

ROCKY MOUNTAIN NATIONAL PARK
JOB HAZARD ANALYSIS (JHA)

WORK PROJECT/ACTIVITY Rabies and Exposure Risks to other Blood Borne Pathogens	DATE	<input checked="" type="checkbox"/> NEW <input type="checkbox"/> REVISED
LOCATION OF JOB Park Wide	DIVISION Resources Management and Research	BRANCH Planning and Compliance
NAME OF EMPLOYEE(S) INVOLVED IN ANALYSIS	SUPERVISOR	DIVISION CHIEF

REQUIRED PERSONAL PROTECTIVE EQUIPMENT	Rabies - Gloves to remove sick or dead animals. Hantavirus - gloves, respirator. West Nile Virus - Deet. Colorado Tick Fever - Deet.
REQUIRED TOOLS AND EQUIPMENT	Rabies - All entry holes of ¼ inch or wider should be sealed with lath screen, lath metal, cement, wire screening or other approved patching material inside and out. Bats can fly into chimneys and gain access into attics or into the house. Screening should be placed over the top of a chimney and the flu kept closed when not in use. Hantavirus - It is highly recommended that any time people are working in enclosed spaces where mice and or their droppings are noticed or most likely occur, such as cleaning out kitchen cabinets, a closet, garage, feed bins or barns; employees or family members, should be wearing a mask and gloves. Bleach water should be used when disinfecting. Houses that have stood empty during the winter may have large amounts of mice droppings, nests and mice with a higher risk of exposure when cleaning the house in the spring. Leaving a clean house in the fall can minimize your risk in the spring. West Nile Virus - Apply insect repellent containing DEET (N, N-diethyl,meta-toulamide) to exposed skin whenever outdoors. Follow label directions on how to safely apply DEET. When possible, wear long sleeve shirts, long pants and socks. Treating clothing with DEET or repellents containing permethrin will give extra protection. Do not apply DEET on the skin under your clothing. Colorado Tick Fever - Apply Deet especially on ankles and legs and conduct tick checks.
APPLICABLE STANDARDS	Consult the following web pages - You can get more information about rabies from http://www.animalhealthchannel.com/rabies/ . You can get more information about hantavirus from http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/history.htm .You can get more information about West Nile Virus from http://www.cdc.gov/ncidod/dvbid/westnile/
TRAINING REQUIRMENTS	<ul style="list-style-type: none"> • Discuss blood borne pathogen concerns and safety at tail gate sessions. Provide handout entitled Rocky Mountain National Park • Employee and Pet Health and Safety Alert Minimizing Your Chances of Being Exposed to Harmful Viruses. • Discuss the following on how to minimize exposure to ticks: Colorado tick fever is common. It is not transmitted person-to-person, and has no specific treatment so many physicians do not confirm it with blood tests. Symptoms begin 3-5 days after the tick bite and include high fever, muscle pain, severe headache and fatigue. The symptoms last several days, clear up for a day or two, then reappear for a couple of more days. The entire illness lasts about a week. Persons who become ill following a tick bite should contact a physician to insure that it is Colorado Tick fever and not something more serious such as Rocky Mountain spotted fever. • Ticks can be found anywhere, but they tend to concentrate on sunny, southern slopes and in areas of grass and low-brush vegetation. Persons should apply a small amount of insect repellent, such as Deet, especially on the ankles and legs. Repellent should not be over applied, especially on children.

