

<p>U.S. Department of Agriculture Forest Service</p>	<p>1. WORK PROJECT/ACTIVITY STOCK USE / HANDLING (16.0 - 16.53)</p>	<p>2. LOCATION Flathead National Forest</p>	<p>3. UNIT Spotted Bear Ranger District</p>
<p>JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)</p>	<p>4. NAME OF ANALYST Bill Workman</p>	<p>5. JOB TITLE Lead Animal Packer</p>	<p>6. DATE PREPARED 03/21/2007</p>
<p>7. TASKS/PROCEDURES</p>	<p>8. HAZARDS</p>	<p>9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE</p>	
<p>Catching Stock All stock users will have obtained required stock training prior to any use</p> <p>Saddling, Brushing, Grooming</p> <p>Packing and Lifting Equipment Techniques (16.43) (52.42)</p>	<p>Being Stepped On or Kicked</p> <p>Injury to Person/Stock-</p> <p>Injury to Person/Stock</p> <p>Injury to Person/Stock</p>	<ul style="list-style-type: none"> - Do not excite stock, movements are deliberate but smooth, don't be loud. - Do not feed until you've caught and tied up all the desired animals - Insure stock is tied securely and halters fit properly - Never have loops in the halter ropes. - Stand in safety zone by withers - Do not make sudden noise or movement - Make sure saddle fits properly and is in good repair - Know the animal if possible. - Check for injuries - Do not brush over wounds - Check all tack and blankets for dirt and debris/ remove any burrs or other foreign materials from pads. Untie horse before tightening cinch. - Use proper ropes for pig tails on saddles, Pig tails on saddles are designed to break when you have mishaps with pack stock. Using the wrong rope for pig tails on pack saddles, ropes that do not break, could cause a hazard. - Use proper lifting techniques - Before loading packs stretch and loosen muscles to reduce the chance of muscle strains or other injuries - Ask for help when lifting heavy packs, lift with your legs and knees, not your back, keep body straight and do not twist while lifting - Have rope and pack ready prior to attempt - Stay calm and reassuring with stock - Keep sharp edges covered - Make sure saddles and packs are secure - Keep the animal's back clean 	

**Stock Hauling/ Loading (16.11a) (16.2) (16.11c)
(16.12a)**

**Injury to
Person/Stock**

- Use breakaways to tie the pack string together/ have extras
- Use lead rope approximately 10 feet in length
- Keep saddle pad straight, saddle blanket smooth, saddle properly fitted and tight, and side packs as equal in weight as possible
- Hikers should yield to stock traffic. When encountering hikers who are unfamiliar with stock, ask them to stand on the downhill side of the trail and to wait for the stock to pass completely past them before they return onto the trail. If stock spooks, standing downhill will encourage them to go uphill and lessen the chance of an accident. Stock users will be prepared to either move aside safely or turn around, if required, to find a safe passing zone.

- Make sure there are no unsafe gaps between bumper and loading ramp
- Be alert when loading
- Do not wrap the lead rope around your hand or any part of your body, tie short and not too high
- Do not allow animal to pin you within trailer when loading stock
- Safe driving practices
- Conduct a pre-trip safety inspection of trailer/truck
- Make sure the stock truck brakes are working properly, test the brakes prior to approaching the loading ramps at Spotted Bear Ranger Station, the fuel tanks at Spotted Bear Ranger Station are in a hazardous location in front of the loading ramps, make sure your brakes are working, so you do not run into the fuel tanks
- Avoid quick starts and stops when driving
- Avoid excessive speeds on curves and turns, shift down, less braking.
- Unload livestock before jacking up a vehicle to change a tire, if possible
- Alternate the facing of each animal when hauling more than three animals
- Secure divider ropes between each animal
- Close the tailgate and secure the locking mechanism
- Never ride livestock into the truck

Riding Practices (16.41)

Lighting

- Never ride an animal when a lightning storm is nearby or in progress
- When working around stock, always speak to an animal when approaching from any direction
- Always lead an animal around after being saddled and before being mounted or packed
- Do not tie the lead rope around the lead horse's saddle horn or

