

U.S. Department of Agriculture Forest Service	1. WORK PROJECT/ACTIVITY IPWA Volunteer Activities	2. LOCATION Boulder Ranger District	3. UNIT 02-10-01
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)	4. NAME OF ANALYST Jonathan Brooks	5. JOB TITLE Recreation Management Specialist (Wilderness and Trails)	6. DATE PREPARED 03/03/2022
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	
Check in/ Check out and response plan in case of emergency.	Failure to have a plan in place to initiate an emergency response when patroller is overdue	<ul style="list-style-type: none"> -Before you Leave Home: Check the weather forecast. Storms can affect your ability to complete a trip as initially planned (return over a high mountain pass may be too dangerous if weather conditions deteriorate). -IPWA volunteers should hike with another volunteer, friend, or family member when possible. Volunteers who choose to hike alone are required to establish a contact, provide them with an itinerary (estimated time of departure and return, trail, trailhead, & destination), and tell them who should be contacted if overdue. Upon return from a hike, volunteers hiking alone must visit the IPWA website and check the box on the field report indicating they have checked back in with their established contact. -If you know that you are lost or injured and know a search has been initiated, do not change your location. Stay put until rescuers locate you. Facilitate their efforts as much as possible (i.e. use whistle, signal mirror/tarp/fire, etc.). -Do not rely solely on cell phones, as you may not have coverage or battery power when you need it. Consider a SPOT device if you travel solo regularly. -Know your location and how to report it. Carry a map and compass and know how to use them. 	
Preparedness for field travel	Environmental injuries and hazards	<ul style="list-style-type: none"> -Carry a well-stocked first aid kit and know how to use it for your personal use and for optional use under the Colorado Good Samaritan guidelines. -Be prepared to survive in the backcountry for an extended period of time. Carry the provisions for emergency shelter, fire, water, food and signal. -Carry plenty of water and drink often before getting thirsty. Carry emergency provisions to purify water if you should run out (treat all water by boiling or purifying and never drink directly from streams or lakes).Bring along enough calories to sustain the energy demands of hiking. -Always travel with adequate raingear and extra layers of warm clothing. Wear sunscreen, hat and sunglasses. 	
Foot travel on and off trail	Personal injury resulting from hiking or falls	<ul style="list-style-type: none"> -Wear appropriate footwear with sufficient ankle support and slip-resistant heels and soles. Stretch and warm-up properly prior to hiking. Attain adequate conditioning prior to field season. -Be alert to trail obstacles and surrounding/overlying hazards. Use extra caution when traveling in steep terrain. Know and stay within your limits. Do not be afraid to turn around short of your planned destination. -Use caution when walking through dense vegetation and be aware that terrain underneath is not visible. -Wear eye protection to avoid injury from branches or debris. 	

		-Use caution when walking on logs, especially when wet. Avoid if possible.
	Travel in proximity of snowfields, talus/scree fields, rock outcrops, or steep areas with loose rocks or debris	-Do not travel in vicinity of any snow-covered slopes steeper than 28° without official avalanche training, and avalanche equipment. - Avoid travel across snowfields, scree fields or talus slopes if alternatives exist. Wear appropriate head protection in these areas and be alert to falling/rolling debris or rock slides. Cross such areas one person at a time and leave the area as soon as possible. -Be alert to areas where snow may collapse or where crossings are made dangerous because of hazards under the snowfield or at the foot of the snowfield (i.e. jagged rocks, deep or fast flowing water, etc.)
	Stream Crossings	-Use caution on narrow or slick bridges. Do not use bridge if crossing appears treacherous or unstable. -When crossing creeks, never enter deep or fast moving water or where the stream bottom is not visible. Use a walking stick or other aid to cross. -Be aware that stream bottoms can be very slippery and harbor unseen hazards. -Keep in mind that stream levels can fluctuate dramatically in a short period of time as a result of precipitation or rapidly warming temperatures that increase snow melt – crossings that are passable when first encountered may not be so on the return. -Unbuckle pack straps and waist belts when crossing so that pack can be easily and quickly removed if necessary.
	Sharing the trail with other users	-Yield to uphill traffic and livestock. Allow livestock to pass on the uphill side.
	Fatigue and dehydration	-Take breaks when necessary. -Carry plenty of water and drink often before getting thirsty. Replacing electrolytes with flavored drinks and snacks is also important. Carry emergency provisions to purify water if you should run out. -Be alert to the signs of dehydration, including headache, nausea, weakness, etc. -Bring along enough calories to sustain the energy demands of hiking. -Know your limits and set realistic itineraries. Do not be afraid to change plans if fatigue sets in.
	Becoming lost or disoriented	-Carry a map and compass when traveling and know how to use them. -Check weather forecasts and be aware that fog or heavy snow can make navigation above treeline difficult. Be aware that storms could affect your ability to complete a trip as initially planned (i.e. return over a high mountain pass may be too dangerous if weather conditions deteriorate). -If you cannot reorient yourself, stay calm and do not change your location. Use your emergency provisions to wait for help to arrive. If you have prearranged a contingency plan for an overdue return, searchers will try to locate you. Help rescuers by signalling to them with your whistle, signal mirror, signal tarp and fire.
Exposure to variable environmental conditions	Altitude Sickness	-Know how to recognize symptoms of altitude sickness. Descend rapidly to lower elevation if symptoms develop. Altitude conditions can occur at any elevation, although 10,000' is often where symptoms become most reported.

