

U.S. Department of Agriculture Forest Service		1. WORK PROJECT/ACTIVITY Field Work	2. LOCATION Northern Research Station- Grand Rapids MN	3. UNIT RWU 7
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)		4. NAME OF ANALYST Grand Rapids Safety Committee	5. JOB TITLE	6. DATE PREPARED 2/8/2012
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE		
DRIVING TO THE JOBSITE	Vehicle operation	Review Vehicle Travel JHA for detailed information, defensive driving course required.		
	Poor weather / road conditions	Assess weather and road conditions to determine if safe travel can be made before departing, reassess as conditions warrant		
	Dusty, winding, narrow roads	Drive confidently and defensively at all times. Drive with headlights on at all times. Go slow around corners.		
	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.		
	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.		
COMMUNICATION	Safety, crew unity	<p>Sign-out at the office and inform co-workers of itinerary before working in remote locations. Work in pairs or carry a radio or phone.</p> <p>Talk to each other. Let other crewmembers know when you see a hazard. Avoid working near known hazard trees. Always know the whereabouts of fellow crewmembers.</p> <p>Medical Plan of the Incident will be used to address medical emergencies. County and or Local Medical Emergency Services will be assigned to the project area.</p>		
WALKING AND WORKING IN THE FIELD	Falling down, twisted ankles and knees, poor footing	Always watch your footing. Take extra time moving through uneven terrain and use extra caution around fallen logs, rocks, and animal holes, wet or slippery substrate. Extremely steep slopes (>50%) can be hazardous under wet or dry conditions; consider an alternate route. Tree root holes are prevalent and should be flagged. High top leather boots are recommended, Work boots, hiking boots, or sturdy shoes will be required. Open toed shoes such as; sandals, tennis shoes, and the like are prohibited.		
	Falling objects	Be aware of your surroundings, look up for overhanging hazards, flag hazards when appropriate to warn others. Wear your hardhat for protection from falling limbs and pinecones, and from tools and equipment carried by other crewmembers. Leave areas containing unstable objects during windstorms. 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 in dense undergrowth and when clearing limbs. Advise wearing eye protection. Ultraviolet light from the sun can be damaging to the eyes; look for sunglasses that specify significant protection from UV-A and UV-B radiation.		

<p>WALKING AND WORKING IN THE FIELD cont.</p>	<p>Tools and Equipment</p>	<p>Supervisors have the responsibility to : 1) ensure that tools are not modified or used in any manner that increases the risk of injury, 2) ensure that tools remain in a safe condition through periodic inspection and repair. This includes tools furnished by Volunteers. 3) Monitor Volunteers performance periodically to ensure proper methods are followed. Gloves shall be worn while performing work tasks when they are required.</p> <p>Maps and a compass are strongly recommended to be carried by all persons and crews working in remote locations. Ensure that emergency/first aid supplies are readily available/easily accessible.</p>
	<p>Lifting</p>	<p>Ask for help if the load is too heavy. Do not try to lift or otherwise move material beyond abilities. Lift with the legs, not the back</p>
<p>PPE</p>	<p>Accident/Injury</p>	<p>Use clothing and equipment appropriate for the job: At a minimum, field work requires long sleeved shirts, long pants, leather boots. Tick repellent clothing is to be worn when working in infested areas or areas ticks are known to inhabit. Use other appropriate PPE for specific job related tasks.</p>
<p>ENVIRONMENTAL HEALTH CONSIDERATIONS</p>	<p>Heat Stress</p>	<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> <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 overhydration is strongly recommended.</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 work load 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.
	<p>Dehydration and/or Low Blood Sugar</p> <p>Excessive Heat / Physically Demanding Work</p>	<p>Consume (in addition to regular meals) fruit and liquids that replace the loss of carbohydrates and maintain blood sugar levels to normal limits.</p> <p>Plan physically demanding work activities to coincide with cooler times of the day (ie. Work in open conditions during the morning and move to shaded work activities in the afternoon if possible)</p> <p>Wear loose fitting light clothing and hats. Drink plenty of liquids. Rest frequently. Avoid heavy activity in extremely hot, humid conditions.</p>

