NATURE'S CAPITAL, LLC
HEALTH AND SAFETY STANDARD PRACTICES

Contents

I. EMPLOYEE HEALTH AND WELLNESS.

Most measures that promote health and wellness involve life-style choices that are a result of personal decisions by individual employees.

1. Health Practices. It is company policy to encourage employees to follow positive health practices in an effort to:
    a. Maintain a high level of physical fitness through a regular physical fitness program that improves aerobic fitness (endurance) and muscular fitness (strength and muscular endurance).
    b. Achieve and maintain a desirable body weight through healthful eating habits and exercise.
    c. Avoid alcoholic beverages or limit consumption to one or two drinks a day.
    d. Avoid smoking and breathing secondhand smoke.
        i. Smoking is prohibited in vehicles, office spaces, camps, and while conducting field work.
    e. Avoid smokeless tobacco products.
    f. Use over-the-counter and prescription drugs only as prescribed.
    g. Have complete annual medical, dental, and eye examinations and take advantage of community health and wellness program services.
    h. Promote health by scheduling annual leave and arranging job schedules to limit fatigue and job-related stress.
    i. Get 7 to 8 hours of sleep daily.
2. Fitness. A high level of physical fitness is essential for enjoying life to the fullest on and off the job. Regular, moderate physical activity permits an active life-style that enhances health, work capacity, and quality of life. Exercise can also minimize problems associated with being overweight, such as heart disease, diabetes, high blood pressure, and a host of physiological and sociological problems. Being overweight affects work capacity by placing added stress on the heart and restricting heat loss.
    a. Aerobic and muscular exercises that improve endurance and strength have the following benefits to:
        i. Reduce the risk of heart disease.
        ii. Improve circulation and respiration.
        iii. Minimize fatigue.
        iv. Strengthen bones, ligaments, tendons, and muscles.
        v. Reduce physical tension and psychological stress.
        vi. Reduce anxiety and depression.
        vii. Enhance self-image and morale.
    b. Exercise programs greatly enhance productivity and morale. Supervisors are encouraged to set up such programs in the following situations:
        i. For field work crews during the first few weeks of the season.
        ii. For employees who are being required to accomplish new physical tasks.
        iii. For people hired at mid-season to help them better contribute to crew production.
        iv. For employees with past injuries who may be prone to re-injury.

v. For all personnel who are or will be involved in wildfire suppression activities.

c. Before assigning field project work or activities to employees who are not normally field personnel, supervisors should consider individual physical fitness, general health, and personal limitations.

d. Warm up exercises and stretching are recommended prior to daily work activity or project.

3. Bloodborne Pathogens Program.
    a. Scope of Employee Coverage. The Occupational Safety and Health Administration (OSHA) standard at 29 CFR 1910.1030 covers all employees who could be "reasonably anticipated," as the result of performing their job duties, to come in contact with blood, or any body fluid visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
    b. Exposure Control Plan. The company exposure control plan is designed to protect employees from occupational exposure to bloodborne pathogens:
        i. All Nature's Capital employees are potentially exposed to bloodborne pathogens through the administration of first aid.
        ii. Any incident involving the administration of first aid will be reported as an accident using the company's accident reporting procedure.
        iii. All employees will observe Universal Precautions at all times. Universal Precautions is an approach to infection control in which human blood and human body fluids are treated as if known to be infectious for HIV, HBV, or other bloodborne pathogens.
        iv. First aid kits will be equipped with appropriate PPE. The minimum PPE consists of (1) latex-free medical exam gloves and (2) cardiopulmonary resuscitation (CPR) breathing barrier.
    c. Training. Standard first aid training will include control of exposure to bloodborne pathogens through the administration of first aid. Employees may also be required to complete an independent bloodborne pathogen training course.
4. Ergonomics. Ergonomic assessments in the workplace can reduce fatigue, discomfort, and potential injury. Minimizing stress, strain, and repetitive motion can prevent injuries and illnesses, such as cumulative trauma disorder (CTD), back injury, and neck and eye strain.
    a. Cumulative Trauma Disorders. OSHA defines CTDs as a group of illnesses associated with ongoing damage to soft tissues (muscles, tendons, and nerves) and joints. CTDs include repetitive motion injuries, such as carpal tunnel syndrome, repetitive strain injuries, and musculoskeletal disorders. Three risk factors that can lead to CTDs are repetition, awkward posture/position, and force (excessive pressure on muscles and joints).
    b. Back Injury. Suggested preventive measures include maintaining:
        i. A high level of physical fitness.
        ii. Abdominal tone.

iii. Flexibility in the lower back and hamstring muscles.
iv. Regular, moderate aerobic activity.
v. Good posture and proper mechanics while lifting and carrying.
vi. A routine warm-up schedule of five or ten minutes of stretching and loosening the muscles to reduce muscle tension, improve range of motion, and reduce the chance of muscle strains or other injuries.

c. Neck and Eye Strain. Steps to avoid neck and eye strain are:
   i. Provide good general illumination and specific task lighting.
   ii. Maintain the proper distance between the operator and the computer screen. Occasionally focus your eyes off screen on a distant object.
   iii. Provide video display terminal (VDT) operators periodic breaks of at least 10 minutes per hour away from the terminal.

5. Plant, Animal, and Insect Hazards. Provide seasonal alerts about plant, animal, and insect hazards prevalent locally. Ensure employees know preventive measures and how to render first aid for related local hazards. The project level JHA will consider hazards presented by plants, animals, or insects present with the project area and identify the necessary PPE, such as gloves, goggles, lightweight disposable clothing, shoe covers, respirators, or bear spray. Employees shall be trained in the use of all required PPE. Following is discussion of known common hazards associated with plants, animals, and insects. Different projects may present hazards that are not discussed here. For example, bison may pose a hazard in one project area; while moose in another. Employees must continuously evaluation and update the project level JHA as new information becomes available.
   a. Poison Ivy/Oak/Sumac and Noxious Weeds. Instruct all employees who are subject to exposure, especially those known to be highly sensitive, in plant identification. When possible, do not assign allergic employees to jobs that expose them to those plants and weeds.
      i. Brief employees about poisonous plants and noxious weeds that are present in the work area. Even those who have no history of reactions may become sensitized after contact and have a serious reaction.
      ii. When working in areas where poisonous plants or noxious weeds may be present:
         1. Wear proper field attire.
         2. Provide and apply a skin protectant or barrier cream. Fasten pant legs securely over boot tops (adhesive tape may be necessary).
         3. Wear gloves and keep them away from the face and other exposed parts of the body. Do not touch skin with hands, clothes, or equipment that may have contacted poisonous plants or noxious weeds.
      iii. Whenever the skin contacts a poisonous plant or noxious weed, wash the area with cold water within 1 to 3 minutes or as soon as possible. Use liberal amounts of water to ensure that all poisonous oils are washed off. While working in the poisonous plant or noxious weed environment, do

not use soap and/or hot water because they can remove the natural protective oils from your skin.

iv. Avoid the smoke of burning poisonous plants. Inhaling this smoke can cause fever, malaise, tracheitis, bronchitis, and severe rash.

v. Upon returning from the field, use rubbing alcohol to cleanse skin that contacted poisonous plants.

vi. Clean tools with citric-based solvent before storing (use appropriate gloves and adequate ventilation).

vii. Avoid exposure through mishandling of contaminated clothes. Wash contaminated clothing separately from other clothes in hot water and detergent.

b. Ticks and Chiggers. Ticks are carriers of biological agents that cause Rocky Mountain spotted fever, Colorado tick fever, tick paralysis, Lyme disease, tularemia, and relapsing fever.

i. Ticks – General Safety Procedures. When working in an area likely to have infected ticks:

1. Spray clothes with an insect repellent, which may provide an additional barrier against ticks. Repellents, such as diethyl metatoloamide (DEET), do not kill ticks. Some sprays do contain permethrin, which kill ticks on contact. Always follow the manufacturer's application instructions for insect repellents and treatments.
2. 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 and tuck shirttails inside trousers.
3. Search the body repeatedly (such as during rest periods and lunch), especially hairy regions and inside clothing, as ticks seldom attach themselves within the first few hours.
4. Remove ticks with fine-tipped tweezers or fingers. Grasp the tick as close as possible to the point of attachment and pull straight up, applying gentle pressure. Wash the skin with soap and water; then cleanse with rubbing alcohol. Do not try to remove the tick by burning it with a match or covering it with chemical agents. If the head detaches during the removal procedure or the tick cannot be removed, seek medical attention.
5. Once the tick has been removed, place it in an empty container so it can be given to a physician should the victim experience a reaction. Record the dates of tick exposure and removal. An early warning sign to watch for is a large red spot on a tick bite. Reactions within 2 weeks include fever, chills, headache, joint and muscle ache, significant fatigue, and facial paralysis.
6. If you observe any of the following symptoms, seek prompt medical attention:

a. Rocky Mountain Spotted Fever. Within 2 to 14 days, sudden onset of headache, chills, fever, and general aches, reddish-purple-black spots appearing on the extremities and spreading to the trunk, neck, and face (80 percent of cases).
b. Colorado Tick Fever. Sudden high fever, chills, fatigue, severe headache, and muscle aches.
c. Tick Paralysis. Within 4 to 6 days, rapid paralysis starting in the extremities and extending to the face area.
d. Lyme Disease. Within 3 days to several weeks, a ring like rash develops in 60-80 percent of cases, along with flu-like symptoms that disappear even if not treated. Within weeks to months, neurologic abnormalities, including meningitis, encephalitis, and cardiac abnormalities, may become chronic. Within 6 months to several years, joint and muscle pain and arthritis may occur in one or several joints.
e. Tularemia. Chills, fever, loss of appetite, swollen lymph nodes, and ulcer at the wound site.
f. Relapsing Fever. High fever, chills, and abdominal pain; these symptoms subside, only to reoccur at a later date.

ii. Chiggers – General Safety Procedures. In chigger infested areas:
1. Apply insect spray according to the manufacturer's application instructions.
2. Do not sit on the ground or on logs and avoid walking through low vegetation, when possible.
3. Bathe in hot, soapy water after spending time in these areas.

c. Poisonous Snakes, Spiders, and Scorpions. Rattlesnakes, copperheads, and water moccasins (cottonmouths) are poisonous snakes known as pit vipers. They have vertically elliptical (egg-shaped) pupils and a heat-sensing pit midway between the eyes and nostrils on each side of a triangularly shaped head. The coral snake (also poisonous) may be identified by this rule of thumb: Red bands bordered by yellow (or white) indicate a venomous animal; thus, "Red on yellow, kill a fellow; red on black, venom lack." This rule applies to all coral snakes native to the United States.
1. Learn what poisonous snakes (if any) are native to the area you will be working in.
2. Learn how to identify whether or not a snake is poisonous. If unsure, treat all snakes as poisonous. Study field guides or text book illustrations of indigenous venomous snakes.
3. Do not assume a young snake is not poisonous, because venomous snakes are capable of inflicting a fatal bite from birth.

ii. Precautions for Working in Snake Country. When working in snake-infested areas:

1. Wear high top boots (just below the knee is preferred) and/or protective snake-proof leggings. Use a hiking stick.
2. Although snakes are deaf, they have a good sense of smell and vision and are very sensitive to ground-conducted vibrations. Since they are defensive animals and rarely attack, they remain immobile or attempt to retreat if given the opportunity. When going through thick underbrush, be alert. Walk slowly and give snakes ample time to move out of the way.
3. Be particularly watchful in areas obscured by foliage or near ledges when walking or climbing in rocky country. Snakes have excellent camouflage ability so train your eyes to see their shape and coloration.
4. Walk on clear paths as much as possible. Be careful where placing your feet and hands at all times.

iii. First Aid for Snake Bites. Snake bites in the United States are rarely fatal when medical care is sought early and appropriate antivenin is readily available.