General (16.53)	Insects	<p>wrap the rope around your hand</p> <ul style="list-style-type: none"> - Do not run the animal - Do not secure extra tools or equipment on livestock being ridden or carry them in your hands while riding. Ax or oregon saw with scabbard may be attached to saddle. Use of saddle or pommel bags for personal gear is o.k. - Be alert for insects, animals, & people that may spook livestock - Keep excessive slack out of the lead rope
Feeding Livestock (16.45)	Injury to Person/Stock	<ul style="list-style-type: none"> - Make sure stock is a safe distance from work site - Avoid leaving stock alone from other stock while hitched - Give proper training for stock care - Give adequate feed, water, first aid, grooming and rest time - Pack proper weight for specific animal and situations - Use proper containment facilities - Only competent personnel shall be assigned to shoeing duties <p>- Do not feed or water a sweaty animal until it has cooled off</p> <p>- When feeding or salting animals, exercise caution as even gentle animals may become aggressive and dangerous</p>
Riding alone		<ul style="list-style-type: none"> - Insure that your route and estimated time of arrival is known - Have a 2-way radio (make sure it works) and extra batteries (that are good) <u>before you leave</u> - Check in with the district or any other FS personnel when possible if running late or you will change your itinerary - Use extra caution
Personal Protective Equipment (16.3)	Improper boots	<ul style="list-style-type: none"> - Standard PPE includes: (1) first aid kit (2) riding boots, field boots, or work shoes that will not hang up in stirrups. Shoes should cover ankle and have a heel. Only experienced riders may wear spurs. (3) Protective head gear designed for livestock riding is recommended for inexperienced riders and should be available to employees on request - Bean boots (rubber bottoms and leather uppers) may be worn in very wet weather or muddy conditions - The packer or individual assigned for pack/saddle livestock handling shall match livestock with employee(s) according to riding skills - Instruct employees that all livestock can be dangerous - Before riding , hold tailgate safety sessions addressing livestock habits and characteristics
Riding Livestock (16.4)		
Securing Livestock (16.42)	Entanglement	<ul style="list-style-type: none"> - Do not use bridle reins to tie livestock - When tying livestock, clear away debris and tie the lead rope at least 4 feet (2 m) above the ground to prevent entanglement

- Do not tie livestock to trees with sharp branches, injury to livestock could result
- Tie the animal to an object using a rolling slipknot. Where possible, tie the rope to an object that the animal cannot walk completely around
- After tying livestock, do not cross under the lead rope
- Do not tie the animal to a wire fence or rails. Tie to posts.
- Do not position yourself in front of tied livestock
- Leave halter on under the bridle. Do not bridle or unbridle horse while it is tied up.
- Use cotton rope at least 1/2-inch diameter for picketing
- Unless picketing or hobbling livestock, do not tie to movable objects. Hobbles should not be placed below the ankle.
- When near the rear of livestock, stay close, maintain contact, and talk to the animal

10. LINE OFFICER SIGNATURE

11. TITLE

District Ranger

12. DATE

Previous edition is obsolete

(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) 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:

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:

- 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 crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and

<p>U.S. Department of Agriculture Forest Service</p>	<p>1. WORK PROJECT/ACTIVITY Backcountry Trail Work, Travel, and Environment</p>	<p>2. LOCATION Flathead National Forest</p>	<p>3. UNIT Spotted Bear Ranger District</p>
<p>JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)</p>	<p>4. NAME OF ANALYST Dave Arbach, revised hmc</p>	<p>5. JOB TITLE Forestry Technician</p>	<p>6. DATE PREPARED 04/23/2007</p>
<p>7. TASKS/PROCEDURES</p>		<p>8. HAZARDS</p>	<p>9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE</p>
<p>*Foot Travel (11.2-11.32)</p> <p>*</p>	<p>Physical Exhaustion</p> <p>Personal Injuries (general)</p>	<p>-Pace yourself. -Know your limitations. -Report for work in reasonable shape. -Stay in constant visual or verbal contact with your fellow crew members. -Crew leaders are responsible to keep their crew moving as a single unit and should travel as fast as the slowest member.</p> <p>-Proper Personal Protective Equipment (PPE) should be in good condition & worn at all times: -Eight inch high leather boots with lugged soles when working with tools; hiking boots may be worn when just walking and not working with tools -Leather gloves -Wear a long sleeve shirt to prevent cuts and scrapes. -A hardhat is to be worn at all times in the woods when working with hand tools and/or if wind conditions warrant. -Eye protection -At least one person in the crew must carry a first aid kit in their pack at all times -Two way radio (see Communication Plan) All crews must have at least one two way radio.</p>	
<p>*Fording Rivers & Streams</p>	<p>Slipping & Falling</p>	<ul style="list-style-type: none"> - Avoid fording rivers and streams when possible. - Do not ford a stream unless you are certain that all members of your group can ford safely. - When streams are muddy or you can hear rocks rolling along the stream bed, they are likely too high to cross safely. - Stream levels tend to be higher during and immediately after rain storms. Stream levels tend to be higher on hot afternoons and lower on cool mornings. Plan accordingly. - When fording is unavoidable, select the safest location. Select a site with wide, shallow, slow moving water. Stream bottoms covered with gravel and cobbles are safer than boulders. Select fords where the stream is straight rather than at a curve. Fording multiple channels or braids is generally safer than crossing a single large channel. Avoid fords with hazards directly downstream such as rapids and log jams. 	

