contact with vegetation including briars and poisonous plants, insects, tripping and falling and other cut or abrasion causing hazards. Environmental hazards such as heat and cold must also be considered. The minimum PPE for this activity is boots, eye protection, long pants, shirt, hardhat, and high visibility vest (during specified hunting seasons). Optional wearing of long sleeve shirt, and additional layers of clothing may be considered as outlined below. Individuals or crews must carry a personal communications device and should carry a map, compass or other device if traveling in unfamiliar country.
	Falling down, twisted ankles and knees, poor footing, stump holes and steep terrain	Always watch your footing. Slow down and use extra caution around logs, rocks, and animal and stump holes. Extremely steep slopes (>50%) can be hazardous under any conditions; consider an alternate route. Select route when encountering streams with steep banks. Wear laced boots with a minimum 8" high upper and non-skid Vibram-type soles for ankle support and traction.
	Falling objects	Wear your hardhat for protection from falling limbs and pinecones, and/or from tools and equipment carried by others if working in a crew environment. Stay out of the woods during extremely high winds.
	Damage to eyes	Watch where you walk, especially around trees and brush with limbs sticking out. Exercise caution when clearing limbs from tree trunks. Employees must wear eye protection.
	Bee and wasp stings, spider bites – actions if stung or bitten.	<p>Continually observe your travel route. Avoid contact by avoiding visible bee and wasp nests. Flag the location of any known nests and if working with others, inform them of the location. Knock down or bypass visible spider webs. When opening gates and doors of remote, infrequently used structures, or encountering objects such as buckets or boxes in the forest, carefully look inside the gates for nests, open doors slowly and carefully, or turn over or move objects with caution after checking for wasps and other hazards. Utilize wasp and hornet spay as necessary to make areas that must be opened or moved safe.</p> <p>If bitten or stung, gently scrape stinger off if one is present. Apply analgesic swab and a cold pack if possible, and watch for infection. Watch for respiratory problems.</p> <p>If symptoms develop, notify dispatcher. Get person to a doctor immediately if there is trouble breathing. Individuals working alone and experiencing symptoms should seek medical assistance, but also call for immediate assistance and provide locations.</p> <p>“Employees with a history of allergic reactions to insect stings should carry an appropriate emergency kit prescribed by a physician and wear medical identification tags. Such employees should also inform supervisors and co-workers of their situation and what assistance, if any, is appropriate for an allergic reaction.” (H&SC, Pg 50-27,2)</p>
	Ticks and infected mosquitoes	<p>Consider long sleeve shirts. Wear long pants. Tuck pants into socks/boots. Use an insect repellent with DEET. Visually check yourself and others for ticks while in the field. Check yourself carefully at home at day's end.</p> <p>If a tick is imbedded in you:</p> <ul style="list-style-type: none"> *Gently pull the tick out with tweezers or fingernails using a quick tug. *Wash the infected area and monitor for a red rash.
	Poisonous Snakes	Learn to recognize poisonous snakes. Always watch your walking path. Wear boots with 8" tops as described above. Consider snake leggings, especially when alone in the woods at distance from truck or others. If bitten, radio for assistance. Be familiar with first aid procedures through periodic refreshers and follow recommendations.