1. Avoid panic.
2. Immobilize the bitten extremity and obtain medical assistance.
3. If you are alone when bitten, walk slowly, resting periodically and using a makeshift crutch if the lower extremity is involved. Again, keep activity to a minimum.

d. Spiders. Few spiders in the United States have venom that cause death. But the bites of the black widow and the brown recluse spiders can be fatal. Both spiders are found in most areas of the United States. The bite of the black widow is the more painful and often the more deadly of the two. Both prefer dark, out-of-the way places where they are seldom disturbed. Be alert for these spiders in basements, garages, barns and other outbuildings, woodpiles and gardens, and under stones, logs, and vegetation.

i. Aggressive House Spider. Another dangerous spider is the aggressive house spider. The spider got its name because it readily bites when cornered or threatened. Its bite is not fatal but is serious and requires immediate medical attention. The light brown spider's body is in two segments that together are about half an inch (12-3/4 mm) long, excluding its hairy legs. This spider is among the most common spiders found in buildings. It rarely climbs vertical surfaces and is usually found on the ground or lower floors, especially in cool moist window wells and basements.

ii. Female Black Widow Spider. The female black widow is shiny black with a red hourglass mark on the stomach. The female's body is about half an inch (12-3/4 mm) long, and the male is less than half this size. The initial bite may be sharply painful, but many bites are not recognized initially.

iii. Brown Recluse Spider. The brown recluse is light brown with a darker brown violin shaped marking on the top of its 1/3 inch to 2/3 inch (8-15

mm) body. Brown recluse spiders are most active at night from spring through fall, emerging from woodpiles, rat nests, and other dark, dry environments. The bite can vary from a mild and transient skin irritation to more complicated kidney and other disorders, and even death. Refer to exhibit 01 for identification.

iv. Spider Bites. The aggressive house spider has a bite often confused with that of a brown recluse spider. At first the bite produces a very slight sensation. A small hard area appears within 30 minutes or less and is surrounded by an expanding reddened area of 2 to 6 inches (51-153 mm) in diameter. The area will blister and eventually break and ooze serum. Although the ulcer scabs over, tissue beneath the scab may continue to die. The loss of tissue may become so severe that surgical repair is needed. Similar to the necrotic bite of a brown recluse spider (a necrotic bite causes tissue to die), the resulting lesion heals slowly, frequently leaving a permanent scar. The most common spider bite symptom is a severe migraine headache, sometimes occurring within 30 minutes, usually within 10 hours. The headache may persist for 2 to 7 days and is sometimes accompanied by nausea, weakness, tiredness, temporary loss of memory, and vision impairment. Signals of a spider bite include:
    1. Nausea and vomiting.
    2. Difficulty breathing and swallowing.
    3. Sweating and salivating profusely.
    4. Irregular heart rhythms
    5. Severe pain and swelling in the bite area.
    6. A mark indicating a possible bite.

v. First Aid for Spider Bites.
    1. Wash the area with soap and water.
    2. Apply a cold pack.
    3. Seek medical care as soon as possible to receive an antivenin.

e. Scorpions. Scorpions in the United States are divided into two groups based on the severity of their sting. Scorpions whose venom can be lethal are found in the desert areas of Arizona, New Mexico, California, and Texas, as well as along the northern shore of Lake Mead in Nevada. The venom of these scorpions contains neurotoxins that produce systemic effects, as well as local burning and pain, which can be accentuated by tapping over the envenomed area (tap test). All other scorpions in the United States produce a local reaction that consists of painful swelling and burning with a discoloring of the skin. Today, death from the sting of a “lethal” scorpion is preventable. Proper care includes washing the wound, applying a cold pack, and getting medical help as soon as possible to receive antivenin. Scorpions are nocturnal feeders and most live above ground and hide in old stumps, lumber piles, firewood, loose bark on fallen trees, ground debris, or crevices during the daytime. When working in scorpion and spider areas, be aware and take these precautions:

i. When camping, always inspect in and under sleeping pads, sleeping bags, tarps, or other ground covers before use.
ii. Always inspect and shake out clothing before wearing.
iii. Do not leave work gloves, boots, jackets, or hats on the ground.
iv. Always inspect outdoor toilets before use.
v. Never walk around in the dark without wearing shoes or boots.
vi. Always have a flashlight for inspecting outhouses, clothing, and bedding.
vii. Always inspect logs, stumps, rocks, and any other areas before sitting down.
viii. When working in hot, dry areas, be especially watchful when using shady spots for rest breaks.
ix. Before use, inspect those items that have been stored in the shade while working.
x. Always wear gloves (leather preferred) when moving or handling lumber, firewood, trash, or debris that could hide or contain spiders or scorpions. If an area that was stung or bitten shows rapid inflammation and pain, or the person bitten or stung develops other symptoms, such as chills, fever, joint pains, nausea, or vomiting, seek medical attention immediately.

f. Insect Stings and Bites.
i. Honey Bees. The honey bee is one of the few domesticated insects that is maintained in hives. Numerous species of honey bee exist. The Italian honey bee, a common strain of Europe, is also widespread in the United States. Wild honey bee colonies usually nest in hollow trees or crevices in rocks but may nest in walls of occupied buildings.
1. An event of considerable health concern has been the spread of the Africanized honey bee. This strain is characterized by large populations (one queen may lay tens of thousands of eggs), frequent swarming, nonstop flights of at least 12 miles (19 km), and a tendency toward mass attack following minimal provocation.
2. Single stings from any of these insects generally do not require medical attention. There may be an immediate sharp pain followed by redness and swelling. For mild bee stings, application of ice packs often gives relief. Honey bees and yellow jackets occasionally leave their stinger in the wound. Stingers should be scraped or brushed off with a sharp-edged instrument. Do not remove stingers with tweezers, which may squeeze the attached venom sac and worsen the injury.
3. Some individuals are sensitized to bee and wasps stings and may react with a widespread rash, asthmatic breathing, tissue swelling, a fall in blood pressure, or sometimes unconsciousness. Employees with a history of allergic reactions to insect stings should carry an appropriate emergency kit prescribed by a physician and wear medical identification tags. Such employees

should also inform supervisors and co-workers of their situation and what assistance, if any, is appropriate for an allergic reaction.

ii. Safety Guidelines.
    1. For outdoor field work, always wear appropriate field attire – long sleeved shirts, long trousers, and appropriate boots (identified in the JHA). It is recommended to tuck trouser legs into socks.
    2. Wear appropriate light-colored clothing, including socks. Avoid wearing leather. When defending their nests, bees target objects that resemble their natural predators (such as bears and skunks). They tend to go after dark, leather, or furry objects. Bees see the color red as black so fluorescent orange is a better work clothing choice than red.
    3. Avoid wearing scents of any kind. Bees communicate by scent and tend to be very sensitive to odors. Avoid strongly scented shampoo, soaps, perfumes, after-shaves, and heavily scented gum. If riding, avoid the use of lemony or citrus-smelling fly control products on your horse.
    4. Avoid identified nests and never poke or throw objects at nests. If a nest location could affect people, inform your supervisor or local authorities even if the bees appear to be docile.
    5. If attacked, shield your face with your arms and leave the area.

iii. Africanized Honey Bees. These bees are docile when seeking out a new nest site and establishing a nest. In the field, European honey bees and Africanized honey bees are visually indistinguishable, but the following are behavioral patterns typical of the Africanized honey bees:
    1. Africanized honey bees display random nest selection. They may nest in areas not normally selected by European honey bees; however, they have been known to take over European honey bee nests.
    2. After developing brood and honey stores, Africanized honey bees become extremely defensive and easily agitated.
    3. When in established hives, Africanized honey bees quickly respond in large numbers to nearby stimuli, such as a loud noise created by chain saws or working machinery.
    4. Africanized honey bees are attracted mainly to the face and neck area. If attacked, get away quickly while covering the head and neck area. Do not stand still, swat, or try to hide underwater. Seek inside shelter, such as buildings or vehicles.
    5. If stung, remove stinger(s) by scraping sideways, not pulling. Seek medical attention if an employee has:
        a. Allergic reaction.
        b. Systemic reaction.
        c. Multiple stings (15 or more).

iv. Mosquitoes. When massive flooding occurs, a significant increase in mosquito populations also increases the chances of an outbreak of encephalitis. Ticks that ingest mosquitoes may also transmit encephalitis to humans. Encephalitis produces influenza like symptoms, including headaches, lethargy, fever, double vision, extreme muscle weakness, confusion, tremors, or seizures. Use of repellents containing DEET or brand name products, such as Duranon, is recommended. Note: Duranon is applied to clothing only, not directly to the skin.

g. Bears.

i. Black Bear. The most common bear encountered by field employees is the black bear. Black bears are the most numerous and widely distributed of all North American bears. They occur in more than 30 of the lower 48 states, from Maine to Florida and from California to Washington. They also occur throughout Canada and Alaska, extending up to treeline below the Arctic Circle.

1. Injuries as a result of close encounters with black bears are extremely rare and if they occur, usually are not life threatening. In a survey of 500 people injured by black bears, at least 90 percent resulted in minor scratches or bites inflicted by bears that were either conditioned to human foods or habituated to human presence.

ii. Grizzly Bear. The grizzly (brown) bear ranges from Alaska through western Canada, with remnant populations located in relatively undeveloped lands, primarily in the northern Rocky Mountains. Attacks by grizzly bears are rare and sporadic. Female grizzly (brown) bears are extremely aggressive in defense of their young.

1. Employees must work in groups of at least two in areas where grizzly bears are known or suspected to occur.
2. Employees must carry bear spray in areas where grizzly bears are known or suspected to occur (see section III.5).

iii. Training on Bear Behavior and Safety. Because of the unpredictable disposition of all bears, field-going employees will receive training to the extent they will be exposed. Bear-behavior training will, as a minimum, include these elements:

1. Differences between black and grizzly (brown) bears.
2. Identification of bear signs (tracks, scat, scrapes, kills, and claw marks).
3. Bear behavior and body language.
4. Precautions to keep a field camp safe from bears. Ensure food and food containers are stored in an acceptable manner.
5. Techniques to avoid bear encounters while hiking, working, camping, or other outdoor activities.
6. How to respond if attacked by a bear.

