

2.000 Safety

Safety is everyone's first priority. The closest we can come to such a guarantee is an attitude oriented towards thinking and acting safely. Rules, equipment, training, etc. are helpful, but they cannot guarantee safety. The most important thing is that you get home safely every day.

2.100 Everyday On Foot - Fieldwork is often dangerous. By far the greatest danger is on the highway but particular attention should be paid to:

- Avoid eye injuries caused by stubs and branches in brushy areas. Watch for "snapbacks" when following others. Safety glasses are available and will be carried in the field. They are to be worn when conditions warrant their use; or when there is any doubt as to whether or not they should be worn. Use caution when crossing streams, steep slopes, rocky areas, fallen trees and logging slash. Injuries that are a result of falls are a frequent problem.
- Use sharp tools with care. Keep some cushion between your flesh and sharp objects. Inspect ax handles and sheaths frequently.
- Watch for "widow makers" when working under tall, old and/or dead trees. Hard hats will help but they will not stop a $\frac{1}{2}$ ton limb. Wear hard hats on all field plots and utilization plots unless there are valid reasons for not doing so.
- Wear proper clothing and footgear. Feet will get wet. A second pair of boots will help avoid blisters and webbed feet. Tennis shoes are not suitable for fieldwork.
- Always make sure that another crew knows your general whereabouts. Radio / cell phone contact may not be possible. You should be able to determine which plot(s) you intend to visit each day. (This is also important if an emergency call comes for you.)
- Do not run - you will probably lose equipment, attract more insects, miss a chance to see wildlife, and worst of all, you risk injury.

**SHOULD A HEAD OR EYE INJURY OCCUR, THE EMPLOYEE WILL BE
REQUIRED TO EXPLAIN WHY HARD HATS OR PROTECTIVE GLASSES
WERE NOT WORN!**

2.200 Aircraft - During the performance of any official duty, including all travel status, only Forest Service approved aircraft and pilots may be used. Supervisors will have this information. This is a firm regulation - failure to obey it carries severe penalties.

2.300 Vehicles

- Vehicles owned or leased by the Forest Service can only be driven by physically fit employees who hold a valid state drivers license.
- Wear seat belts at all times.
- Observe all state laws.
- **DO NOT TRY TO DRIVE IN SITUATIONS WHERE YOU SHOULD BE WALKING.**
- Watch for logging trucks on private roads - they always have the right-of-way, and they use the full roadbed.
- If you become tired stop and rest - do not push it.
- Do not talk on cell phone while driving. Have passenger talk on phone. If no passenger, then pull over to use cell phone.
- The backing of vehicles is hazardous. When the view to the rear is impaired or obstructed in any way, either the driver or a passenger **must** leave the vehicle and check the area before backing the vehicle. When a passenger is available the driver should receive backing instructions from that individual. Nearly all backing accidents are avoidable.

ACCIDENTS INVOLVING THE BACKING OF VEHICLES WILL BE CONSIDERED ACTS OF NEGLIGENCE UNLESS THE DRIVER CAN SHOW EVIDENCE OF CIRCUMSTANCES BEYOND HIS/HER CONTROL. EVERYONE IN VEHICLE IS ACCOUNTABLE IN A BACK-UP ACCIDENT AND POTENTIALLY PERSONALLY LIABLE!!!

2.310 Winter Driving Safety Checklist - The following Winter Driving Checklist should be performed each winter on all vehicles owned or leased by the Forest Service.

- Click for [Winter Driving Check List](#).
- Winter Driving Website: <http://www.fema.gov/hazards/winterstorms/wntsft.shtm>

2.311 Hazardous Weather Early Dismissal Policy

- Click for [Hazardous Weather Early Dismissal Policy](#) (Draft)

2.400 Watercraft

- At least one person in all watercraft will have experience with that type of watercraft.
- Personal flotation devices (i.e., life preservers) will be available for and worn by every occupant of either boats or canoes.
- If you cannot swim, do not enter the watercraft.
- When using a canoe or small boat with a motor, maintain low speeds. Many lakes and streams are full of submerged hazards.