		<ul style="list-style-type: none"> - Use a trekking pole or stout walking stick to probe the stream bottom ahead of you and stabilize yourself. - Shuffle your feet rather than taking long strides. Walk on stream bottom rather than stepping from boulder to boulder. - Loosen your shoulder straps and unbuckle your waist belt and chest strap prior to fording a stream. Discard your pack if you fall and are being swept downstream. - Do not ford streams barefoot. Wear wading shoes, rubber soled sandals or hiking boots.
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE
*Working and Traveling in Cold Weather Conditions (54.22) (54.22b)	<p>Blisters</p> <p>Hypothermia</p>	<ul style="list-style-type: none"> -Wear boots that are adequately broken in. carry "camp shoes" -Stop and tend to hot spots when they first appear -Carry first aid kit with stocked blister kit. Have duct tape available. -Wear 2 pairs of socks (1 cotton, 1 wool) <p>-HYPOTHERMIA IS A MEDICAL EMERGENCY</p> <ul style="list-style-type: none"> -The potential for hypothermia can occur on cold, wet, & windy days with temperatures at or above freezing, (32 degrees F) -Get adequate rest. -Anticipate bad weather. Carry additional warm clothing with you and dress in layers, polypropylene or wool underneath, with windproof and waterproof material on top are ideal. Ensure that your hand, feet, face, neck and head are covered and well protected. -Keep active to maintain the body's metabolism and keep your body temperature high. -Prevent dehydration by drinking warm water. Avoid drinking cold water, snow or ice. Avoid caffeinated beverages -Travel in pairs as a minimum. Never travel alone in isolated areas (sec 11.1). A line officer or other competent person must approve and document the assignment of employees to work alone in undeveloped areas (sec. 21.14). 54.22 -Find shelter and firewood before dark -A 30 gallon plastic bag can be a good shelter in an emergency <p>-HYPOTHERMIA SYMPTOMS INCLUDE:</p> <ul style="list-style-type: none"> -Feeling cold, pain in extremities, shivering, numbness, -Muscle stiffness (especially in the neck, arms, and legs) -Poor coordination, drowsiness, slow or irregular breathing and heart rate -Cool skin, and puffiness in the face -Thinking processes slow and victims become apathetic and

*Working and Traveling in Hot Weather Conditions
(54.11) (54.21)

Hot Conditions—
Dehydration, Heat
Stress, Sunburn

disagreeable

- As the body core cools further, mental function is impaired to far greater extent, leading to confusion, disorientation, and lethargy
- Slurred speech and loss of vision occur just prior to terminal coma

-HYPOTHERMIA FIRST AID:

- Call for medical help. Transport the victim to a hospital for care as soon as possible
- Give artificial respiration when necessary
- Move the victim into a warm area. If shelter is not available, build a fire. Prevent further heat loss
- Get the victim out of frozen, wet, or tight clothes
- Bundle the victim in warm clothes, blankets, or sleeping bag

-If the victim is mildly impaired, give the victim warm liquids (no caffeine or alcohol)

-If the victim is semiconscious, try and keep the person awake. Remove the victim's clothing and put the victim in a sleeping bag with another person, allowing the body heat to warm the victim. Do not give liquids until fully conscious

- Transport the victim to the nearest hospital. Keep the person lying down and as still as possible
- Do not assume the hypothermia victim is dead even though the person may appear to be. There may be no detectable heartbeat, breathing, or other signs of life. CPR can be given en route to a hospital