7. Aerosol defensive sprays (bear spray) use, storage, and transportation.

iv. Safety Practices. Employees must understand the importance of keeping their distance from any animal that is eating or mating, appears to be sick or injured, or is with its young. If an animal seems unafraid, abnormally aggressive, or drunk, it may be a sign of rabies. Leave the scene and report the incident to the appropriate authority. Most bears prefer to stay away from humans. Given the chance, bears avoid people and go about their business.

h. Mountain Lions. Generally, mountain lions are solitary, quiet, elusive animals. They are most active from dusk to dawn, although they travel and hunt in daylight. Working with other employees and making noise, reduces the chance of surprising a lion. In the event of a confrontation, employees should:
   i. Give the lion a way to escape.
   ii. Talk calmly, yet firmly.
   iii. Stop or back away slowly. Never crouch, try to hide, turn away, or run away.
   iv. Try to appear larger by raising arms or an object over the head.
   v. If the lion behaves aggressively, throw stones, branches, or whatever can be reached without crouching down or turning away.
   vi. Fight back if attacked. Shout loudly. Try to remain standing. If down, try to get up. Protect the head and neck with hands and arms.

i. Hantavirus. Hantavirus is a cause of acute pulmonary disease and death in many regions of the United States. The primary carrier is the deer mouse. Other kinds of mice are also carriers. Transmission occurs by inhalation of the aerosolized virus when dried materials contaminated by rodent 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.
   i. Training. Ensure that employees receive training in hantavirus awareness.
   ii. General Employee Safety Practices. In most cases, employees shall:
      1. Treat all rodents as if they carry the virus.
      2. Avoid direct contact with rodents (live or dead), their droppings, urine, saliva, nests, or items that may be contaminated. Do not enter a closed space (building, room, or other confined space) that appears to be, or have been, infested by rodents. Do not feed mice, chipmunks, or other rodents.
      3. Seek treatment immediately if there was possible contact with carriers and signs of potential symptoms. Symptoms may appear 1 to 6 weeks (usually 2 to 3) after contact and include fever, nausea, headache, muscle aches, cough, and increasing acute respiratory trouble.

4. Employees will not attempt to clean or disinfect an area suspected of being infected by hantavirus. Rather, the company will contract with a qualified vender to complete these tasks.

iii. Specific Employee Safety Practices. Employees shall not be involved in live animal trapping.

j. Rabies. The rabies virus is an acute, often fatal, viral disease most commonly transmitted through the saliva of an infected mammal and, less commonly, by aerosols.

i. Employees should avoid any wild animal (especially raccoons, skunks, foxes, and bats) that appears to have lost its fear of humans or is behaving abnormally. Abnormal and aggressive behavior in domestic animals is also a warning sign to exercise caution.

ii. Early treatment is crucial. Physical symptoms include pain at the wound site, fever, headache, malaise, apprehension, difficulty swallowing, muscle spasms, and paralysis. As the disease progresses, victims may become disoriented and agitated and begin hallucinating.

iii. Transmission of the rabies virus by inhalation of aerosols (created from saliva, secretions, and excretions of bats in a dark, humid environment) has also occurred. Employees involved in investigation of bat-roost sites (caves, mines, and buildings) or who have other work projects/activities in locations where bats are commonly found shall:

1. Obtain a pre-exposure rabies vaccination and a tetanus shot.
2. Wear appropriate PPE, such as light cut-resistant gloves, depending on the bat species.
3. If bitten, cleanse the wound with soap, water, and disinfectant; seek medical attention; and record the date and location of exposure.

6. Environmental Hazards.

a. Solar Ultraviolet Radiation. Radiation intensity varies with numerous factors, including time of day, altitude, latitude, and season. About 80 percent of the ultraviolet (UV) rays reaching the Earth's surface do so between 9 a.m. and 3 p.m., with peak hours of exposure generally between 10 a.m. and 2 p.m. Employees who spend much of their workday outside should be cautioned about the short- and long-term risks of UV exposure. To minimize UV exposure:

i. Keep exposed skin covered by wearing a hat, a bandanna, and a long-sleeved shirt (with sleeves rolled down and collar turned up).

ii. Wear sun glasses that filter out 100 percent of the UV rays. The use of non-UV protected sunglasses or photogrey glasses can increase the chance of UV damage to the retina and are not recommended.

iii. Provide and use protective sunscreen lotion, cream, oil, and lip balm as identified in the JHA.

iv. When possible, stay indoors during the peak exposure time in the summer or find worksites that are shady.

v. Alter work schedules, where appropriate, to avoid peak summer exposure.
vi. Where appropriate, alternate workers during the summer months to reduce exposure.

b. Hot Weather Conditions. Individual differences in heat tolerance are related to fitness, hydration, illness, drugs and medication, and fatigue. Heat stress occurs when the body's core temperature rises beyond safe limits. Evaporation of sweat is the body's main line of defense against heat. As sweat evaporates, it cools the body. When water lost by sweating is not replaced, the body's heat controls break down and body temperature climbs dangerously. Three factors that can contribute to heat stress are low or poor physical fitness, excess weight, and hypertension.
    i. Fit workers adjust or acclimate to work in the heat twice as fast as unfit workers (4 days compared to 8). Be especially careful the first 2 to 3 days.
    ii. Schedule the hardest work during the cooler hours of the day. Set a moderate work pace. As the temperature increases, stop for frequent rest periods of at least 15 minutes. Relax in cool locations, where possible.
    iii. Always have an adequate supply of water available and ensure that employees are getting their needed liquids. Plan ahead for drinking water; don't allow water to run out before resupplying. To prevent dehydration:
        1. Drink 8 to 16 ounces (200 to 400 milliliters) of water before work.
        2. Take frequent drinks during each hour of work (1 quart or 1 liter per hour).
        3. Drink as much as possible at lunch and the evening meal.
        4. Continue replacing fluids throughout the evening.
        5. Limit caffeine drinks, such as coffee or cola.
        6. Avoid alcoholic drinks.
    iv. Provide well-planned meals and healthy snacks, which are vital to maintain work capacity and to avoid heat disorders through adequate replacement of water, salt, and potassium. Employees may want to eat less. Carbohydrate/electrolyte beverages can help maintain energy and work output during long periods without food or snacks. Salt in foods and ample use of the salt shaker provide sodium. Do not use salt tablets. Include potassium-rich foods, such as bananas and citrus fruits. High-protein foods (such as meat) increase metabolic heat production and water loss, and are not recommended.
    v. Prevent sunburn by wearing lightweight, light-colored loose clothing, which allows air to circulate and sweat to evaporate and offers protection from direct sun. Bare skin absorbs the sun's radiant heat and raises body temperature.
    vi. Bathe or wash thoroughly each day to keep pores and hair clean. Dirty, clogged skin and matted hair restrict heat dissipation.

vii. During periods of continued extreme temperatures (90 ^{o}F/32 ^{o}C or above), ensure that supervisors monitor employees and that employees watch each other for signs of heat-stress disorders, including heat cramps, heat exhaustion, and heatstroke.
    1. 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.
    2. Heat exhaustion is characterized by fatigue, weakness, and collapse. The skin becomes pale, cool, and clammy, accompanied by 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 (204 to 306 mm) above the head, and loosening clothing and applying cool compresses to the skin. If there is no improvement quickly, seek medical attention at once.
    3. Heatstroke 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.

c. Cold Weather Conditions. The best defense against frostbite and hypothermia is to avoid exposure. Recognize hypothermia- producing weather and prepare for it. Prevention is the best tool. Always check weather conditions and be familiar with the area before trips. Be prepared and pack a survival kit to be carried by each person.
    i. Exposure to hazards associated with the cold can occur any time of the year. Factors that put employees more at risk include age, weight, poor circulation, smoking, drinking, and some prescription medications. Where work or activities are planned during extremely cold weather the JHA shall address the specific conditions anticipated, including essential PPE. Key items for winter survival are:
        1. Get adequate rest.
        2. Always anticipate bad weather. Carry additional warm clothing with you. Dress for the conditions in layers of loose, dry clothes; polypropylene or wool underneath, with windproof and waterproof material on top. Ensure that your hands, feet, face, neck, and head are covered and well protected.
        3. Keep active to maintain the body's metabolism and keep your body temperature high.
        4. Prevent dehydration by drinking warm water. Avoid drinking cold water, snow, or ice. Avoid caffeinated beverages.

5. Set up camp early and prepare for dropping night temperatures. Find shelter and firewood before dark.
6. Eat balanced meals and high energy snacks.
7. Travel in pairs as a minimum. Never travel alone in isolated areas. Management must approve and document the assignment of employees to work alone in undeveloped areas.

ii. Frostbite. Frostbite is generally brought on by direct contact with a cold object or exposure of a body part to cold air. Body parts most often affected are the nose, ears, cheeks, fingers, and toes. Test for circulation and sensation regularly by wiggling fingers and toes. Watch for signs of frostbite in yourself and coworkers. Major factors causing frostbite are wind and water chill.
    1. Frostbite may develop slowly and go undetected until the affected part or parts become white. As the cooling process continues, numbness replaces any sensation of cold or discomfort.
    2. If the early stages of frostbite go untreated, the affected part or parts take on a waxy appearance and feel frozen to a gentle touch; however, when the skin is pressed firmly, it feels soft and pliable beneath the frozen area. At this stage of frostbite, the affected person must be moved to a dry covered area, and the affected part or parts gently handled. If transportation to a hospital is delayed, apply steady warmth by submerging the body part or parts in warm water. Always follow up with medical care.
    3. The next step is referred to as deep frostbite. Muscles, bones, deep blood vessels, and organ membranes can become frozen. The affected part becomes blotchy blue or gray, and the tissue feels frozen on the surface and when pressed firmly. For this stage of frostbite follow these steps:
        a. Transport the victim immediately to a hospital for medical care.
        b. Gently cover the affected part or parts with dry blankets or clothing.
        c. Do not rub or chaff the frostbitten part or parts.
        d. If the tissue is frozen, keep it frozen until care can be initiated.
        e. Do not initiate thawing procedures if there is any danger of refreezing. Keeping the tissue frozen is less dangerous than submitting it to refreezing.

iii. Hypothermia. Another cold hazard is hypothermia, a condition of subnormal body temperature. Lowering the internal core temperature of the body leads to mental and physical collapse. Hypothermia is a medical emergency. The three components of weather that affect cooling of the body core are temperature, wind, and moisture. Other factors that can cause or aggravate hypothermia include injuries, immobilization,

immersion in water, lack of proper clothing or shelter, low blood sugar, and fatigue. Hypothermia usually occurs on a cold, wet, windy day with temperatures at or above freezing. Most hypothermia cases develop between 30 ^{o}F (-1 ^{o}C) and 50 ^{o}F (10 ^{o}C).