2.500 Firearms - It is forbidden to carry firearms while on project work or at the official duty station.

2.600 Office Safety & Health Orientation for Employees - The Forest Service considers safety as a vital part of every job. In fact, it is Forest Service policy that no job will be started unless it can be completed in a safe, effective manner. Every employee jointly shares the following safety responsibilities:

- To correct or report all unsafe conditions.
- To follow all safety instructions, practices, and procedures.
- To avoid horseplay.
- To keep work areas clean and free of hazards.
- To report all accidents.

However, we know from safety statistics that new employees tend to be more prone to accidents during their first few months on the job. We also know that a high frequency of these accidents occur in certain areas of Forest Service work.

In the following sections we have listed the areas where accidents are most likely to occur. Your review of this material will assist you in recognizing these areas. By following the suggestions outlined, you will greatly reduce the likelihood of having an accident happen to you or your fellow worker.

2.610 Clothing and Protective Equipment - As a new employee with the Forest Service, you will probably be working most of the time outdoors and in wooded areas. You will be exposed to changing weather, slippery surfaces, rough terrain, falling tree limbs, insect bites, and other elements of nature. For protection against these elements you will need some special clothing, such as:

- Nonskid Boots
- Snug-Fitting Clothing
- Cuffless, Snag-Proof, and Tear-Resistant Trousers
- Long-sleeved shirts
- Hard-hat
- Gloves
- Safety Glasses

Employees working in shops and around machinery in motion should wear snug-fitting clothing, such as coveralls, fastened from top to bottom, with sleeves snug at wrists or cut short, and safety boots. Neckties, gloves, rings, or ragged clothing are not to be worn when operating machinery.

You will be furnished with specific safety equipment where working conditions dictate the need. Some common hazards are cuts to the legs and feet from sharp hand tools, injuries to the eyes from dust and thick brush, irritation of the lungs and skin from chemical use, and skin irritations from poisonous plants.

Listed below are a few of the more frequently used protective equipment in woods work:

- Shin guards
- Chainsaw chaps

- Goggles
- Safety glasses
- Steel-toed boots
- Respirators, masks
- Hard-hats
- Gloves

You will normally be working with an employee who has received training in first aid. As a part of the crew's safety equipment, you will have a first-aid kit and will be able to treat most minor injuries on the job.

2.620 Vehicle Travel - Whether you will be a passenger or a driver of a Government vehicle, there are several basic vehicle safety requirements you should know. Listed below are some of these requirements:

- All drivers must have a valid state driver's license.
- Forest Service drivers are required to take the National Safety Council Defensive Driving Course or a refresher every 3 years.
- All drivers must adopt a policy of defensive driving. Motor vehicle accidents are a leading cause of deaths.
- Seatbelts and shoulder harnesses must be worn.
- Any object in the vehicle that is likely to shift and cause damage and/or injury must be securely tied down or separated from the passenger area.
- Every truck and pickup regularly used for transportation persons will have:
 - Guardrails to prevent falls.
 - Seats anchored to vehicle bed.
 - Steps or endgates for loading and unloading.
 - An exhaust system to prevent fumes from entering passenger
- Passengers must never ride on top of a load of supplies or tools.
- Passengers should not ride in the body of a truck hauling explosives and toxic or flammable substances. Gasoline in safety cans may be carried with passengers if put into toolboxes or fastened to prevent movement.
- Before a vehicle is moved, all passengers are to be seated and buckled into a seatbelt, with endgates in place.
- Passengers will ride only in the cab or body of a motor vehicle.

This means:

- Arms and legs inside of racks or ends of truck body.
- Everybody seated while vehicle is in motion.
- No riding on hood, fender, or running board with the exception of special vehicles, such as garbage trucks where steps and handholds are provided for workers during actual pickup operations.
- When running the motor of a parked vehicle to provide heat, open a window at least 6 inches to eliminate the possibility of carbon monoxide poisoning.
- While operating the vehicle, the driver should have no additional duties, such as reading a map or scouting the countryside or talking on a cell phone.
- Vehicles must be driven at a speed that permits full control of the car, allowing for all factors such as road, weather, and traffic conditions.
- Avoid overloading the front seat. Unless there is plenty of room to manipulate controls, no more than two passengers are to occupy the front seat.
- Vehicles must stop at all railroad crossings where clear view of right-of-way is restricted to less than 500 feet in each direction, or when a train is approaching within that distance. An exception to this is where a railroad watchman or automatic gate or signal device is provided.
- When any vehicle or engine is being fueled, the motor and radio must be turned off.
- Smoking is prohibited within 50 feet of the vehicle fuel supply.
- Radio transmitters must be turned off when passing a blasting area or explosive storage area whether required by signs or not.
- Drivers performing unsafe acts in a motor vehicle will be reported to their supervisor where immediate corrective action is to be taken. This includes the safe use of cellular telephones. **Drivers should not operate cellular telephones while the vehicle is in motion.**