		-Susceptible individuals should plan to sleep at lower elevations on extended trips.
Exposure to variable environmental conditions (cont.)	Sudden storms, lightning, wind, heavy rain, snow, fog	<p>-Know the forecast before you set out. Have contingency plans in place in case unanticipated weather conditions are encountered.</p> <p>-Be alert to dead trees/branches that could fall during wind events.</p> <p>-Always travel with adequate raingear and extra layers of warm clothing that are protected from moisture (i.e. wrapped in plastic) inside your pack.</p> <p>-Plan your day so that you are not in exposed areas (i.e. above timberline) during storm activity. Always keep in mind that conditions in the high country can change very rapidly.</p> <p>-When lightning activity is nearby, avoid the tops of ridges, wide-open spaces, ledges, rock outcrops, bodies of water, lone trees, damp/wet ground, shallow caves/overhangs, railroad tracks and sheds or shelters in exposed locations. Dismount from horses or livestock and move away. Put down any tools or metal objects. Do not handle any flammable material (i.e. stoves, white gas, etc.). If traveling with a group, spread out. The best place to seek shelter in a backcountry situation is in a ditch, canyon, or head-high clumps of trees in open forest areas. Make yourself as small a target as possible. Crouch down with feet together to minimize the flow of current. Keep a distance of twice the height of the nearest tree between you and the tree.</p> <p>-If someone is struck by lightning, seek medical attention immediately. Administer rescue breathing and CPR if appropriate.</p>
	Sun Exposure	-Wear sunscreen, hat and sunglasses.
	Hypothermia	-Keep in mind that <i>most hypothermia cases occur on cold, wet, windy days with temperatures above freezing (usually 30-50°F)</i> . Fatigue, injuries and cold water immersion can quickly predispose an individual to hypothermia. Know how to treat and recognize the symptoms of hypothermia, both in yourself and others. An individual exhibiting early signs of hypothermia can quickly deteriorate to a point where they are unable to help themselves. Prevention is key – always anticipate situations where hypothermia could develop and plan accordingly. Always travel with raingear, extra warm clothing and provisions for fire and shelter.
	Mosquitoes	-Mosquitoes can transmit both encephalitis and West Nile Virus. Minimize bites by wearing long sleeves, pants, and an insect repellent containing DEET. Be especially diligent in wet areas and during times when mosquitoes are most active.
	Stinging insects (bees, wasps)	<p>-If you or anyone you are traveling with has a known allergy to stinging insects, make sure that everyone in the group is aware of the problem. Carry emergency medication at all times.</p> <p>-If any individual develops symptoms of an adverse reaction such as difficulty breathing, a drop in blood pressure, or unusual swelling, seek medical attention immediately.</p> <p>-If a stinger is present, scrape it off, but do not use tweezers or otherwise squeeze the attached venom sack. Apply a cold pack, analgesic swab and watch for infection.</p>