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS
	Poisonous Plants	<p style="text-align: center;">Engineering Controls * Substitution * Administrative Controls * PPE</p> <p>Learn to recognize poison oak, ivy and sumac. Avoid contact with these plants. Wash or rinse skin if in contact using stream or other water. Recommend long sleeve shirts in infested areas.</p>
	Hunting Season	<p>By nature, risks are low during squirrel, turkey and primitive weapon seasons. Hazard increases during deer season. As a minimum, bright, high visibility vests of hunter orange are required during deer season, and are optional during other seasons. Individuals may also consider playing a small portable radio or using another sound-making device such as a bell if hunter activity is high.</p>
ENVIRONMENTAL HEALTH CONSIDERATIONS	Heat Stress	<p>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.</p> <p>Know the signs and symptoms of heat exhaustion, heat cramps, and heat stroke. Heat stroke is a true medical emergency requiring immediate emergency response action.</p> <p>NOTE: The severity of the effects of a given environmental heat stress is decreased by reducing the work load, increasing the frequency and/or duration of rest periods, and by introducing measures which will protect employees from hot environments.</p>
	Severe Environmental Heat Loads – Extreme Caution/Danger	<p>Maintain adequate water intake by drinking water periodically in small amounts throughout the day (flavoring water with citrus flavors or extracts enhances palatability). Some over-hydration is strongly recommended.</p>
	Severe Environmental Heat Loads Wet Bulb Globe T “Extreme Caution/Danger”	<p>For employees not working regularly in the heat, allow up to 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).</p> <p>Tailor the work schedule to fit the climate, the physical condition of employees, and mission requirements.</p> <ul style="list-style-type: none"> a. A reduction of workload markedly decreases total heat stress. b. Lessen work load and/or duration of physical exertion the first days of heat exposure to allow gradual acclimatization. c. Alternate work and rest periods. More severe conditions may require longer rest periods and electrolyte fluid replacement.
	Wet Bulb Globe Temperature (WBGT) Index – “Extreme Danger”	<p>Curtail or suspend physical work when conditions are extremely severe (see attached Heat Stress Index).</p> <p>Compute a Wet Bulb Globe Temperature Index to determine the level of physical activity (take WBGT index measurements in a location that is similar or closely approximates the environment to which employees will be exposed).</p> <p style="text-align: center;">WBGT THRESHOLD VALUES FOR INSTITUTING PREVENTIVE MEASURES</p> <ul style="list-style-type: none"> 80-90 degrees F Fatigue possible with prolonged exposure and physical activity. 90-105 degrees F Heat exhaustion and heat stroke possible with prolonged exposure and physical activity. 105-130 degrees F Heat exhaustion and heat stroke are likely with prolonged heat exposure and physical activity.

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS	
		Engineering Controls * Substitution * Administrative Controls * PPE	
ENVIRONMENTAL HEALTH CONSIDERATIONS (CONT'D)	Cold Extremes	<p>Dress appropriately as noted below. 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.</p> <p>Additional measures to avoid cold weather problems are:</p> <ul style="list-style-type: none"> 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. b. Take layers off as you heat up; put them on as you cool down. c. Wear head protection that provides adequate insulation and protects the ears. d. Maintain your energy level. Avoid exhaustion and over-exertion which causes sweating, dampens clothing, and accelerates loss of body heat and increases the potential for hypothermia. e. Acclimate to the cold climate to minimize discomfort. f. Maintain adequate water/fluid intake to avoid dehydration. 	
		Wind chill greatly affects heat loss. (see attached Wind Chill Index).	
	Wind Falling limbs	Avoid marking, walking, surveying in old, defective timber, especially hardwoods, during periods of high winds due to snag hazards.	
PERSONAL Protective Equipment		Boots, Hardhat, Eye Protection, Long pants, long sleeve shirt, Gloves, Radio or Phone	
Optional		Ear Protection, Drive with lights on, Orange Vest	
Line Officer's Signature		Title	Date
/s/ Betty A. Mathews		Forest Supervisor	11/4/13

HEAT STRESS INDEX

Actual Thermometer Reading (F°)																
	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104
RELATIVE HUMIDITY	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						
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!															

NOTE: Add 10°F when protective clothing is worn and add 10°F when in direct sunlight.

WIND CHILL INDEX

Actual Thermometer Reading (F°)														
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60		
Wind Speed (mph)	Equivalent Temperature (F°)													
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					

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

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:

- 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 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.

Print additional signature page if required

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 frequency(s).
- e. Contact person.
- f. Local hazards to ground vehicles or aviation.
- g. Weather conditions (wind speed & direction, visibility, temp).
- h. Topography.
- i. Number of person(s) to be transported
- j. 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 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