- Carry and drink plenty of clean or purified water, even when you are not thirsty
- Keep exposed skin covered by wearing a hard hat, bandana, and long sleeved shirt. Wear sunglasses that filter out 100% of UV rays. Use sunscreen
- Keep hydrated. Drink water before, during and after work. Ensure that everyone in the crew has adequate water supplies until the next resupply.
- Plan work activities in accordance with cool and hot hours of the day. If possible work in the shade during the heat of the day
- Pace yourself to prevent exhaustion and overheating

-HEAT CRAMPS are identified by muscular pains and cramps, with leg and abdominal muscles usually affected first. Remedies include stretching and gently massaging cramped muscles and applying a heating pad or hot water bottle to help relieve muscle spasms

HEAT EXHAUSTION is characterized by fatigue, weakness, and collapse. The skin becomes pale, cool, and clammy, accompanied by

*Thunderstorms (54.23)

*

Lightning

nausea, dizziness, a throbbing headache, breathing problems, and diarrhea. Recommended actions include moving to a cool, shady place, lying with the feet raised 8 to 12 inches above the head, and loosening clothing and applying cool compresses to the skin. If there is no improvement quickly, seek medical attention at once

HEAT STROKE IS A MEDICAL EMERGENCY. Unacclimatized employees are especially prone to heatstroke. Symptoms are confusion, high body temperature, hot (often dry) skin, rapid pulse, convulsions, loss of consciousness, and coma. LACK OF SWEATING IS ONE SIGN OF IMMINENT HEATSTROKE. DO NOT DELAY TREATMENT, IT MUST BE IMMEDIATE. COOL THE BODY DOWN QUICKLY. Administer fluids and TRANSPORT THE VICTIM TO A MEDICAL FACILITY AS QUICKLY AS POSSIBLE

- Do not use radios or telephones.
- Put down all tools
- Avoid grouping people together
- Avoid the tops of ridges, hilltops, wide open spaces, ledges, rock outcrops, and shelters in exposed areas. Avoid tall objects such as lone trees. Your best protection outside is a canyon, ditch, or head-high clumps of trees.
- The best protection in open country is to make yourself as small a target as possible. Drop to your knees, bend forward with your hands resting on your knees, and keep a distance of twice the height of the nearest tree between you and the tree. Keep your feet together.
- Move away from horses and stock

-Persons struck by lightning may receive a severe electrical shock and burns, including entry and exit wounds. These individuals carry no electrical charge after exposure to lightning and can be touched safely. VICTIMS OF A LIGHTNING STRIKE MAY SUFFER RESPIRATORY AND/OR CARDIAC ARREST. THEREFORE, ADMINISTER CPR IMMEDIATELY IF NEEDED AND FIRST AID, AS REQUIRED

Wind

- Wear your hardhat at all times. Extreme winds can blow down large tracts of timber and branches in relatively short times
- If caught in a timbered area during periods of high winds, get into a natural opening large enough to give protection from falling trees and limbs

Human, Wildlife Interaction

Bear Encounters or Attacks
Reference H&S Handbook
53.7,53.71,53.72

- All bears are potentially dangerous. Bears may attack for no apparent reason. Bears may become aggressive and attack to protect their young or a food source. Bears may attack when surprized or threatened. Bears may stand on their hind legs or approach to help see and identify you, this may not be a sign of aggression.

- Minimize your likelihood of encountering bears by working in groups and making noise when possible. Use extra caution when working or travelling in areas with fresh bear sign or areas known to be frequented by bears.
- If you encounter an animal carcass with bear sign, leave the area immediately and tell your supervisor and any other people in the area.
- If you do encounter a bear in close proximity, remain calm and move away slowly. By moving slowly and speaking in a low voice you can help the bear identify you and reduce the threat. Do not shout or act aggressively.
- If you encounter a bear that appears aggressive, move away slowly but deliberately. If pursued, you may distract the bear by dropping an item such as a hat or coat. Climb a tree if you can get out of the bear's reach, at least 10 feet above ground. Contact your supervisor immediately.
- If you are attacked, or feel an attack is imminent, prepare to defend and protect yourself. Tools, rocks or sticks may be used defend yourself. To protect yourself in an attack, assume a position face down with your legs tucked to your chest and your hands clasped behind your neck. Contact your supervisor and any other people in the area as soon as possible.
- When camping in bear habitat, follow the food storage order and keep all food, dishes and trash away from your sleeping area. Minimize food odors in sleeping area, tent and sleeping bag. If a bear enters your camp, make noise and confront the bear. Fires, noise and human activity generally discourage bears from entering camps. If the bear is aggressive or appears ready to attack, prepare to defend and protect yourself.