1. Hypothermia symptoms begin with feeling cold, experiencing pain in the extremities, and shivering as the body tries to raise its temperature. Other symptoms include 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 disagreeable.
2. As the body core cools further, mental function is impaired to a far greater extent, leading to confusion, disorientation, and lethargy. Slurred speech and loss of vision occur just prior to terminal coma. Hypothermia is a medical emergency.
3. Call for medical help. Transport the victim to a hospital for care as soon as possible.
4. Give artificial respiration when necessary.
5. Move the victim into a warm area. If shelter is not available, build a fire. Prevent further heat loss.
6. Get the victim out of frozen, wet, or tight clothes.
7. Bundle the victim in warm clothes, blankets, or sleeping bag.
8. If the victim is mildly impaired, give the victim warm liquids (no caffeine or alcohol).
9. 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.
10. Transport the victim to the nearest hospital. Keep the person lying down and still.
11. 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 on route to a hospital.

d. Lightning and Thunderstorms. The most dangerous period for thunderstorms with cloud-to-ground lightning is from March through August. The mature stage of the storm may be marked on the ground by a sudden reversal of wind direction, a noticeable rise in wind speed, and a sharp drop in temperature. Heavy rain, hail, and lightning occur only in the mature stage of a thunderstorm. Keep informed; know what the storm is doing. During a thunder storm:
    i. Do not use radios, telephones, plug-in electrical equipment, or plumbing fixtures.
    ii. Turn off generators and electrical equipment.

iii. Put down all tools. Caulk boots are particularly good grounding agents and should be removed.
iv. Do not handle flammable materials in open containers.
v. Stay in your vehicle (unless it is metal-tracked, has a nonmetal top, or is open – in which case leave the vehicle).
vi. Get away from water tanks, ponds, streams, lakes, and swimming pools. Avoid parking lots, tennis courts, athletic fields, and golf courses.
vii. Get under a steel bridge, but never touch the steel and never sit or stand on damp ground.
viii. If boats are in use, have them docked. Get out of boats and away from the water.
ix. Ground and anchor all aircraft.
x. Take shelter in a building, if one is available. Choose a building with lightning protection in preference to a small, unprotected building. Close the doors and windows, if possible. If that is not possible, stay away from open doors and windows, and areas on top of buildings. Stay away from fireplaces, radiators, stoves, metal pipes, and sinks.
xi. If no buildings are available, your best protection is a cave, ditch, tunnel, canyon, or head-high clumps or trees in open forest areas.
xii. When there is no shelter, avoid tall objects such as lone trees. If only isolated trees are nearby or if you are in open country, the best protection 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. To minimize the flow of the current, keep your feet together. Keep away from wire fences, telephone lines, electrically conductive objects, and railroad tracks.
xiii. Avoid the tops of ridges, hilltops, wide-open spaces, ledges, out-crops of rocks, and sheds or shelters in exposed locations. Avoid grouping people together.
xiv. Move away from horses and stock.
xv. Advise crew members that if they feel an electrical charge, if their hair stands on end, or their skin tingles, a lightning strike may be imminent. 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. Note that an individual in full-cardiac arrest is a medical emergency and must be transported to an advanced life-support medical facility as quickly as possible. Where there are multiple lightning strike victims, render emergency medical treatment first to individuals who are unresponsive and next to those with vital signs who exhibit the most life threatening injuries.

e. Tornadoes. A severe thunderstorm may spawn a tornado, which is a violently rotating column of air that descends from a cloud system. Most tornadoes occur during the mid-afternoon or early evening (3 p.m. – 7 p.m.) and move from the southwest to the northeast at speeds ranging from stationary to 70 miles an hour. While hail may or may not precede a tornado, the area adjacent to large hail is often where strong to violent tornadoes are most likely to occur. When large hail begins to fall, a tornado may be nearby. Seek appropriate shelter. Once the hail has stopped, remain in a protected area until the storm has moved away, usually 15 to 30 minutes after the hail ceases. During a tornado:
    i. Do not attempt to flee to safety by vehicle. Seek sturdy shelter, such as a building; a ditch or ravine offers better protection than a vehicle.
    ii. Stay away from windows, exterior doors, and outside walls.
    iii. Go to storm cellars or well-constructed basements, which offer the greatest protection from tornadoes, or to small interior rooms, such as a closet or bathroom, which provide safety from flying debris and are less likely to experience roof collapse.
    iv. If caught in a timbered area during periods of high winds or immediately after a windstorm, get into a natural opening large enough to give protection from falling trees and limbs.
f. Flash Floods. Flooding occurs seasonally when rains, coupled with melting snows or torrential rains associated with tropical storms, drain into small tributaries and fill river basins with too much water, too quickly. Flash flood waves can roll boulders, tear out trees, destroy buildings and bridges, and create new channels. When a flash flood is imminent, act quickly:
    i. Do not camp or park your vehicle along streams and washes, particularly during threatening conditions.
    ii. Avoid areas subject to flooding. This includes dips, low-lying areas, canyons, and washes.
    iii. Avoid already flooded and high velocity flow areas. Do not attempt to cross a swift flowing stream on foot where water is above your knees.
    iv. Do not attempt to drive over a flooded road where you do not know the depth of water before crossing. The road bed may not be intact under the water.
    v. If your vehicle stalls, abandon it immediately and seek higher ground.
    vi. Be especially cautious at night when it is harder to recognize flood dangers.
g. Altitude-Related Problems. High altitude (8,000 feet or 2,438 meters and higher above sea level) affects a person's ability to take in, transport, and utilize oxygen, thus affecting work capacity. During acclimation, employees working in high altitudes should work slower and take frequent breaks to avoid excessive fatigue. Eat a high-carbohydrate diet for added energy and take special care to maintain hydration since altitude hastens fluid loss. Individuals vary in their ability to acclimatize; some adjust quickly, without discomfort, while acute mountain sickness (AMS) develops in others.

i. AMS is most commonly misdiagnosed as a viral flu-like illness, hangover, exhaustion, or dehydration. The incidence and severity of AMS depend on the rate of ascent, altitude attained (especially the sleeping altitude), length of exposure, level of exertion, and inherent physiologic susceptibility. AMS can be classified as mild, moderate, or severe on the basis of symptoms. Treatment for AMS includes descending to a lower altitude and the administration of oxygen, if available.
ii. Other problems related to altitude include decrease in temperature and the effects of cold, ultraviolet penetration increasing the risk of sunburn and skin cancer, and snow blindness.

II. EMPLOYEE SAFETY AND SECURITY.

1. Violence or the threat of violence by or against any employee is unacceptable. The company procedures and programs set out in this section are designed to provide for employee safety and security.
2. Responsibility. Management and employees share the responsibility to provide for safety in the work place.
    a. Supervisors are responsible for implementing programs and procedures on how to prevent violence at worksites, and on how to provide appropriate response should violence occur.
    b. All employees have the responsibility to report all acts of workplace violence promptly to supervisors and managers and, in case of an emergency, directly to law enforcement officials.
3. Safety Practices.
    a. Be aware of your work environment and be suspicious of unusual or abnormal activity, object, or container. Do not attempt to open or handle suspicious objects or containers. If you think a situation may be dangerous, leave the area and report it to a supervisor, local authority, or the nearest law enforcement agency.
    b. Avoid areas and situations of known or potential natural or human-caused conflict. Analyze the hazard and use alternative methods and/or routes where possible.
    c. Ensure that communications equipment is operating properly.
4. Firearms. Employees shall not carry firearms on any Nature's Capital work site, office location, or field project location; nor in company-owned, rental, or personal vehicle; nor in any condition under the employment of Nature's Capital without written authorization from management.
    a. This policy shall supersede any Federal, State, or local regulation regarding the right to carry firearms.
        i. Violation of this policy will result in immediate termination.
    b. Firearms Training. Only those persons who are competent and qualified in firearms use and who have completed a firearms safety course will be authorized to use or carry firearms.

c. Use of Firearms. Employees must observe all Federal and State laws and local ordinances concerning the licensing, use, and transportation of firearms and ammunition. Employees are prohibited at all times from using any company resource (including coincidental field location) for the express or incidental purpose of hunting, shooting, or transporting of game, hunters, firearms, or ammunition. Violators are subject to disciplinary action and/or prosecution under the law.

5. Aerosol Defensive Sprays. Employees are required to carry aerosol defensive spray under some field work conditions for protection from physical harm or personal injury, primarily by threatening wild or domestic animals. Aerosol defensive sprays are hazardous materials. Management will provide authorization for employees to possess or use aerosol defensive spray on company work sites.
    a. Employee authorization to carry and use aerosol defensive sprays shall expire:
        i. At the end of the calendar year; or
        ii. Upon completion of the work project or activity; or
        iii. Upon failure to demonstrate competent and prudent use of aerosol defensive sprays.
    b. Aerosol Defensive Sprays Training. Only those employees who have successfully completed an aerosol defensive sprays safety course and demonstrated ability in its use may be authorized to carry and use aerosol defensive sprays. The aerosol defensive sprays safety course will include:
        i. Definition of the active ingredient(s) in aerosol defensive sprays, such as oleoresin capsicum. c. Effects of aerosol defensive sprays on wild animals, domestic animals, and human beings.
        ii. Storage and transportation requirements, including shelf life.
        iii. Procedures for readying, carrying, and using aerosol defensive sprays
        iv. Medical considerations.
        v. Animal behavior and habitat (as applicable).
        vi. Reporting procedures.
        vii. Instructor demonstration in the use of aerosol defensive sprays.
    c. Transportation and Storage. Aerosol defensive sprays:
        i. May not be carried or transported aboard commercial aircraft.
        ii. May be transported in company owned, leased, or contracted motor vehicles provided they are securely stored.
        iii. Should not be stored above room temperature, near heat sources, or open flames, or placed in areas which subject aerosol defensive sprays to extreme temperatures, such as vehicle trunks, glove boxes, or on dashboards.
    d. Reporting Procedures. If an employee discharges aerosol defensive sprays in the process of conducting company business, the immediate supervisor must be notified and the incident reported as a near-miss accident.

III. TRAVEL

This section contains health and safety standard practices for travel to and from work projects and other activities.

