

JOB HAZARD ANALYSIS JHA #:	JOB TITLE: Backcountry Site Assessment and Survey	DATE:	√ NEW REVISED
PARK: Bandelier National Monument	DIVISION: Resource Management Archeology Program	WORK LOCATION: Backcountry	TITLE OF PERSON WHO DOES JOB:
SUPERVISOR:	ANALYSIS BY:	REVIEWED BY:	APPROVED BY:

REQUIRED AND/OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT:	Hiking boots, long sleeves, long pants, adequate UV protection (hat, sunscreen)
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SEQUENCE OF BASIC JOB STEPS	POTENTIAL HAZARDS	RECOMMENDED ACTION OR PROCEDURE
1. Hiking/working in the field.	1a. Uneven terrain, steep slopes, slopes with extreme exposure.	1a. Pay attention to terrain, keep safe distance from cliff edges, use caution on steep slopes, seek alternate route if possible. Test foot placement in rocky/talus areas to ascertain stability.
	1b. Slips, trips, falls, twisted/sprained ankles.	1b. Wear proper footwear with ankle support and non-skid soles, watch footing, use caution around animal holes, loose rocks, logs.
	1c. Muscular-skeletal injuries – carrying equipment in field.	1c. Carry equipment in backpacks adjusted for proper fit and load. Distribute equipment equitably between crew members
2. Health Considerations	2a. Dehydration	2a. Know symptoms of dehydration: Dry lips and tongue, apathy, lack of energy, muscle cramping, bright-colored or dark urine. Carry adequate water supply, take numerous drink breaks throughout the day, encourage overhydration.
	2b. Heat stroke, stress	2b. Know signs of heat exhaustion or stress: fatigue, dizziness, nausea or vomiting, headache rapid and shallow breathing, high temperature, rapid heartbeat, decreased alertness or complete loss of consciousness. Reduce workload if necessary, during extreme temperatures. Schedule the hardest work during the cooler hours of the day. Encourage water and rest breaks throughout the day. Carry salty snacks to maintain necessary salt levels. Supplement fluid intake with carbohydrate/electrolyte rich beverages. Wear light-colored, loose clothing for maximum air circulation and sweat evaporation.

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	2c. UV exposure	2c. Wear clothing for maximum skin coverage: hat, long-sleeve collared shirt, long pants, gloves. Wear sunglasses capable of filtering out UV rays. Use protective sunscreen and lip balm.
	2d. Water borne illness	2d. Avoid drinking unfiltered or untreated water from creeks/streams. Dry dishes and utensils thoroughly before reuse if washed in untreated water.
	2e. Poisonous insects: bees, spiders	2e. Find out if anyone in crew is allergic to stings and if they have knowledge and medication for self-treatment. Keep alert for ground nests and hives. Carry epinephrine in first aid kit to counteract anaphylactic shock from bee stings. If stung, keep alert for symptoms including extreme swelling and nausea that may signal the need for immediate medical attention. Be able to identify common poisonous spiders, including the Black Widow and the Brown Recluse. Watch where putting bare hands. If bit, keep alert for symptoms including intense pain and itching, development of open sore, body rash, muscle aches, nausea, fever, chills, lightheadedness that may signal the need for immediate medical attention.
	2f. Skin irritations: poison oak/ivy	2f. Wear long sleeves, long pants to avoid skin contact with poisonous plants. Have knowledge of plant identification for poisonous species. Change clothing that comes in contact with poisonous plants. Wash exposed skin immediately after contact.
3. Environmental Considerations: Animal encounters	3a. Snakes	3a. Listen for buzzing of rattlesnakes. Watch where putting hands, feet. Stay alert when moving/checking under rocks or debris. Check for snake presence before placing hands in holes, crevices, etc. Check area before setting up tent.

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	3b. Bear	<p>3b. Make noise upon encounter with bear, do not surprise it. Be prepared to back slowly out of area if bear remains. If cubs are present, move out of area immediately. Do not run. Try to make yourself larger by raising arms, opening jacket. Make noise and eye contact. Give bear room to avoid you.</p> <p>Avoid camping in areas where bear use is evident. Use bear proof containers for food and garbage to prevent attracting bears to camp and store away from sleeping area. Cook and eat away from sleeping area. Clean up spilled food immediately, and wash dishes after meals. Keep camp clean of garbage, dropped food, etc.</p>
	3c. Mountain Lion	<p>3c. Be alert through narrow canyons, thickly wooded areas, and areas with ledges where mountain lions can be above you. Be alert to your surroundings and check behind you frequently. Stay in a group. If an encounter occurs, do not bend, squat, or sit down, but remain tall. Do not run. Maintain eye contact and make noise. Wait for the lion to withdraw before moving.</p>
4. Environmental Considerations: Weather	4a. Rain	<p>4a. Carry waterproof and warm clothing in anticipation of excessive rainfall and possible temperature change, especially during monsoon season.</p>
	4b. Lightning	<p>4b. Move off ridges if possible, seek shelter in low lying areas, avoid tall trees, open areas, and tents, etc. with metal poles. Discard equipment such as rebar or site stakes that may attract electrical current. Do not use radio.</p>
5. Environmental Considerations: Other	5a. Tree snags	<p>5a. Beware of dead snags, do not take breaks or spend unnecessary time under or near dead standing trees. Be alert for increasing winds. Do not camp within snag fall zone.</p>
	5b. Wildfire threat	<p>5b. Obtain current information on fire status from protection rangers and follow instructions. Maintain radio communication with crew/supervisors/rangers. Remain alert and calm.</p>
	5c. Cacti	<p>5c. Look before you sit. Be aware while walking.</p>

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6. Communication	6a. Radio transmission	6a. Supervisors will carry a radio and spare batteries. Test radio prior to leaving base camp. Knowledge of assigned frequency, radio etiquette, and important radio call numbers (protection rangers, etc.) will be shared and accessible to all crew members. Transmit from highest points for best reception. Schedule check-ins at predetermined times if in areas with poor radio coverage
	6b. Crew communication	6b. Remain aware of the whereabouts of fellow crewmembers. Maintain verbal communication regarding potentially hazardous conditions, i.e., falling rock, exposed slope, tree snags, dehydration, heat stress.