Bear Spray
Reference R1 H&S Supplement 6700-97-2, 6742 thru 6744.

- **BEAR SPRAY** - Bear spray contains a highly concentrated pepper oil that has been shown to be highly effective when used properly, to avoid or stop bear attacks. Bear spray is available for employees that are trained to use it. You are strongly encouraged to carry bear spray when working, travelling or camping in bear habitat.

Mountain Lions
(53.72)

- Make noise while you work and travel to prevent surprising a lion.
- Give the lion a way to escape. Talk calmly yet firmly.
- Stop or back away slowly. Never crouch, try to hide, turn away or run away.
- Try to appear larger by raising arms or object over the head.
- If the lion behaves aggressively, throw stones, branches, or whatever can be reached without crouching around or turning away.
- Fight back if attacked. Protect head and neck.

*

*	Insects (53.61) (53.61a)	<ul style="list-style-type: none"> -Be prepared for mosquitos and flies by carrying repellent and wearing protective clothing (nets, long sleeves, pants). -Watch out for bee nests. Carry sting swabs to ease the pain if stung and a sting kit if you are allergic -Let your crew know if you have allergic reactions, and inform them as how to treat you if stung -If attacked by bees, shield your face and leave the area
*Hunting Season (21.31)	Accidental Shootings	<ul style="list-style-type: none"> -Wear hunter orange safety vest during hunting season -Post signs near work sites to warn hunters of crew location -Reschedule jobs to allow crew to safely work away from hunters when possible -Visit hunting camps and warn hunters in the camp that crews are working in the area -Avoid wearing clothing during hunting season that is the same color as the game animal being hunted -Avoid using stock during hunting season that is the same color as the game being hunted
*Trail Clearing	Use of Hand Tools-- Injury	<ul style="list-style-type: none"> -Inspect tool handles and heads for flaws and needed repairs -Wear gloves, sturdy boots, long sleeved shirt, long pants, hardhat, and eye protection. -Carry all tools in scabbards. Do not carry tools over your shoulder, except as described under crosscut saws and chainsaws. -Ensure proper footing before beginning to use your tool. -Provide for adequate spacing, at least 10' between your neighbor. Clearly communicate when you need to pass by and wait for people to stop working before moving through. -Keep tools sharp to prevent bounce back -Do not stand behind someone swinging a hand tool
*Heavy Lifting (52.42)	Muscle Strains	<ul style="list-style-type: none"> -Before lifting heavy objects, plan where the object will be placed and clear the route. -Before lifting heavy objects stretch and loosen muscles to reduce the chance of muscle strains or other injuries -Use your knees not your back when lifting, keep body straight and do not twist while lifting. Ask for help if necessary and use a pry/rock bar if needed for leverage.
*	Use of Crosscut Saws—Injury (22.48h)	<ul style="list-style-type: none"> -Required PPE includes first aid kit, hardhat, eyeprotection, sturdy 8 inch high boots, and gloves. -Always transport a crosscut properly sheathed. -Always inspect the saw before use.

*Backcountry Living/Survival (11.21)

Getting Lost

- Carefully sheathe and unsheathe the saw with teeth facing away from your body.
- Pick up the saw with teeth away from your body. Rotate the teeth toward your body before handing the saw to another volunteer,
- When attaching handles, keep the teeth away from your body and secure a firm grip on the saw.
- Assess the work site. Establish escape routes and safety zones.
- Prior to cutting, remove vegetation. Establish firm footing.
- When using a two person crosscut for bucking, ensure that any person placed downhill is in a safe position. If it is not certain that the person in the downhill partner would be in a safe position, always single buck.
- When beginning to cut, ensure hands are in proper position. Do not push the saw.
- Do not reach across any moving saw. Maintain control and safe body position while sawing.
- Keep in communication with your partner at all times about holding wood, binds, limbs and knots that might affect safety.
- When a situation is deemed unsafe, use alternative methods or cancel the task.

The following personal protective equipment is required for backcountry living, whether on foot, stock, or raft:

- First aid kit.
- Map and compass.
- Matches or fire starter in waterproof container.
- Water, water purifier or iodine tablets.
- Adequate food for at least 1 to 3 days longer than the duration of the trip. Have some emergency food for extended duration.
- Flashlight with extra batteries and bulb.
- Two way radio with extra batteries.
- Eye protection and sunscreen.
- Lightweight shelter and appropriate clothing for climatic conditions.
- Pocket knife.
- Rain gear.
- Extra clothes.
- Signal mirror or whistle.
- Additional PPE identified above for trail maintenance and travel in the backcountry.