ENVIRONMENTAL HEALTH CONSIDERATIONS cont.	Wet Bulb Globe Temperature (WBGT) Index	Curtail or suspend physical work when conditions are extremely severe (see attached Heat Stress Index).					
		The Wet Bulb Globe Temperature Index can be computed to determine the appropriate 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).					
		WBGT THRESHOLD VALUES FOR INSTITUTING PREVENTIVE MEASURES					
		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding: 5px;">80-90 degrees F</td> <td style="padding: 5px;">Fatigue possible with prolonged exposure and physical activity.</td> </tr> <tr> <td style="padding: 5px;">90-105 degrees F</td> <td style="padding: 5px;">Heat exhaustion and heat stroke possible with prolonged exposure and physical activity.</td> </tr> <tr> <td style="padding: 5px;">105-130 degrees F</td> <td style="padding: 5px;">Heat exhaustion and heat stroke are likely with prolonged heat exposure and physical activity.</td> </tr> </table>	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
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	Tornadoes	If time does not allow you to get to a safe place inside, lie flat in the nearest depression, ditch, or ravine, but watch for flooding waters, radio for help if possible.					
	High Winds	Terminate all work during periods of high winds due to snag hazards.					
Rain	Wear visible raingear- pants and jacket.						
Sunburn	Wear sun screen, proper clothing, hat, to avoid sunburn. Wear sunglasses to protect eyes.						
Lightning	Although most common in the summer, thunder and lightning can occur anytime. If caught in a storm near a vehicle, return to the vehicle and stay inside while the storm is most active. Park vehicle in an open area away from trees. Turn off radios during the storm. Lightning is more likely to strike when radio transmission occurs. After the storm passes, turn forest radio on and check in with communications. If caught in a storm away from your vehicle, try to find some form of building or shelter. DO NOT seek shelter under large trees or open areas or near tall objects, metal objects and power lines. Stay off ridge tops and mountain tops. Seek shelter in low lying areas such as a ditch or cave. High winds can snap off snags and healthy trees unexpectedly. Be aware of weather conditions. The safest place is inside a vehicle (rubber tires will insulate).						
Cold	In cold weather, it is recommended to wear warm hat, dress in layers, drink water, and protect hands and feet, and to avoid exhaustion, pace your activity level. Avoid conditions of extreme cold/wind chill						
Harmful Plants	Be able to identify poison ivy, poison oak, stinging nettles, water hemlock. Avoid contact. Wear protective clothing. Thoroughly wash clothing and body after contacting poisonous plants. Seek medical attention if exposure warrants and/or if affected areas include the face or eyes.						
Animals	Take extra precautions when handling live animals. Wear protective clothing. Thoroughly wash all bites. Seek medical attention.						
WORKING NEAR AQUATIC ENVIRONMENTS STREAM and RIVER CROSSING WORKING IN or NEAR STREAMS or PONDS	Flash Flooding	Drive or climb to higher ground during heavy rainfall/storms when flash flooding is possible.					
	Unsafe Ice	Be absolutely certain ice is thick enough before venturing onto it. Be extremely wary of ice over moving water, near lake inlets and outlets, and connecting channels. Avoid snow drifts or deep snow in such areas. Carry spikes (ice claws).					
	Slipping, Falling or Drowning	Avoid dangerous stream crossings with water over mid-thigh depth or swift current, deep pools/ponds, and woody debris accumulations that could entangle feet. Identify safest routes to					