<p>Exposure to variable environmental conditions (cont.)</p>		<p>-Wear light-colored clothing (dark or red colors resemble the bee's natural predators). Avoid using scented perfumes, shampoo, deodorants, after-shaves, strongly scented gum, etc. -Watch for hives in brush, hollow logs, abandoned animal burrows, or an area where insects are frequently traveling in and out of one location.</p>
	<p>Wildlife encounters</p>	<p>-Never feed any wildlife or allow food to be inadvertently accessed by wildlife. Pick up all trash and secure food in camp so that it is out of reach. -Keep in mind that all wildlife (including non-predatory animals such as deer, elk or moose) can be aggressive and dangerous if sick, injured or if they feel their young are threatened. -Know how to recognize bear, moose and mountain lion habitat. Make noise and be particularly vigilant when traveling through dense brush and riparian areas. Learn to recognize scat, claw marks and other signs. If a recent kill is discovered, leave the area immediately. Mountain lions will cover a carcass with dirt, leaves, branches, or snow and will return repeatedly to feed on it. -Avoid use of game or predator-created trails. -If an animal is encountered, always give them a way to escape. In a bear or mountain lion encounter, stay calm. Do not run from the animal or attempt to climb a tree to escape. Black bears may try to intimidate you by charging to within a few feet before withdrawing. Slowly but deliberately back away and make yourself appear larger. Do not take your eyes off the animal, but avoid direct eye contact. If the animal attacks, fight back with rocks, sticks, etc. -Report potentially life-threatening encounters with black bears to the Colorado Division of Wildlife. All mountain lion sightings should be reported (attacks or encounters should be reported immediately).</p>
	<p>Abandoned mines</p>	<p>Never enter abandoned mines or mine shafts. Be aware that the ground in these areas may be unstable and subject to collapse, especially near the entrance.</p>
<p>Camping</p>	<p>Sleeping in hazardous areas; water-borne illness</p>	<p>-Take special care when establishing a campsite to avoid the following hazards: dead standing trees, dead branches or leaning green trees; hillsides where rolling/falling rocks or rockslides may occur; areas that could be overtaken in a flash flood event; at the base of snowfields steeper than 28°. -Always secure food so that it is out of reach of wildlife. Store cosmetics, toothpaste and strongly scented items with food, away from sleeping quarters. -Treat all water by boiling or purifying. Never drink directly from streams or lakes.</p>
<p>Dispersing fire rings, trash clean-up</p>	<p>Injury from handling sharp objects or moving rocks</p>	<p>-Always wear leather gloves when dispersing fire rings. Watch for fish hooks, broken glass, metal cans, or other sharp objects that may be buried in the ashes. Use care when moving rocks to avoid back injuries or crushing fingers/toes. Lift with your legs, not with your back.</p>
	<p>Exposure to hazardous material or bloodborne pathogens</p>	<p>-Trash clean-up will generally involve collecting occasional discarded items alongside the trail or in campsites. Wear gloves when handling. Do not handle any trash that may expose you to hazardous chemicals or bloodborne pathogens.</p>

	Wilderness Manager	<i>/s/ Jonathan C. Brooks</i>
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<p style="text-align: center;">JHA Instructions (References-FSH 6709.11 and .12)</p> <p>The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.</p> <p>Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.</p> <p>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).</p> <p>Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:</p> <ul style="list-style-type: none"> 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. <p>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:</p> <ul style="list-style-type: none"> 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. 	<p style="text-align: center;">Emergency Evacuation Instructions (Reference FSH 6709.11)</p> <p>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.</p> <p>Be prepared to provide the following information:</p> <ul style="list-style-type: none"> a. Nature of the accident or injury (avoid using victim's name). b. Type of assistance needed, if any (ground, air, or water evacuation). c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks. d. Radio frequencies. e. Contact person. f. Local hazards to ground vehicles or aviation. g. Weather conditions (wind speed & direction, visibility, temperature). h. Topography. i. Number of individuals to be transported. j. Estimated weight of individuals for air/water evacuation. <p>The items listed above serve only as guidelines for the development of emergency evacuation procedures.</p> <p style="text-align: center;">JHA and Emergency Evacuation Procedures Acknowledgment</p> <p>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:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%; text-align: center;">SIGNATURE</td> <td style="width: 25%; text-align: center;">DATE</td> <td style="width: 25%; text-align: center;">SIGNATURE</td> <td style="width: 25%; text-align: center;">DATE</td> </tr> <tr> <td style="text-align: center;">_____</td> <td></td> <td style="text-align: center;">_____</td> <td></td> </tr> <tr> <td style="text-align: center;">_____</td> <td></td> <td style="text-align: center;">_____</td> <td></td> </tr> </table>	SIGNATURE	DATE	SIGNATURE	DATE	_____		_____		_____		_____	
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