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Giardia

- Giardia is an intestinal disorder caused by a microscopic organism found in mountain streams and lakes. Although giardia can be incapacitating, it is not usually life threatening. After ingestion by humans, giardia normally attach themselves to the small intestine.
- Symptoms usually include diarrhea, increased gas, loss of appetite, abdominal cramps, and bloating. These discomforts may first appear

<p>*</p>	<p>Hantavirus (53.73a)</p>	<p>a few days to a few weeks after ingestion of giardia, and may last up to six weeks.</p> <ul style="list-style-type: none"> -Giardia is curable with medication prescribed by a physician. -To prevent giardia, boil drinking water for at least 1 minute. At high altitudes (above 10,000 feet), you should maintain the boil for 3 to 5 minutes. Filtering drinking water with a filter that removes particles as small as 1 micron will prevent giardia. -Hantavirus is a cause of acute pulmonary disease and death. -The primary carrier is the deer mouse. Other rodents that may be carriers include squirrels, rats, chipmunks, and other kinds of mice. -Transmission occurs by inhalation of the aerosolized virus when dried materials contaminated by excreta are disturbed; introduction into broken skin, eyes, nose, mouth; or ingestion of contaminated food or water. People have also become infected after being bitten by an infected animal. -Symptoms may appear 1 to 6 weeks after contact. -Symptoms include fever, nausea, headache, muscle aches and cough. -Avoid direct contact with rodents (live or dead), their droppings, urine, nests, or items that may be contaminated. Do not feed mice, chipmunks, or other rodents. -Always wear rubber gloves when cleaning areas where rodents have been. -Do not sweep or vacuum until the area has been soaked with disinfectant and let soak thoroughly for 10-15 minutes (bleach solution of 1 part household bleach to 10 parts water). -Where there is a heavy rodent infestation, wear certified respirators, coveralls, rubber boots, head cover, latex gloves and goggles.
<p>*Camp Safety</p>	<p>Camp Hazards</p>	<ul style="list-style-type: none"> -Choose a camp location at least 200 feet from any standing water including streams, lakes, and marshes. -Avoid natural hazards including overhanging rocks, snags, and rock slide areas when choosing a camp location. -Store tools in a specified location in camp. Do not leave tools scattered around the tents and in the kitchen area. -Use Leave No Trace practices including camp sanitation -Food and garbage should be stored in bear proof containers -Keep food protected from weather, flies, and rodents -Train employees in proper use of specific camp equipment including camp stoves, water filters, map and compass, and radio communication -Store flammable like coleman fuel away from the wood stove or propane stove

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.

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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.

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:

- 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 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
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_____	_____	_____	_____
Work Leader			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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U.S. Department of Agriculture Forest Service	1. WORK PROJECT/ACTIVITY Chainsaw, Crosscut & Handtool Use	2. LOCATION Flathead National Forest	3. UNIT Spotted Bear R.D.
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)	4. NAME OF ANALYST Dave Arbach	5. JOB TITLE Forestry Technician	6. DATE PREPARED 01/14/2008
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	
Power Tool Use (Chainsaw, winch, auger, brush saw) (22.48) (22.48c) (22.48d) (22.48e)	Injury	<ul style="list-style-type: none"> - Power tools will only be used by trained personnel over the age of 18 - All potential sawyers are required to attend a saw training course before operating a chainsaw and are only allowed to saw to their individual rating qualifications - The crew working with a power tool operator must never approach unannounced - Always approach from above on inclines - KEEP AT LEAST TWO-TREE LENGTHS BETWEEN YOU AND THE FELLER - Keep a safe distance from an operating brush saw as it can throw material nearly 25 feet - Protective equipment must be worn at all times when operating a power tool (Hardhat, goggles and/or face shield, hearing protection, chaps, 8" high boots, a long sleeve shirt and gloves) - Operators must be aware of the presence and location of other personnel and must yell out when a tree is coming down - Lookouts must be posted when necessary - Sawyers must work with a spotter/assistant - NO ONE IS ALLOWED TO SAW ALONE - All potential sawyers should be checked out by the supervisor prior to power tool use - If using a chainsaw winch, be sure to position self in a safe location - Individual saw operators have the obligation to say "NO" and walk away from any situation they determine to be an unacceptable risk - Proper bar length is important for the specific work project - Space employees and organize their duties so that the actions of one do not create hazards for others -Do not drop trees at night 	
Chainsaw Handling Techniques (22.48f)	Cuts	<ul style="list-style-type: none"> - Carry the chainsaw in a way to prevent contact with the chain, muffler, or bucking spikes - Point the bar forward when going downhill with the chainsaw at your side - Point the bar backward when going uphill with the chainsaw at your side - When carrying a saw on your shoulder, take extra care due to the sharpness of the chain and "dogs". Wear a long-sleeved shirt, gloves, and a shoulder pad. Cover the bar and chain. Use of a bar and chain guard is recommended 	