<p>WORKING NEAR AQUATIC ENVIRONMENTS WORKING IN or NEAR STREAMS or PONDS cont.</p>		<p>cross (shallow water, slow current and gradual slopes). Be aware of slippery surfaces, rocks, and logs (wet, icy, mossy, loose bark, submerged wood and roots). If water is too high to work in/cross water body safely, put off the work until a safer time. Use the buddy system when walking in water depths over the knees. Know the weather forecast and potential for upstream flooding. Carry radio/cell phone. Wear proper footwear such as waders with good traction. Use stick or pole to test for deep holes and help maintain balance. Select each stepping spot carefully and do not shift body weight until spot is solid. Be aware of stationary and floating submerged debris. When carrying a pack, disconnect waist and sternum straps so pack can be discarded in event of a fall. Prevent getting wet. Know symptoms of, and first aid for cold injuries such as hypothermia. Keep spare change of clothes and emergency supplies with you.</p>
<p>INSECTS / TICKS</p>	<p style="text-align: center;">Tick Bites</p> <p style="text-align: center;">Lyme Disease, Rocky Mountain Spotted Fever, etc.</p>	<p>Recommended reading: (http://www.cdc.gov/ncidod/dvbid/lyme/lyme_brochure.pdf) Know how to ID tick, prevent bites, and recognize signs & symptoms</p> <p>Between April and October, ticks are found on vegetation and animals in grassland, marshland, and woodland habitats.</p> <p>Spray clothing with insect repellent as a barrier. Tick Repellents are recommended. Products containing DEET or permethrin are almost 100% effective in repelling ticks. Follow manufacturer's directions.</p> <p>Wear light colored clothing that fits tightly at the wrists, ankles, and waist. Each outer garment should overlap the one above it. Cover trouser legs with high socks or boots. Tuck in shirt tails. Search the body on a regular basis, especially hair and clothing; ticks generally do not attach for the first couple of hours.</p> <p>If a tick becomes attached, pull it by grasping it as close as possible to the point of attachment and pull straight out with gentle pressure. Wash skin with soap and water then cleanse with rubbing alcohol. Place the tick in an empty container for later identification, if the victim should have a reaction. Record dates of exposure and removal. Do not try to remove the tick by burning with a match or covering it with chemical agents. If you can not remove the tick, or the head detaches, seek prompt medical help.</p> <p>Watch for warning signs of illness: a large red spot on the bite area; fever, chills, headache, joint and muscle ache, significant fatigue, and facial paralysis are reactions that may appear within two weeks of the attack. Symptoms specific to Lyme disease include: confusion, short-term memory loss, and disorientation.</p> <p>The deer tick <i>Ixodes dammini</i> is an especially effective vector. Deer ticks have no white markings and are only one quarter the size of wood ticks. Lyme, Ehrlichiosis, and Babesiosis are diseases that can be serious if not treated. All cause similar symptoms. A low percentage of ticks transmit the disease. Of the ticks that do transmit the disease, 70 to 90 percent were from nymphal ticks. Nymphs are much smaller than adult deer ticks and thus are harder to spot on clothing or skin. In addition, the tick must have been attached to you for 24-48 hours for disease transmittal.</p> <p>Early Lyme Disease: The early stage of Lyme disease is usually marked by one or more of the following symptoms and signs: fatigue, chills and fever, headache, muscle and joint pain, swollen lymph nodes, a characteristic skin rash called erythema migrans, a red circular patch "bullseye" that appears usually 3 days to 1 month after the bite of an infected tick at the site of the bite.</p> <p>Late Lyme Disease: Some symptoms and signs of Lyme disease may not appear until weeks, months, or years after a tick bite: Arthritis is most likely to appear as brief bouts of pain and swelling, usually in one or more large joints, especially the knees. Nervous system abnormalities can include numbness, pain, Bell's palsy (paralysis of the facial muscles, usually on one side), and meningitis (fever, stiff neck, and severe headache).</p>
	<p style="text-align: center;">Bee Stings Allergic Reactions</p>	<p>Be alert to hives in brush or in hollow logs. Watch for insects travelling in and out of one location. If you or anyone you are working with is known to have allergic reactions to bee stings, tell the rest of the crew and your supervisor. Make sure you carry prescribed emergency medication with you</p>

<p>INSECTS / TICKS cont.</p>		<p>at all times. Wear long sleeve shirts and trousers; tuck in shirt.. Bright colors and metal objects may attract bees.</p> <p>If you are stung, cold compresses may bring relief. If a stinger is left behind, gently scrape it off the skin. Do not use a tweezers as this squeezes the venom sack, worsening the injury. Apply analgesic swab and a cold pack if possible, and watch for infection. Flag the location of any known nests and inform other crewmembers.</p> <p>If the victim develops hives, asthmatic breathing, tissue swelling, or a drop in blood pressure, seek medical help immediately. Give the victim antihistime, (Benadryl, chlo-amine tabs). Watch for respiratory problems. Notify Communications and get victim to a doctor immediately if there is trouble breathing.</p>
<p>SITUATIONAL AWARENESS</p>	<p>Making mistakes that may lead to accidents or injuries</p>	<p>We often receive a subtle, internal warning about an unsafe act before an incident occurs. Tune in to the this warning, often manifested as an uneasy feeling or idea that something is wrong. This feeling is diminished when we repeat an unsafe act many times without consequences. It is also diminished when we are in such a hurry or are so preoccupied that the matter distracts us from feeling different when faced with an unsafe situation. Be aware and heed the warning the first time! Slow down and remain focused on the task at hand.</p>
	<p>Random acts of Violence Angry or Violent Individuals</p>	<p>Review and learn the ten standards of personal safety.</p> <p>If a person approaches you and looks angry or threatening use your radio or phone to alert the base station. Even if you are in an area where you cannot transmit, you can give the impression that you are in radio/phone contact. Try to be intentional in your actions, you may feel intimidated, but act in control. Keep cool. If the person you are speaking to is angry, listen - don't react. Refer those who disagree with FS policy to your supervisor or the district ranger. Never get into a private vehicle. If you are stranded, call for help, stay in your vehicle until help arrives. If you meet individuals on isolated roads, stay in your vehicle; let them approach you.</p> <p>Always sign out at the office with your destination/itinerary; call in if you will be late.</p>
	<p>Encounters with people</p>	<p>Be aware of hunting seasons and activity. Wear blaze orange clothing during small and large game seasons. Before coming out of the woods and to your vehicle, look the area over for any disturbance, or unknown individuals.</p>
<p>Line Officer Signature</p>	<p>Title</p>	<p>Date</p>