1. Qualifications: Field and office employees involved in work-related travel will possess the following minimum qualifications:
    a. Each field employee shall be trained in first aid / cardiopulmonary resuscitation (CPR). Minimum required first aid training is summarized by position as follows:
        i. Team member: basic first aid / CPR (e.g. American Red Cross *Adult and Pediatric First Aid/CPR/AED* certification) is required; advanced first aid training (which covers situations commonly encountered in the backcountry) is recommended (e.g., *Wilderness and Remote First Aid* or *Wilderness First Aid* certification).
        ii. Team leader: advance first aid with orientation to emergencies encountered in wilderness and remote environments (e.g., *Wilderness and Remote First Aid*, *Wilderness First Aid*, or *Wilderness Advanced First Aid* certification) is required; *Wilderness First Responder* certification is recommended.
        iii. Field supervisor: advance first aid with orientation to emergencies encountered in wilderness and remote environments (e.g., *Wilderness Advanced First Aid* certification) is required; *Wilderness First Responder* certification is recommended and required for projects involving extensive wilderness overnight travel.
        iv. Positions within the company are determined on the basis of academic training and work experience, not on the basis of first aid training alone. Therefore, considering the field team as a whole, the level of first aid training of one employee may substitute for the level of training of another. The adequacy of first aid training and the allocation of first aid training resources will be evaluated by considering the certifications of all field employees.
    b. Prior to traveling employees will be proficient in the use of required personal protective equipment.
    c. Employees and their supervisor shall utilize tailgate safety sessions to address safety concerns for travel.
2. Planning and hazard analysis: Employees involved in travel will prepare and maintain the following planning and hazard analysis information for all work projects and activities involving travel:
    a. Each employee on a field assignment will complete the Employee Emergency Information Data Sheet. Completed copies of the form will be in the possession of field supervisor on every field trip. Completed copies of the form for each field employee will be posted on the company server to allow remote access.
    b. The trip Travel Plan will be completed by the field supervisor prior to departure on any field trip. A copy of the trip Travel Plan will be posted on the company server to allow remote access.

c. The Daily Field Travel Plan will be completed daily by the field supervisor prior to departure for daily field operations. Copies of the Daily Field Travel Plan may be distributed to Team Leaders using digital photography.
d. In backcountry travel terrain and weather may delay aid and rescue for several days. A minor accident can have serious consequences due to time and exposure. Employees involved in backcountry travel must be prepared to stay in the backcountry for more days than initially planned.

3. Team work: Employees will employ the following team work standards for field work in urban, rural, and remote locations.
    a. We will use a double buddy system whenever possible. That is, when working in the field (either in developed, front country, or backcountry areas) we will work in groups of two teams of two individuals. In the double buddy system each team will work separately during the day, but return to the same location at the end of the work day.
    b. When working as a single team of two or solo, greater precaution must be exercised in communication of travel plans, analysis of hazards, cross-country routes, and estimated time of departure and arrival.
    c. Only individuals with extensive backcountry experience will be allowed to work solo, whether by motor vehicle, on-trail, or off-trail. Advanced authorization by the owner is required for any individual to work alone in the field.
4. Communication: Specific communication protocols for reporting location and health and safety status will be established for each project through the project JHA. For example, in grizzly bear country where extensive remote hiking is required to complete a lengthy field protocol (e.g., a forest inventory analysis plot), employees will report in at least four times a day: when leaving camp, upon arrival at the work site, upon departure from the work site, and upon arrival at camp. Employees working in the field will use the following minimum procedures to communicate their location and health and safety status:
    a. Field departure and arrival times are established in advanced. If, for any reason, the predetermined departure and arrival times are changed, the office is notified at the earliest opportunity.
    b. When working in a double buddy system (or larger group) in the front country (e.g. roaded areas with developed campgrounds), daily status and location communication will be maintained locally within the field group. Status and location will be reported for the group daily to the office by the lead field supervisor (typically by telephone).
    c. When working in a single team of two or solo in the front country, daily status and location is reported to the office at the end of the work day by mobile telephone or satellite communication device.
    d. When working in back country status and location will be reported to the office twice daily (beginning and end of the work day).
    e. Work teams will return to camp (and report in) one hour prior to sunset. If an individual or team has not reported in by this time, an emergency response will be initiated.

f. Failure to comply with this communication standard will result in the following disciplinary progression:
    i. Willful violation will result in immediate termination of employment.
    ii. Failure to observe in less egregious circumstances will result in the following disciplinary progression:
        1. Oral warning by the direct supervisor.
        2. Written warning and employment performance contract administrated by the owner and direct supervisor.
        3. Termination of employment.

5. Personal protective equipment: The following personal protective equipment (PPE) is required for all travel:
    a. PPE in the possession of each employee:
        i. First aid supplies
        ii. Map and compass
        iii. Matches or fire starter in weatherproof container
        iv. Water or water purifier
        v. Food for 1 to 3 days
        vi. Flashlight with extra batteries and bulb
        vii. Sun protection (sunglasses, hat, and sunscreen)
        viii. Emergency shelter
        ix. Appropriate clothing for climatic conditions
        x. Repair tools and supplies
    b. PPE in the possession of each field team
        i. GPS unit.
        ii. Two-way radio, cellular phone, or satellite communication device.
    c. PPE in bear country
        i. All employees must carry (this means on their person in a position ready for immediate deployment) bear spray in areas known or suspected to be occupied by grizzly bears (see also, sections I.5.g).
6. Safety Practices.
    a. Be aware of local conditions.
    b. Weather, road traffic, and trail conditions.
    c. Potential hazards, unusual activities, and animals that may be encountered.
    d. Choose campsites carefully. They should be free of:
        i. Snags and other overhead hazards.
        ii. Leaning green trees in unstable or saturated soils.
        iii. Danger from rolling rocks and slides.
        iv. Danger of flash flooding.
        v. Known animal problems.
    e. If disoriented due to dehydration or other causes:
        i. Keep calm. DON'T panic.
        ii. Contact the unit dispatcher for assistance.
        iii. Be aware that fatigue causes hallucinations.

iv. Do not walk aimlessly. Try to orient yourself. Trust your GPS receiver, map, and compass.

f. If lost:
    i. Contact the unit dispatcher for assistance.
    ii. Select a sheltered area, prepare a camp, and stay there. Conserve your strength.
    iii. Gather fuel for a warming fire BEFORE DARK.
    iv. Remember that warmth and liquids are more important than food.
    v. Put out visual markers if available.

7. Winter Travel. Employee winter travel shall be restricted to roadways regularly maintained by snow removal equipment. Employees shall carry a survival kit that includes items identified in the JHA and PPE appropriate for the conditions and hazards anticipated.
    a. Safety Practices for Travel in Avalanche Areas. Employees shall not travel in avalanche-prone locations. Avalanche hazards will be avoided through trip planning and travel route selection.
    b. Safety Practices for Travel on Ice. Employees shall not travel on frozen lakes and streams.

IV. WALKING AND HIKING SAFETY.

Slips, trips, and falls are the leading causes of field and office accidents and injuries.

1. Foot Care.
    a. Practice good hygiene. Ensure proper fit of footwear.
    b. Break in new footwear before work projects and activities. Effective foot care tips are:
        i. Change socks daily. Wear clean, quality socks for cushioning, wicking moisture, reducing friction, insulating against heat/cold, and providing general comfort. Socks should fit snugly to eliminate wrinkles and overlap. Avoid wearing socks with darns.
        ii. Treat tender spots with protective material if redness appears.
        iii. Wear protective rubber gloves when treating blisters. Clean area with antiseptic and cover with protective material.
2. Footwear. A JHA shall identify what type of footwear is appropriate for the specific work project or activity.
    a. Shoes with slip-resistant heels and soles with firm, flexible support are required.
    b. Hiking boots are required for trail and off-trail hiking.
3. Wildland Walking. Supervisors shall advise crews in the prevention of slips, trips, and falls. Discuss the importance of being physically fit as well as the need to practice these walking / falling techniques:
    a. Identify safe routes and local conditions.
    b. Use warm-up and stretching exercises. Stretching the calf muscles is particularly important to reduce the incidence of shin splints.
    c. Test and use secure footing. Walk, never run, down slopes.

d. The practice of *trail running* is generally prohibited, but may be authorized by a field supervisor in special circumstances.
e. Maintain a safe walking distance between people (10 feet or 3 meters minimum).
f. In heavy undergrowth, lift knees high to clear obstacles. Slow down and watch your step.
g. Always carry tools on the downhill side.
h. Know how to fall. Try to land in the least obstructed spot. Protect your head and back. Roll with the fall. Do not stick out your arms to break a fall.

4. Special Concerns. The following special concerns shall be addressed in the JHA.
    a. Weather: wind, lightning, and flash flooding.
    b. Health: giardiasis, insects, hypothermia, dehydration, sunburn, heat exhaustion/stroke, and fatigue.
    c. Safety: animal/human encounters, stream and river fords, hazardous trail conditions, snags, and hiking during hunting season.
5. Hiking On Snow. Travel on snow may be required at any time of the year. Latent snow cover is common in the mountains in early summer. Travel on snow during the summer field season presents special considerations that must be addressed in trip plans and project hazard analyses. See also section III.7.
    a. Personal protection equipment: Travel on snow during the summer field season may require PPE in addition to that required for general travel at the same time of the year (section III.5).
        i. Employees required to travel on snow for project activities will be trained in the use of specialized PPE for travel on snow, such as the use of an ice ax and self-arrest technique.
6. Climbing. Employees are prohibited from climbing on any surface or material (non-living or living) that would potentially result in a free-fall of six feet or more. Climbing that would potentially result in a free-fall of less than six feet should be avoided through route selection. See also, Section V.
7. Stream Crossings. Stream crossings may present a hazard of drowning. Potentially hazardous stream crossings should be identified in the project-level hazard analysis. Following are standard safety practices for crossing streams:
    a. If fording the stream is necessary, assess the crossing based on the rate of flow, water depth, visibility through the water, stream surface bottom, the length of the crossing, potential for changing conditions on return trip, and downstream hazards.
        i. Supervisors will train employees regarding technique for crossing streams.
        ii. If you cannot walk at the speed of a stick thrown into the stream or if the depth of the stream is above the shin, the stream is too hazardous to cross.
        iii. Be willing to turn around. Stream flows are often high in spring or after a storm. Field work activities may not be possible due to restricted access caused by stream crossings.

b. Do not cross a stream on a log (or other natural feature) that would potentially result in a free-fall of six feet or more.
c. Personal protective equipment. The JHA must consider the use of PPE for hazardous stream crossings that cannot be avoided by scheduling or route identification. PPE may consist of:
    i. Personal floatation device (PFD).
    ii. Purposefully prepared backpack.

V. MOUNTAINEERING
1. Nature's Capital project activities shall not require employees to engage in rock, snow, ice, mixed environment, or other types of climbing. These activities shall be avoided through project selection, project planning, and appropriate route finding.