		<ul style="list-style-type: none"> - Set the saw at idle speed and activate the chain brake when carrying a saw for short distances - Shut off the saw when carrying it more than 50 feet, or in hazardous conditions, such as slippery surfaces, heavy under-brush or crossing streams and others bodies of water
Starting/Operating Chainsaws (22.48f)	Cuts	<ul style="list-style-type: none"> - MAINTAIN A SECURE GRIP ON THE SAW AT ALL TIMES - WHEN RUNNING A CHAINSAW MAKE SURE YOUR THUMB IS IN THE PROPER POSITION, wrapped around the bar - Always start the saw with the chain brake engaged - DO NOT "DROP START" A CHAINSAW - In general, throttle up to full speed before letting the chain contact the wood - In general, do not throttle down before the cut has been completed - Avoid cutting with the power head positioned between the waist and shoulders, which is considered a danger zone - DO NOT CUT WITH THE POWER HEAD POSITIONED ABOVE SHOULDER HEIGHT - Always use both hands when operating the saw
Fueling Chainsaws (22.48f)	Burns	<ul style="list-style-type: none"> - Allow the saw to cool at least 5 minutes before refueling - Fill the tank on bare ground or other noncombustible surface - Immediately clean up spilled fuel / use a funnel - Refuel outdoors and at least 20 feet from an open flame or other sources of ignition - Start the saw at least 10 feet from the fueling area
	Kickback	<ul style="list-style-type: none"> - All chain saws should have a chain break and bar tip guard - Training for cutting techniques - Check for anything that may interfere with saw while cutting - Know proper procedures for starting
	Felling	<ul style="list-style-type: none"> - Clear work area and escape route - Face cut 1/3 to 1/2 diameter of tree – NEVER CUT ALL THE HOLDING WOOD - Visually check top of tree for over head dangers (Widowmakers)
	Weather	<ul style="list-style-type: none"> - Do not drop trees if the wind is strong or changing directions - Wear proper clothing
Hand Tool Use (41.13) (41.21)	Cut Toes and Limbs	<ul style="list-style-type: none"> - STANDING ON A LOG TO CHOP IS NOT RECOMMENDED - DO NOT LIMB ON THE SAME SIDE OF THE TREE YOU ARE STANDING, LIMB ON THE OPPOSITE SIDE - KEEP A SAFE WORKING DISTANCE, AT LEAST 10 FEET APART - NEVER CARRY CHOPPING TOOLS ON YOUR SHOULDER - Carry the tool on the downhill side so that it can be more easily discarded in case of a fall, and this will prevent you from falling on the