(Sources of Forest Service vehicle safety requirements are located in the [Health and Safety Code Handbook](#).)

2.621 Road Reports Across the US

Traveling in-state or out-of-state? You can check out the road conditions for many states by calling these numbers.

Click for [Road Reports Phone Numbers and Websites](#)

2.625 Cell Phone Usage While Driving Government Owned or Leased Vehicles -

The recent ban of hand-held wireless phones while driving in New York State and pending legislation in at least 27 other states has received significant publicity in 2001. It is appropriate that the Federal government assume a leadership role in promoting the safe use of wireless telephones by its employees when they are engaged in official Government business.

1. Drivers should not operate cellular telephones while the vehicle is in motion.
 - a. Drivers should bring vehicle to a complete stop before using cellular telephones.

2. Passengers should answer all incoming calls while the vehicle is in motion.
 - a. If no passengers are present, pull off road in a safe area before answering incoming calls.

3. Are Federal Employees Exempt From Local or State Laws Prohibiting or Limiting the Use of Wireless Phones While Driving?
 - a. Generally, Federal employees are **not** exempt from state and local laws governing operation of a motor vehicle.

AN ACCIDENT INVOLVING THE USE OF CELLULAR TELEPHONES WHILE DRIVING GOVERNMENT OWNED OR LEASED VEHICLES WILL BE CONSIDERED AN ACT OF NEGLIGENCE UNLESS THE DRIVER CAN SHOW EVIDENCE OF CIRCUMSTANCES BEYOND HIS/HER CONTROL.

Note: Information for this section was taken from [GSA FMR Bulletin B-2](#) dated March 1, 2002.

2.630 Hand Tools - Listed below are a few pointers on the use of hand tools that will help you complete you job safely and efficiently.

1. **General Tool Safety** - Use the right tool for the job. Substitutes can damage equipment, and they can be dangerous.

- a. Keep tools in good condition. For safety's sake, check them over before you use them. If the heads on striking tools are mushroomed or burred, have them dressed. Replace splintered, broken, or loose handles before you use the tool. Store your tools properly and put them back when you're finished. That way you won't have to worry about them falling on you or tripping you or somebody else. You'll know where to find them when you need them, and there's less chance of damage.
- b. Carrying tools in your pocket - - especially sharp or pointed ones - - is dangerous. What if you trip or slip? Use a kit or tool belt.

2. **Chopping Tools** - Chopping tools include axes, adzes, brush hooks, hatchets, machetes, and Pulaski's.

- a. Select the right tool for the right job. See that it is in good condition (good handle and sharp).
- b. When walking, stay at least 6 feet away from your companions.
- c. Carry chopping tools by gripping the tool just below the head. Never carry a chopping tool over your shoulder.
- d. Protect the edge of the tool with a sheath when in transport, to prevent accidental cuts.
- e. Carry the tool in hand on the downhill side when walking on steep terrain.
- f. Never cut toward any part of your body or toward another worker.
- g. Keep ample distance between individual workers - - not less than 10 feet.
- h. Do not take chances, such as chopping from an unsafe body position.
- i. Do not apply excessive power to your chopping tool. Small brush can be cut through with one stroke. Bigger material (1-inch diameter and above) takes at least two strokes; first stroke to test the material and second to cut through it. Remember the tool must be stopped after it has gone through the material.
- j. When you **MUST (AND YOU DO IT ONLY WHEN YOU ABSOLUTELY MUST)** cut between your feet, spread them wide apart. Again, the tool may be deflected in unpredictable directions while going through the material, or may catch a hanging vine or twig. Preferably, move your body to enable you to cut to the side and away from any part of your body.
- k. When striking at dried out wood, be especially careful. It could be as hard as stone and may cause your tool to glance off and into your foot.
- l. When trimming limbs from a fallen tree trunk, stand on the opposite side of the limb.