VI. BICYCLE SAFETY.
1. Nature's Capital employees will not normally utilize a bicycle while working. Employees shall not ride bicycles on trails, urban streets, or any roadway with a posted speed limit greater than 30 miles per hour.
2. Hazard analysis: The field supervisor shall ensure that a JHA is prepared for all projects or activities using bicycles and that riders possess the skills required to operate bicycles safely under the conditions required by the project or activity.
3. Qualifications: Bicycle riders shall follow all applicable laws and shall be competent in operating procedures. Inexperienced riders shall be trained and be accompanied by a competent rider. Defensive driving rules for vehicles apply to bicyclists also.
4. Defensive Driving: Most bicycle fatalities involve a collision with a motor vehicle. Causes of bicycle/motor vehicle accidents include:
    a. Failure to yield the right-of-way.
    b. Not being seen by a motorist.
    c. Riding against traffic.
    d. Inattentiveness to traffic and surroundings.
5. Personal Protective Equipment.
    a. PPE required when riding bicycles includes:
        i. All PPE required for travel (III.5 above)
        ii. Helmet (ANSI Z90.1 standard, SNELL, or ASME approved).
        iii. Gloves and eye protection.
        iv. Rear-facing red reflector and/or red lamp on back of bicycle.
        v. Colorless or amber reflector in the spokes of the front wheel and an amber or red reflector in the spokes of the rear wheel.
        vi. Light that illuminates the road or trail 50 feet (15-1/4 m) ahead and is visible to on-coming traffic 500 feet (152-1/ 2 m) ahead.
        vii. Tool kit, including an extra tube, tire levers, tire pump, and pocket knife or multi-purpose tool.
        viii. Additional PPE identified by JHA.
6. Procedures. The field supervisor shall discuss the JHA and individual employee's operational capabilities/limitations. Topics for discussion include:
    a. Employee's physical fitness.

b. Training in bicycle operation and safety.
c. Bicycle maintenance.
d. Knowledge of local hazards.
e. Road etiquette.
f. Special concerns (see II.4 above).

7. Safety Practices.
    a. Etiquette.
        i. Ride defensively and be courteous.
        ii. Ride in control and in small groups.
        iii. Pass slowly and in single file.
        iv. Yield right-of-way:
            1. When meeting domestic riding livestock or pack animals on a roadway, dismount and stand to the lower side of the roadway.
            2. When approaching other road users from behind, call out a greeting and ask how best to proceed around them.

VII. MOTORIZED VEHICLES.

1. Policy:
    a. Employees shall not operate a motor vehicle while under the influence of alcohol and drugs nor while sick or suffering from excessive fatigue or emotional stress.
    b. Drivers must observe all State and local traffic regulations.
2. Responsibilities related to operating motor vehicles:
    a. Supervisors are responsible for observing drivers for vision, hearing, dexterity, or other physical limitations that might impair their ability to drive safely. Supervisors shall review driving abilities of new employees within 30 days of employment. The authorization for an employee to drive on official business must be reviewed and documented by the supervisor when the employee starts work; 30 days later; and on a subsequent 4-year interval.
    b. Drivers/operators have the responsibility to:
        i. Inform their supervisors of any physical, mental, or emotional condition that might impair their ability to safely drive a motorized vehicle or operate machinery.
        ii. Know and observe all State and local traffic regulations.
        iii. Drive safely while operating the vehicle within its mechanical limits.
        iv. Consider the needs of passengers with disabilities when traveling, such as accessibility and actions necessary in the event of vehicle fires or accidents.
3. Training: Defensive driving training is required for all Nature's Capital employees who drive company or private vehicles on official duty. Drivers must attend a National Safety Council or equivalent defensive driving course at least every 3 years.
4. Suspensions: Supervisors may recommend and management may suspend an employee's authorization to drive on official business for:
    a. Repeated disregard of safe driving practices.
    b. Personal deficiencies that make driving unsafe.

c. Abuse of a vehicle and/or equipment.
d. Unauthorized use of a company (or private) vehicle while on official duty.
e. Repeated violations of State driving regulations (such as speeding, reckless driving, and substance or alcohol abuse).
f. Involvement in a driving accident that displays negligence. After reviewing the initial accident report, management may suspend the employee's driving authorization pending final disposition of the case. Supervisors shall give the employee written notification of suspension (with appeal rights) and file a copy in the employee's official personnel folder.

5. Required Vehicle Equipment: Factory installed safety devices and equipment shall not be nullified, altered, or removed. Ensure that company (and private) vehicles are equipped with:
    a. Safety belts for all passengers.
    b. Warning markers or reflectors and flashlight.
    c. First aid kit. The standard first aid kit in company vehicles must contain two packets of the standard protective equipment (rubber gloves, face masks, eye protection, and CPR clear mouth barrier).
    d. Chock blocks.
    e. Tire chains.
    f. Window scraper.
    g. Fire extinguishers (A:B:C or B:C). If the vehicle is carrying flammables, one extinguisher rated 10B:C or more should be present.
6. Safety Practices. Vehicle operators shall comply with all traffic laws, regulations, or ordinances, even in emergency driving situations.
7. Work/Rest Guidelines. Vehicle operators must comply with these work/rest guidelines except for limited exceptions of emergency driving situations:
    a. Employees and contractors operating vehicles shall drive:
        i. Only if they have had at least 8 consecutive hours off duty before beginning a shift.
        ii. No more than 2 hours without a rest stop.
        iii. No more than 10 hours per shift. A shift must not exceed 16 hours, from beginning of shift to the end of shift including rest and meal stops.
8. Before Driving.
    a. Determine conditions in the area to be traveled and choose the appropriate vehicle and route. Verify directions to your destination, obtain a map for reference if possible.
    b. Check the owner's manual for instructions and location of tire changing equipment, headlights, wipers, heat, and air conditioning. If the vehicle has a computerized braking system designed to prevent wheel lockup, remember these points about automatic braking systems (ABS):
        i. ABS does not mean drivers can drive faster on snowy or icy roads.
        ii. In a two-wheel-drive vehicle or four-wheel-drive vehicle with ABS, maintain firm steady pressure on the brakes. Pumping or releasing the brakes negates ABS.

iii. ABS does not function in some four-wheel-drive vehicles when four-wheel-drive is engaged.
iv. Some vehicles, mostly pickups, have ABS on rear wheels only. Operate a vehicle so equipped the same as one without ABS. If the front wheels lockup, reduce brake pedal pressure to regain control.

c. Observe the "Circle of Safety" rule. Walk around the vehicle.
    i. Check the windshield, wipers, and wiper fluid level.
    ii. Scrape snow/ice from all windows.
    iii. Keep windows, mirrors, and lights clean to better see and be seen.
    iv. Check headlights, turn signals, and front tires (including wheels and lug nuts).
    v. Adjust mirrors.
    vi. Check taillights, reflectors, and rear tires (including wheels and lug nuts).
d. Check the brakes by pressing firmly on the foot pedal, check the steering for any looseness, and check the horn. Know the function and location of all controls.
e. Before moving a vehicle, turn on the defroster fan to dislodge any dust and debris.
f. If the vehicle uses an alternative fuel, such as methanol, ethanol, diesel, or propane, familiarize yourself with the refueling procedures. Know in advance where the next fueling station equipped with such fuel is located.
g. Do not fill a fuel tank beyond the normal shut off point and always allow for vapor expansion.
h. Secure all objects inside the cab and cargo area(s).
i. When work is performed on the wheel/tire/hub assembly (such as wheel bearings being packed), the operator should check for tightness after driving 50 to 100 miles (80 to 161 km).
j. Monitor vehicle performance when driving. Inspect a vehicle after use. Correct or report problems before a vehicle is used again.

9. While Driving.
    a. Always wear your safety belt(s). The vehicle operator shall ensure passengers also wear safety belts. If two types of restraint are available, use both.
    b. Honor the right-of-way of pedestrians.
    c. To prevent accidents, make concessions to other drivers who are thoughtless, unskilled, or ignorant of the hazards they create. Drive defensively and yield the right-of-way even when by all rules of the road it is yours.
    d. Be aware of traffic situations developing far ahead of the vehicle. Use the rearview mirrors often and keep your eyes moving to enlarge the "big picture."
    e. Drive to avoid accident situations created by the mistakes of others or by weather and road conditions.
    f. Do not compromise your safety, the safety of your passengers, or public safety when driving. The following are prohibited:
        i. Engaging in distracting conversation or activities.
        ii. Eating or drinking.
        iii. Using a two-way radio or a hand-held cellular telephone.

iv. Using radio/stereo headphones.
v. Taking prescription drugs that may cause dizziness or lack of concentration or reduce response time.
vi. Reading maps, instructions, or other material.
vii. Transporting pets. Transporting pets in company vehicles generally is not allowed. Transporting pets shall be addressed on a case-by-case basis and documented in the job hazard analysis.
viii. Keep well to the right side on narrow roads and blind curves. Be able to stop within less than half of the visible distance.
ix. Reduce speed when driving on wet, hard-surfaced roads. The front wheels may hydroplane and lose contact with the road surface.
x. Adjust the vehicle speed and select the proper gear before ascending or descending a hill and entering turns.
xi. Pull off the road for a break or to change drivers if you experience any of these warning signs:
    1. Vehicle begins to feel too warm.
    2. Drowsiness, especially after meals.
    3. Eye strain.
    4. Inattention or daydreaming.
    5. Hallucinations (for example, misinterpreting shadows, reflections, objects on or near road) resulting in an impulse to strongly control the vehicle.
    6. Impatience, irritability not normally experienced.
    7. Stress that results in anxiety, anger, or lack of concentration.
    8. Muscular tension, restlessness, or inability to get comfortable.
xii. Emergency Stopping.
    1. When it is safe to do so, move the vehicle to the shoulder of the road, away from traffic.
    2. Set the emergency brake.
    3. Activate four-way flashers.
    4. Keep alert to passing traffic.
    5. Exit the vehicle when traffic volume/flow presents undue hazards.
    6. Raise the hood.
    7. Display emergency reflectors, triangles, or other suitable warning devices.
xiii. If it is necessary to park or jack up a vehicle on a grade, follow these steps:
    1. Turn the wheels into bank or curb to avoid rolling.
    2. Shut off engine while your foot is on the service brake and then set the emergency brake. Put the transmission in the lowest gear that is the direction the vehicle would roll or into park for an automatic transmission.
    3. Block at least one wheel with chock blocks (or other suitable chock, such as a rock or log). Chocking two wheels is preferred.

xiv. Prevent carbon monoxide poisoning in a parked vehicle by partially opening a downwind window when running the engine for heat.