SEQUENCE OF JOB STEPS	POTENTIAL HAZARD	HAZARD CONTROL
<p>Rabies - Encounters with sick mammals such as a bat, or a carnivore and in rare cases, ground squirrels and chipmunks while working in the field, at home or camping.</p>	<p>Bites from infected animals or it is possible, but quite rare, that people may get rabies if infectious material from a rabid animal such as saliva, gets directly into their eyes, nose, mouth, or a wound.</p> <p>Do not handle sick or dead animals without gloves. Because rabies is a fatal disease, the goal of public health is, first, to prevent human exposure to rabies by education and, second, to prevent disease by anti-rabies treatment if exposure occurs.</p> <p>Feed your pets inside your home and do not leave any food outside.</p> <p>Be a responsible pet owner by keeping vaccinations current for all dogs, cats, and ferrets. Keep your cats and ferrets inside and your dogs leashed or in fenced yards. Consider having your pets spayed or neutered, so they will not attract or want to approach wild animals.</p> <p>You can get more information about rabies from http://www.animalhealthchannel.com/rabies/</p>	<ul style="list-style-type: none"> • How can rabies be prevented? • Teach children never to handle unfamiliar animals, wild or domestic, even if they appear friendly. “Love your own, leave other animals alone” is a good principle for children to learn. • Wash any wound from an animal thoroughly with soap and water and seek medical attention immediately. • Have all dead, sick, or easily captured animals tested for rabies if exposure to people or pets occurs. • Animal proof homes or offices so wild animals cannot enter. If you find bats or other wild animals in your home, do not handle the animals bare handed, but use gloves, or open doors and windows to enable them to escape. If they appear to be sick or are easily captured, they should be tested. More importantly, find out how they entered the building, and contact Buildings and Utilities to get the entryway closed off. An entry hole of ¼ inch could be big enough to allow bats and mice into your home. All entry holes of ¼ inch or wider should be sealed with lath screen, lath metal, cement, wire screening or other approved patching material inside and out. Bats can fly into chimneys and gain access into attics or into the househouse. Screening should be placed over the top of a chimney and the flu kept closed when not in use.

SEQUENCE OF JOB STEPS	POTENTIAL HAZARD	HAZARD CONTROL
<p>Hantavirus - Hantavirus infection is carried by the deer mouse (<i>Peromyscus maniculatus</i>), which is a common mouse in the park, or by other closely related small mammals. Recent tests conducted in the park confirmed that about 20% of the deer mice tested positive for hantavirus.</p>	<p>Deer mice are frequently found in homes and office buildings in the park. A person may be exposed to hantavirus by inhaling dust after disturbing nests or breathing in closed spaces inhabited by infected mice. The deer mouse is the main carrier of hantavirus, but other wild rodents can also be carriers. Deer mice spread the virus in their urine, saliva, droppings, and nesting materials. Deer mice live in virtually all terrestrial habitat in the park.</p>	<p>It is highly recommended that any time people are working in enclosed spaces where mice and or their droppings are noticed or most likely occur, such as cleaning out kitchen cabinets, a closet, garage, feed bins or barns; employees or family members, should be wearing a mask and gloves. Bleach water should be used when disinfecting. Houses that have stood empty during the winter may have large amounts of mice droppings, nests and mice with a higher risk of exposure when cleaning the house in the spring. Leaving a clean house in the fall can minimize your risk in the spring. Research and monitoring indicates that it does take a fairly large concentration of the virus to contract it.</p>
<p>West Nile Virus - Transmission comes through the bite of a mosquito (primarily the family <i>Culex</i>) that is infected with the West Nile Virus. The virus is located in the mosquito's salivary glands. The virus cannot be transmitted from person to person and, you cannot get the disease from birds and other animals.</p>	<p>Bite from infected mosquito. Be aware of mosquitoes if you're outdoors.</p>	<ul style="list-style-type: none"> • Help eliminate temporary mosquito habitat and stagnant fresh water (flowerpots and buckets, stopped-up rain gutters, discarded cans, etc.) • Learn about mosquitoes. Avoid going into heavy mosquito areas at dusk. Do not wear cologne or perfume, smells that may attract mosquitoes. • Long-sleeved shirts, long pants, a hat, and gloves can provide increased protection from mosquitoes. • The use of an insect repellent on clothes or sparingly on exposed skin can decrease encounters with mosquitoes. A repellent with 20% to 30% DEET (N,N-diethyl-meta-toluamide) as the active ingredient works the best. • Report any man-made areas of standing water, ie. old tires, maintenance equipment with catchment areas, to Jeff Connor, ext. 1296.