- m. Do not strike your tool into the ground or into wood covered with dirt. The sharp cutting edge of your tool, which you spent so much time developing, will become dull immediately.
- n. Do not use an ax as a maul or as a wedge. Ax heads are not made for such use and will split or shatter at the eye if abused in this way.
- o. Be alert at all times. Try not to let your thought wander away from what you are doing. Instead, try always to anticipate dangerous situations. This will train your subconscious mind to warn you of danger in case your thought does drift to other subjects.

3. Cutting Tools

a. Bow Saws

- 1) When inserting a blade in a bow-saw frame, keep hands and fingers in the clear when the tension lever snaps into or against the saw frame.
- 2) When removing a bow-saw blade from the frame, stay clear of the blade.
- 3) Carry bow saw over the shoulder with blade to rear and guarded.

b. Drawknives

- 1) Cutting edge must be sharp and free of nicks, with handles in place.
- 2) Material being worked must be at working height, firmly anchored and held steady. Drawknife must not be used on material being braced by worker's knees.

c. Files

- 1) Equip files with handles and knuckle guards before using on cutting edge.
- 2) Wear a leather glove when using a file to sharpen cutting tools.
- 3) Discard a dull file or one with bent tang.
- 4) Keep file free of oil or grease. Discard files with hard spots.

d. Bars

- 1) Secure fulcrums and toeholds to avoid mashed fingers and toes.

- 2) When prying, grasp bar to place it, and then push with palms. Keep foot or other part of body out of line with bar.
- 3) When applying leverage, keep body out of danger in case the pry block, or lead should slip.
- 4) Lay bar flat and in the clear when not in use of the job, such as beside materials or at foot of a wall.
- 5) Discard bent or twisted bars.

e. Shovels

- 1) Shovel should be kept sharp.
- 2) Should not be used as a pry bar.
- 3) Legs should be used as fulcrum.
- 4) Before using, check handle for splits, cracks, and splinters. Discard it if defective.

f. Jake Staffs

- 1) Before using, check handle for splits, cracks, and splinters. Discard it if defective.
- 2) Should not be used as a pry bar.
- 3) Should not be used to beat back brush.
- 4) Should not be thrown where there is risk of deflection or near people, animals, equipment, or buildings.
- 5) Be cautious when sticking jake in ground.

2.640 Poisonous Plants, Insects & Snakes -

1. **Ivy, Oak, and Sumac** - Employees who are exposed to these hazards should have these plants identified by their work supervisor. Highly sensitive persons should not be exposed. When working in affected areas, employees should:
 - a. Fasten trouser legs closely over boot tops.
 - b. Wear gloves, and keep them away from face or exposed parts of the body.
 - c. After work, wash exposed parts thoroughly with thick soapsuds. Yellow laundry soap is best.

- d. Clean tools with cleaning solvent before putting them away.
- e. Wash exposed clothing in thick, hot suds separately from other clothes.
- f. Destroy poisonous plants around improvements, where practicable.
- g. Apply approved chemicals to kill plants.
- h. Burn only in isolated areas.
- i. Avoid contact with smoke; particularly avoid getting it in the eyes or inhaling it.

Immunization or application of body ointments or salves is recommended.

2. Lyme Disease

a. The Disease and the Tick

- 1) Lyme disease is an infection caused by a spirochete bacterium.
- 2) The spirochete is transmitted to people by the bite of a tiny tick, called *Ixodes dammini*.
- 3) *Ixodes dammini* is found on vegetation and animals in grassland, marshland, and woodland habitats.
- 4) The tick is most active and feeding from April through October however the most risk is from mid May to mid July.
- 5) Only nymphs and adult females transmit the disease.

b. Prevention

- 1) Avoid tick habitats whenever possible. Deer ticks prefer moist, humid days in leaf litter. They also prefer to be along trails and edge habitat and are not found more than a foot off the ground.
- 2) Walk in the center of the trail to avoid picking up ticks from the grass and brush.
- 3) Avoid sitting directly on the ground.
- 4) Wear long pants with cuffs tucked into socks to create a "tick barrier".
- 5) Light colored clothing will help you spot any ticks.
- 6) Use a good tick repellent on knee height down:
 - o Carefully use insect repellents and other chemicals on your body, clothes or property. Use repellents according to instructions on the container.