10. Driving on Limited Access Highways. When traveling on major divided highways designed for high-speed travel:
    a. Plan your trip in advance; know the route and the highway numbers. Adverse weather conditions or construction work may require an alternate route or extra time. Know where to exit. Have adequate fuel.
    b. Under ideal driving conditions, use the "2-second rule" in calculating following distance. Watch the vehicle ahead. When it passes a stationary point, such as a sign post or mileage marker, count "1 thousand 1, 1 thousand 2." This is 2 seconds. If you reach the same stationary point before you finish those words, you are following too closely. Always compensate for changing weather and road conditions by increasing your following distance.
11. Special Hazards of driving rural roads: Special hazards that drivers may encounter on rural roads (such as maintained on National Forest System Lands) include:
    a. Road Width. Roads with narrow driving surfaces, roads classified as single-lane with turnouts, and roads with few places to park or turn around.
    b. Grade. Varying grade; range is from 0 to 18 percent.
    c. Surface. A variety of road surfaces, including those that may be affected by weather.
    d. Sight Distance. Sight distance which may be limited by adverse weather, blind curves, foliage, dust, smoke, and ambient light.
    e. Other Road Users. Tourists, heavy equipment operators, motorcyclists, mountain bicyclists, and many other types of road users. Wildlife and domestic stock also may be encountered.
12. Defensive Driving Techniques.
    a. Drive slowly and use transmission gearing, engine compression, and gravity to slow the vehicle as it travels uphill. Conversely, use engine compression and gearing on downhill grades.
    b. Keep right. Drive as far to the right as possible without driving on the shoulder.
    c. Keep headlights, taillights, mirrors, and all windows clean and clear. When conditions limit visibility, slow down, and turn on your headlights.
    d. Always maintain control of the vehicle. For example, if unexpected wildlife or domestic livestock are encountered, slow down and try to avoid the animal. Generally, it is safer to hit the animal rather than to drive off the shoulder of the road or cross the centerline and risk a head-on collision.
    e. Parking.
        i. Select a location that allows a minimum of a 12 foot (4 m) width of unobstructed travel area and adequate sight distance in both directions.
        ii. Assess the intended parking area for soft material, holes, rocks, or other debris that could damage tires/ undercarriage.
        iii. When parking, position the vehicle for a forward departure. Avoid backing the vehicle, when possible.

iv. Shut off the engine, set emergency brake, and put transmission in gear or park.
v. Use chock blocks.

f. Methods for Backing. It is safer to do a backing maneuver when first parking rather than when returning to the vehicle. This allows the operator a complete and full view of the parking spot. It is better to park the vehicle (when possible) so the operator can drive forward and eliminate backing altogether.
    i. Never back up or make a U-turn on blind corners.
    ii. Before backing:
        1. Select a wide spot with a view that provides adequate sight distance in each direction.
        2. Always use a person to serve as a guide for backing when available.
        3. Walk around the vehicle and check for hazards and obstructions.
        4. Back the rear of the vehicle toward a cut bank.
        5. Use caution when backing on fill-sloped edges of roadways.
        6. Always face the danger.

g. Winter Driving.
    i. In the JHA, identify winter driving hazards on a site specific basis. Include precautions and techniques to abate hazards:
        1. Slow down and increase following distance.
        2. Do not use cruise control when roads might be slick. Cruise control can apply power at the wrong time and initiate a skid or make a small skid worse.
        3. Follow precautions in all vehicles, including all-wheel-drive vehicles and four-wheel-drive vehicles. Although all-wheel-drive vehicles and four-wheel-drive vehicles may provide better traction, they do not decrease the normal stopping distance.
    ii. List necessary equipment/supplies in the JHA. Such equipment/supplies might include jumper cables, snow shovel, winter survival gear, and abrasive material (cat litter, sand, salt, or traction mats).
    iii. Prior to winter driving season, conduct tailgate safety sessions to discuss safe winter driving practices, such as what to do in the event of a skid.

13. Transporting Flammable/Combustible Liquids. Flammable liquids have a flash point below 100 ^{o}F (38 ^{o}C). Combustible liquids have a flash point at or above 100 ^{o}F (38 ^{o}C). Ensure that a JHA has been written before transporting such liquids. The following is a brief summary of the guidelines:
    a. All employees who handle, transport, and use flammable / combustible liquids shall receive hazard communication standards training and be familiar with material safety data sheets.
    b. Passengers shall not ride in the enclosed cargo portion of a vehicle hauling flammable/combustible liquids. If it is absolutely necessary to carry flammable/combustible liquids, a minimum amount only of such cargo shall be secured in a rack on the roof.

c. Flammable/combustible liquids shall be carried in approved safety containers as defined by NFPA 30. Such containers shall comply with these requirements:
    i. Department of Transportation approved.
    ii. Clearly labeled to identify the contents.
    iii. No more than 90 percent full.
d. Containers for flammable/combustible liquids shall be:
    i. Free of leaks and other damage.
    ii. Treated as dangerous, even when empty.
    iii. Stored separate from items, such as human and animal food, to protect against contamination by accidental leakage.
    iv. Positioned upright and secured from movement in a cargo area separated from the passenger compartment by a solid wall, such as a pickup box.
    v. Never transported in the same cargo area with oxidizers, acids, or radio equipment.
e. Nonflammable chemical agents, such as oleoresin capsicum aerosols (pepper spray) used for deterring bear attacks, may be transported inside the passenger compartment. Inform passengers of the substance to be transported. Requirements for transporting such chemical agents are:
    i. An approved protective case or secured wrapping that will contain all atomized mist.
    ii. A safety device protecting the trigger mechanism from accidental discharge.
    iii. Storage away from direct sunlight or exposure to temperatures exceeding 120 ^{o}F (48 ^{o}C).

14. Battery Jump-Starting Safety. Take the following steps and precautions to jump-start a battery:
    a. Before Attaching Battery Cables.
        i. Make sure vehicles do not touch. Set both vehicles' emergency brakes, set automatic transmissions to PARK or manual transmissions to NEUTRAL. Turn the ignition OFF.
        ii. Do not jump-start unless both batteries are the same voltage.
        iii. Wear personal protective equipment/clothing (protective goggles, eyewear, and/or face protection, and gloves).
        iv. Extinguish all flammable materials. A spark can ignite hydrogen gas emitted from batteries.
        v. Remove the caps of the dead battery if the battery is not the maintenance-free type. Add battery water, if needed. REPLACE CAPS and cover with a damp cloth. Do not jump-start if fluid is frozen.
    b. Attaching Battery Cables.
        i. Clamp the positive (red) end of battery cable to the positive (+) terminal on the dead battery.
        ii. Clamp the positive (red) cable's loose end to the positive (+) terminal of the good battery.

iii. Clamp the negative (black) end of the battery cable to the negative (-) terminal of the good battery.
iv. Clamp the negative (black) cable's loose end to the disabled car's engine block or other suitable ground on the opposite side away from the dead battery.
v. Start the car with the good battery.
vi. Start the disabled car.
vii. Remove the negative (black) cable from the engine block (or ground) and the negative terminal of the good battery.
viii. Remove the positive (red) cables from the positive terminals.

15. Vehicle Fires. Rely on local fire departments that have the skills and equipment for rescuing occupants and extinguishing vehicle fires. When local assistance is not available, the first priority is safety of personnel.
    a. Procedures. Only trained employees with appropriate equipment shall engage in the suppression of vehicle fires. Do not attempt to take any action beyond your level of training. Secure the scene. Isolate the area and ensure the safety of people and the environment. Ask law enforcement personnel to provide traffic control to prevent accidents and interference with firefighting. When monitoring vehicle fires during non-suppression actions, stay up wind out of the smoke.
    b. Safety practices. If the vehicle you are riding in catches fire, follow these practices:
        i. Engine Compartment Fire Safety. Getting away from the fire is your first priority. If there is time:
            1. Park at a location that provides personal and public safety.
            2. Turn off the ignition.
            3. Set the emergency brake.
            4. Pull the hood latch — but don't raise the hood.
            5. Exit the vehicle.
            6. If a fire extinguisher is used, direct a quick burst through the radiator or fender well to reduce the fire and the chance of flash fire when the hood is raised.
        ii. Fire in Cargo/Hazardous Materials. Any substance may be encountered as cargo in a vehicle fire. Trucks are especially likely to contain materials that are volatile, toxic, gaseous, explosive, or flammable. If hazardous materials are encountered or suspected, the first priority is safety of personnel.
            1. Obtain and study the Department of Transportation (DOT) Emergency Response Guidebook (or equivalent) on hazardous materials.
            2. Maintain a current list of emergency phone numbers to call in experts on hazardous materials.

VIII. SPECIALIZED MOTORIZED EQUIPMENT

The provisions contained in sections VII.1 through VII.15 on motorized vehicles apply also to use of specialized equipment.

1. Four-Wheel-Drive Vehicles.
    a. Operation. Four-wheel-drive vehicles are designed to provide extra power and traction for traveling at a slow speed over rough or unusual terrain. When operating four-wheel-drive vehicles:
        i. Be familiar with the vehicle before using it for assigned field project work or other activities.
        ii. Know your limitations and that of the vehicle for all driving conditions.
        iii. Do not exceed the safe limits for driving speeds allowed by terrain and road conditions.
        iv. When chains are needed, put them on the rear tires or on all four tires.
2. All-Wheel-Drive Vehicles. Do not confuse all-wheel-drive vehicles with four-wheel-drive vehicles in relation to technical capabilities and driving limitations. All-wheel-drive vehicles have ground clearance and handling characteristics similar to standard sedans and vans. All-wheel-drive vehicles are not specifically designed for unimproved or off-road travel.
3. All-Terrain Vehicles, Motorcycles, Snow Machines, and Trailers. Nature's Capital does not currently own, nor carry insurance for, all-terrain vehicles (ATV's), motorcycles, or trailers. Until this situation changes, hazard analyses are completed, and health and safety standard practices are written, employees shall not use these types of equipment.

IX. AVIATION SAFETY.

Employees are prohibited from boarding any type of aircraft without prior authorization and specialized training.

X. WATERCRAFT SAFETY.

Nature's Capital does not own, nor has insurance coverage for, motorized watercraft. It is conceivable that the company will contract with a watercraft operator outfit to assist with project activities. If this is to occur, management will ensure that the operator is fully compliant with industry standard health and safety practices and appropriately licensed. Employees shall not utilize non-motorized watercraft (paddle watercraft) in project activities.

XI. FIELD CAMPS.

Nature's Capital staff have frequent need to camp in remote locations, at times, with limited services. These health and safety standard practices address these work situations.