<p>Tool Maintenance (41.21)</p>	<p>Flying rock fragments Sharp edges</p>	<p>tool</p> <ul style="list-style-type: none"> - INSPECT WOODEN HANDLES FOR SPLITTING, CRACKING, CHECKING, WARPING, AND SLIVERS, AND FOR LOOSE HEADS, DO NOT USE A TOOL WITH THESE PROBLEMS - DISCARD OR REPAIR DAMAGED OR ABUSED TOOLS PROMPTLY - SEPARATE and red flag DAMAGED TOOLS FROM OTHER TOOLS - Never throw tools under any circumstances, throwing tools can damages the handles resulting in blisters or broken handles. - When a tool is not in use, shield any sharp edges and place the tool in a predetermined location, away from personnel - When transporting tools to and from the job site, ensure that sharp edges are guarded - REMOVE ALL OVERHEAD OBSTRUCTIONS THE TOOL MIGHT STRIKE OR HANG UP IN BEFORE SWINGING A CHOPPING TOOL - Never transport loose tools inside the same compartment with employees unless the vehicle is equipped with a protective screen, net, or secured station toolbox - Chop with both feet on the same side of the tree - Do not allow two people to chop together on the same tree - For all chopping and digging tool use wear proper clothing (see above) - Bean boots (rubber bottoms, leather uppers) may be worn in very wet weather or muddy conditions - NEVER CHOP TOWARDS YOUR FEET - Do not swing tools toward your body - DO NOT ALLOW THE TOOL HANDLE TO DROP BELOW A PLANE THAT IS PARALLEL WITH THE GROUND UNLESS CHOPPING ON THE OPPOSITE SIDE OF A TREE FROM WHERE YOUR BODY IS POSITIONED - If the cutting edge picks up a wood chip, stop. Remove the chip before continuing - Be aware of ankle postion especially when using a pulaski - MAINTAIN PROPER GRIP ON CHOPPING TOOLS TO PREVENT THE TOOL FROM GLANCING - Wear proper clothing and eye protection - Clear other personnel from the area - Wear gloves and use controlled strokes when sharpening - Firmly secure tool when possible - Sharpen with file moving away from blades/teeth - When filing, use a file equipped with a handle and knuckle guard - Keep tools sharp to help prevent bounce backs - Provide and use sharp files and training in sharpening - When grinding, grind slowly away from the cutting edge, avoid overheating the metal - DO NOT SHARPEN TOOLS WITH A GRINDER WITH OUT EYE & EAR PROTECTION, GLOVES AND A CHEST PROTECTER.
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Crosscut Saw Use (22.48h)

Crosscut Saw Injuries

- DO NOT POSITION YOUR LEG UNDER THE CROSSCUT WHILE SAWING, CUTS COULD RESULT
- Keep in communication with your partner at all times about holding wood, binds, limbs, and knots that might affect safety
 - NEVER reach across a moving crosscut
 - Pick up the saw with teeth away from your body. Rotate the teeth toward your body before handing the crosscut to another employee
 - When attaching handles, keep the teeth away from your body and secure a firm grip on the saw
 - When using a two-person crosscut saw for bucking, ensure that any person placed downhill is in a safe position. If it is not certain that the downhill partner would be in a safe position, single buck from the uphill side
 - When using a two-person crosscut saw for falling, always predetermine who will remove the saw
 - Ensure hands are in proper position on the crosscut handles
 - Proper stance
 - Think before you cut
 - Eliminate obstacles in work area
 - Keep sheath on saw when not in use
 - Keep teeth out of dirt and rocks to maintain sharpness
 - Use wedges to prevent saw from becoming pinched
 - When situations are deemed unsafe, use alternate methods or cancel the task

Crosscut Personal Transport (22.48h)

Cuts

- Remove the rear handle when transporting a crosscut on your shoulder . If left on, the rear handle will catch on trees and branches causing the front handle to hit you in the adams apple.
- Balance the crosscut on your shoulder with the sheath on the crosscut and the teeth facing away from your neck
- Carry the saw on the downhill side
- Walk last in line if you are the person carrying the crosscut saw

Transporting Crosscuts On Pack Animals (22.48h)

Stock Injury

- SELECT THE MOST GENTLE ANIMAL TO CARRY THE CROSSCUT AND PLACE THAT ANIMAL AT THE FRONT OF THE PACK STRING
- When transporting a crosscut on a pack animal, take extra care. Adequately guard and secure the saw
- WHEN TRANSPORTING A TWO-PERSON CROSSCUT, DO NOT BEND THE CROSSCUT AROUND AND CROSS THE HANDLES, THE CROSSCUT COULD BREAK
- Center the crosscut on the pack animal draped over both packs, tie both handles to the packs and also tie the center of the crosscut to the highest point on one of the packs
- ENSURE THAT THE WING NUTS ARE TIGHTENED IN THE HANDLE OF THE CROSSCUT SO THE HANDLE DOES NOT

General	Physical Exhaustion	<p>COME LOOSE FROM THE CROSSCUT ON THE PACK ANIMAL</p> <ul style="list-style-type: none"> - MONITOR THE PACK ANIMAL TO ENSURE THE SAW AND LOAD REMAIN SECURE IN PLACE - Duct tape can be placed on the crosscut handle pins to prevent the handles from coming loose during transport on pack stock. - - Pace yourself - Know your limitation - Report for work in reasonable physical shape 	
10. LINE OFFICER SIGNATURE		11. TITLE District Ranger	12. DATE

Previous edition is obsolete

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