SEQUENCE OF JOB STEPS	POTENTIAL HAZARD	HAZARD CONTROL
<p>Colorado Tick Fever - Transmission comes through the bite of a tick. The virus is located in the ticks salivary glands. The virus cannot be transmitted from person to person.</p>	<p>Bite from infected tick. The most effective way to avoid tick bites is to conduct regular “tick checks”. Perform head-to-toe searches every couple of hours during a mountain excursion. Searches should be conducted regularly because it usually takes ticks an hour to find a place to embed. It usually takes a tick several hours of feeding to transmit enough of a disease organism to cause illness. Therefore, the quick discovery and removal of ticks can prevent illness.</p>	<p>The recommended method of removing ticks is to use tweezers or fingers covered with tissue paper. Grasp the tick where it has entered the skin and slowly and firmly pull it out in a rolling motion from front to back. Avoid twisting or jerking the tick. When the tick has been removed, wash the bite with soap and water. Other methods of removal such as oil, fingernail polish or heat from a match are not recommended as they may cause the tick to regurgitate into the wound, increasing the risk of disease transmission.</p> <p>Other tick-borne diseases that are not commonly reported in Colorado include Rocky Mountain spotted fever. In 1997 there were 9 reported cases of Colorado tick fever and no reported cases of Rocky Mountain spotted fever or Lyme disease.</p>

Emergency Evacuation Instructions

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) become seriously ill or injured at the worksite.

Be prepared to provide the following information:

- a. Nature of the accident or injury (avoid using the victim's name).
- b. Type of assistance needed, if any (ground, air, or water).
- 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 and direction, visibility, temperature).
- h. Topography.
- i. Number of individuals to be transported.
- j. Estimated weight of individuals for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

JHA and Emergency Evacuation Procedures Acknowledgement

We, the undersigned Supervisor and employees, acknowledge participation in the development of this JHA and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents.

SUPERVISOR'S SIGNATURE		DATE:
EMPLOYEE SIGNATURE	EMPLOYEE SIGNATURE	
DIVISION CHIEF'S SIGNATURE		DATE:

JHA Instructions

The JHA shall identify the date(s) the JHA was written, the location of the work project or activity, the Division and Branch writing the JHA, the name of the employee(s) writing the JHA, the name of the employee(s)'s supervisor approving the JHA, and the name of the Division Chief approving the JHA. 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: Self explanatory

Block 6: Name of employee(s) writing the JHA

Block 7: Name of employee(s)'s supervisor approving the JHA

Block 8: Name of the Division Chief approving the JHA

Block 9: List all required Personal Protective Equipment (PPE) identified in Hazard Control section of the JHA.

Block 10: List all the tools and equipment required to perform the work project or activity.

Block 11: List all applicable standards associated with the completion of the work project or activity. (Example: OSHA 1910.134 Respiratory Protection)

Block 12: List specific employee training required to perform the work project or activity.

Block 13: 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 14: Identify all known or suspect hazards associated with each respective task/procedure listed in block 13. For example:

- a. Research past accidents/incidents
- b. Research appropriate literature
- c. Discuss the work project/activity with participants
- d. Observe the work project/activity
- e. A combination of the above

Block 15: Identify appropriate actions to reduce or eliminate the hazards identified in block 14. Abatement measures listed below are the order of the preferred abatement method:

- a. Engineering Controls: The most desirable method of abatement. Examples: Ergonomically designed tools, equipment, and furniture
- b. Substitution: Example: Switching to high flash point, non-toxic solvents
- c. Administrative Controls: Example: Limiting exposure by reducing the work schedule
- d. Personal Protective Equipment (PPE): The least desirable method of abatement. Example: Hearing protection when working with or close to portable machines (chainsaws, rock drills, and portable water pumps)
- e. A combination of above