1. When project activities require camping in the field, it is important to be well prepared.
    a. Talk to individuals who are familiar with the area. Study maps or aerial photos of the worksites and camp locations.
    b. Ensure that the team has reliable communications and a schedule for regular check in.

    c. Prepare a travel itinerary and time schedule for the return to the trailhead and the trip back.
2. Procure food items carefully: Avoid glassware; consider freeze-dried foods and other nonperishables; label everything; take along sealable plastic boxes, bottles, and bags for perishables; and purchase perishables just prior to departure.
3. Employees will be trained in the use of specific camp equipment, such as stoves, hand tools, and camp sanitation.
4. Take appropriate steps to address the following:
    a. Personal health needs.
    b. Disposal of waste material.
    c. Choice and layout of camp.
    d. Impact of weather and seasons.
    e. Natural hazards such as overhanging cliffs, areas subject to flash flooding, rock slides, tree snags, widow makers, tall grass, and low marshy areas.
    f. Adequate drainage. Choose campsites:
        i. Not within 200 feet (61 m) of swamps, pools, sink holes, or other surface water collection areas unless mosquito control is in effect.
        ii. Free of depressions that collect water.
    g. Sufficient space to prevent overcrowding.
    h. Food preparation areas and sleeping quarters located at least 500 feet (152-1/2 m) from livestock areas.
5. Cooking Operations. Employees should ensure that well-balanced meals are prepared. Choose a clean and reasonably flat spot for food preparation and cooking. Do not place cooking stoves inside tents. Use tarps for protection from the weather. Never use gasoline or camp stove fuel as a fire starter.
6. Meal Preparation and Serving. A wash area for cooks, complete with hot water, soap, and towels should be provided. Personal cleanliness of both food handlers and helpers is essential. Contamination under field conditions can quickly become a serious health threat. Cook all foods thoroughly to kill bacteria. Serve food hot. Keep the food serving area clean. Never serve food with your fingers.
7. Cooking Utensils. Keep utensils clean. Store utensils in closed contamination-free containers until used. Never set dirty pots or containers on the food preparation surface. Use tongs or gloves when handling hot pots.
8. Purification of Undeveloped Water Sources. All undeveloped water sources must be considered contaminated and unsafe for drinking water. For field situations, provide or obtain safe drinking water by:
    a. Hauling water from a source that complies with public water system standards.
    b. Using bottled water.
    c. Using a point-of-use device (water filter) that removes particles one micron or less in diameter that is labeled as certified by NSF International per NSF Standard 53 or labeled as an absolute one micrometer filter.
    d. Boiling as follows:
        i. Strain water through a clean cloth to remove sediment or floating matter.
        ii. Boil water vigorously for at least 3 to 5 minutes.

9. Camping in Bear Country. We will always use best camping practices to avoid conflict with wildlife. In bear country this requires special diligence with respect to the placement of food storage, cooking, and sleeping areas. All employees will know and implement best camping practices with respect to safe drinking water, waste disposal, bear, and fire safety. See also sections I.5.g and III.5.
    a. Never camp in an area that has obvious evidence of bear activity such as digging, tracks, or scat.
    b. Never spray "bear spray" on your tent or surrounding area. In testing, bears were attracted to items sprayed with "bear spray".
    c. Odors attract bears. Avoid carrying or cooking odorous foods. Keep a clean camp. Never cook or store food in your tent. All food, garbage, or other odorous items used for preparing or cooking food (including clothing) must be secured from bears. Treat all odorous products such as soap, deodorant, or other toiletries in the same manner as food. Do not leave packs containing food unattended, even for a few minutes. Allowing a bear to obtain human food even once often results in the bear becoming aggressive about obtaining such food in the future. Aggressive bears present a threat to human safety and eventually must be destroyed or relocated. Obey the law and do not allow bears or other wildlife to obtain human food.
    d. Minimum requirements for camp layout:
        i. Sleep a minimum of 100 yards (91 meters) from where you hang, cook, and eat your food. Keep your sleeping gear clean and free of food odor. Don't sleep in the same clothes worn while cooking and eating; hang clothing worn while cooking and eating in plastic bags.
        ii. Food bags must be hung a minimum of 10 feet from the ground and a minimum of 4 feet horizontally from any post or tree. Garbage must also be treated the same as all other food items, and suspended or secured in a bear proof container.
        iii. Deposit human waste at least 200 yards from camp.

XII. HANDTOOLS

Nature’s Capital employees use hand tools in a range of different field protocols. Following are health and safety standards for use of hand tools.

1. Supervisors have the responsibility to:
    a. Ensure that tools are not modified or used in any manner that increases the risk of injury.
    b. Ensure that tools remain in a safe condition through periodic inspection and repair. This includes tools furnished by employees.
    c. Monitor employee performance periodically to ensure proper methods are followed.
2. Supervisors shall ensure that employees are trained in the proper use and care of the hand tools required by the work project or activity. Only employees who have demonstrated their ability to handle a tool safely shall be permitted to work alone with that tool. Basic training may include:

a. Appropriate use of tools and personal protective equipment (PPE).
b. Operating limitations of tools.
c. Inspections.
d. Adjustments and maintenance (changing heads, bits, blades, handles).
e. Safety features.
f. Care and cleaning.
g. Other items included in the job hazard analysis (JHA).

3. Employees are responsible for using hand tools in the prescribed manner.
4. Safety Practices. Because hand tools seem easy to use, people often expect them to do more than they were designed to do and frequently use the wrong tool for the job. Using wrenches as hammers and hammers for striking wrenches when working with particularly stubborn nuts are two typical examples. Observe the following guidelines when selecting and using a tool:
    a. Select ergonomically designed tools (weight, size, and type) and consider buying several versions or sizes of the same tool. Use each tool only for the job it was designed to do.
    b. Keep jaw teeth, cutters, and blades sharp for better results. Sharp tools improve accuracy, lower fatigue, and lessen the risk of accident and injury. Inspect hand tools for distortion, cracks, chips, wear, or mushrooming.
    c. Keep all tools clean and in working order. Protect them against corrosion damage. Wipe off accumulated grease and dirt. Lubricate moving and adjustable parts to prevent wear and misalignment.
    d. Keep handles tight; secure them with wedges when necessary. Inspect wood handles for splitting, cracking, checking, warping, and slivers. Do not use a tool with a loose or damaged handle.
    e. Before using a tool near electricity, shut off the current in near-by circuits.
    f. In the presence of flammable materials or explosive dusts and vapors, use non-sparking tools. Do not expose tools to excessive heat or use urethane-coated tools in excessive temperatures.
    g. Never throw tools under any circumstances.
    h. 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.
    i. Never transport loose tools inside the same compartment with employees unless the vehicle is equipped with a protective screen, net, or secured stationary toolbox.
    j. Discard or repair damaged or abused tools promptly. Temporary and makeshift repairs are prohibited. If tools cannot be repaired on site, return them to the tool room for repairs or replacement. Separate tools needing repair from broken or worn out tools.
    k. Discard a tool instead of repairing it by welding or brazing.

XIII. HAZARDOUS MATERIALS.

Hazardous materials consist of a wide variety of substances that may be solid, liquid, or gas. Characteristically, they may be corrosive, explosive, flammable, radioactive, reactive, toxic, or a combination, and they require specific cautionary procedures to permit their safe use, transport, and storage. The unique properties of hazardous materials require that all employees who work with these materials have a general awareness of the dangers they present to life, safety, and health.

1. General Safety Requirements.
    a. Management will ensure that all employees involved in the use, storage, transportation, and disposal of hazardous materials receive specified training. At a minimum, this shall be general awareness training for handling hazardous materials and shall extend to function-specific, safety, and driver training, when warranted.
2. Personal Protective Equipment. Appropriate personal protective equipment (PPE) shall be provided and used to protect employees from exposure to chemicals. For specific information, refer to the material safety data sheet (MSDS) and specific product labels.
3. Procedures. The OSHA hazard communication standard requires chemical product manufacturers to provide labels with specific guidelines on its hazards, uses, PPE, and disposal techniques. Provide this information to employees by means of a written hazard communication program, MSDS, and training. Project JHA's shall address site-specific hazards associated with drug dumps, methamphetamine labs, and so forth, that employees may discover on work sites.
4. Safety Practices. A hazard communication training program provides information related to general awareness, hazard chemical inventory, and MSDS's.
    a. A hazardous chemical inventory shall be maintained and shall be readily accessible to all employees.
    b. Employees shall not handle hazardous chemicals that do not have an MSDS. An MSDS is required from the manufacturer/ supplier of each chemical used on site. MSDS's shall be readily accessible to employees at all times.
5. Research and identify the hazards and properties of chemicals before purchase. Order only enough of each chemical to meet current needs. Chemical-specific information shall be available through labels and the MSDS.
    a. Marking and Labeling. Hazardous materials will be labeled following the OSHA hazard communication standard (HCS).
6. Storage. Plan the storage area with personnel safety and health in mind, so that:
    a. All personnel know how to and are able to get out of the storage area in case of accident or fire.
    b. There are no obstructions preventing ready access to exits or to emergency equipment, such as fire extinguishers, safety showers, and eyewash stations.
    c. Emergency materials for dealing with spillages are readily available.
    d. Work area storage for excess chemicals is adequate.
    e. Employees know about the hazardous chemical inventory, where it is kept, who is responsible for maintaining it, and how they can add to the inventory.

7. Transportation. All containers (safety cans, drums, tanks, or tank trucks) used for transporting hazardous materials must be correctly labeled to ensure quick identification of the materials in an emergency. At an accident scene involving hazardous materials, exercise caution to prevent being injured and initiate measures without delay to protect life.
8. Disposal. Disposal of many hazardous waste products is controlled by the Environmental Protection Agency (EPA) and/or a State agency. To assure proper disposal procedures, the company will consult with these agencies.
    a. All disposal methods shall comply with Federal, State, and local laws and regulations. Never flush hazardous waste products into drains and sewers.
    b. Mercury spills or waste must be collected in a special receptacle and recycled.
    c. Containers previously used for toxic chemicals shall not be used for trash barrels, water storage tanks, or feed troughs.
9. Flammable Liquid and Gas – Camp Fuel and Liquefied Petroleum Gas. Flammable liquids are dangerous when they are in open containers, when they leak or spill, or when they are heated. Flammable gases generally present hazards similar to flammable liquids. Gases that mix with air burn rapidly and explode if there is an ignition source. Refer to MSDS's and NFPA 58 for additional specific information on storage and handling.
    a. Employees must comply with the safety standards identified by the MSDS.
        i. Liquefied Petroleum (LP) Gas.
            1. Use only with adequate ventilation.
            2. If a leak is detected (by the odor of the gas), extinguish flames, and close the gas cylinder valve.
            3. Replace or have repaired faulty tubing, connections, and appliances.
        ii. Camp Fuel.
            1. Use only with adequate ventilation.
            2. If a spill occurs, be aware that fuel vapor is heavier than air and that liquid fuel floats on water. Remove ignition sources.
            3. Replace or have repaired faulty appliances.
    b. Supervisors will ensure that employees are trained in the use of LP gas and camp fuel appliances.
    c. Store flammable liquid and gas containers outside in a well-ventilated area that is protected from physical damage. Store all fuel containers and gas bottles upright and restrained. Never drop tanks.
    d. Inspect containers for corrosion and damage at the beginning of each field season. Containers showing serious dents, bulging, gouging, or excessive corrosion shall be removed from service and destroyed.
    e. Use only DOT-approved containers. Clearly label tanks and containers to identify contents and capacity. Approved LP gas tanks have specifications stamped into tank body. Use only a container furnished by a distributor for bottled gas.
    f. Ensure that all gas containers are transported, stored, and secured with the safety valve protected by a ventilated cap or collar.

g. Inspect LP gas regulators periodically using recognized dealers and/or their maintenance personnel.
h. Tightly close the LP gas cylinder valve when the tank is not in use or when it is empty.
i. Never allow LP gas to contact skin or clothing.

XIV. INDEX

XV. HEALTH AND SAFETY FORMS

1. Health and Safety Inspection Checklist
2. Employee Emergency Information Data Sheet
3. Trip Travel Plan
4. Daily Travel Plan