- Products containing permethrin - which are used on clothing - are especially recommended for people who will be spending an extended period of time in possible tick habitat.
 - Permethrin products are marketed under names like Permanone® and Duranon®, and are available in stores that sell camping and hunting supplies, or other outdoor gear
 - Permethrin kills ticks on contact and persist on clothes through several washings.
 - Standard DEET-based products are another option.
 - Use a product containing no more than 30 percent DEET for adults and no more than 10 percent for children
 - Follow the manufacturer's directions for all repellent applications
- 7) Brush off clothing and pets before entering the house.
- 8) Undress and check for ticks; they usually crawl about for several hours before burying their feeding tube into your skin.
- 9) Tick Removal
- Prompt tick removal is important. First of all, if you find a deer tick on you, another person or your pet, don't panic
 - If possible, use a pair of tweezers or specially designed tick forceps to grasp the tick by the head.
 - Grasp the tick close to the skin
 - Pull the tick outward slowly, gently and steadily
 - Do not squeeze the tick
 - Use an antiseptic on the bite.
 - Avoid folk remedies like Vaseline®, nail polish remover or burning matches - they are not a safe or effective way to remove ticks.

c. Diagnosis and Treatment

- 1) Check for any rash or red patch, especially one that slowly expands over several days. The red patch can get quite large (1-8") and it may be ring shaped.
- 2) Flu-like symptoms (low grade fever, chills, headache) often occur early in the disease.

- 3) Meningitis-like symptoms, such as stiff neck, difficulty in concentrating/remembering, and fatigue, can occur later in the disease.
- 4) The final stage of the disease (weeks to months later) involves pain, swelling, and elevated temperature of one or more joints.
- 5) If you have any symptoms not listed above following a tick bite, or just these symptoms lasting for several days, call your physician.
- 6) Lyme disease is treatable with antibiotics at any stage; the earlier it is diagnosed, the easier it is to treat.

d. Lyme Disease Websites (Need internet access)

- 1) Lyme Disease Map <http://www.cdc.gov/ncidod/dvbid/lyme/riskmap.htm>
- 2) Photos of Deer Ticks <http://www.cdc.gov/ncidod/dvbid/lyme/>

3. **Human Anaplasmosis Ticks** - Transmitted by the deer tick, the same tick which transmits Lyme Disease.

- a. For info on the deer tick and tick prevention see the previous section under Lyme Disease.
- b. Signs and Symptoms
 - 1) Fever (over 102°)
 - 2) Severe headache
 - 3) Muscle aches
 - 4) Chills and shaking
 - 5) In generally, it will feel as though you have been hit by a truck.
 - 6) Less frequent symptoms of human anaplasmosis include nausea, vomiting, loss of appetite, weight loss, abdominal pain, cough, diarrhea, aching joints and change in mental status.
- c. Diagnosis
 - 1) If human anaplasmosis is suspected, see your doctor immediately.
 - 2) Early diagnosis and treatment can reduce the time a person is ill and the severity of the disease.
- d. Treatment
 - 1) Human anaplasmosis is treated with antibiotics.

e. History

- 1) The disease human anaplasmosis (HA) was first recognized during 1993 in several patients from Minnesota and western Wisconsin; the disease was known as human granulocytic ehrlichiosis (HGE) at that time.
- 2) A human monocytic form of ehrlichiosis caused by *Ehrlichia chaffeensis* is found throughout much of southeastern and southcentral United States but does not appear to be an important vector-borne disease in Minnesota.
- 3) Human granulocytic ehrlichiosis (HGE) was renamed as human anaplasmosis in 2003

4. **Rocky Mountain Spotted Fever Ticks** - Workers exposed to dangerous infestations of Rocky Mountain spotted fever ticks should:

- a. Wear medium-high boots, and fasten trousers over boot tops.
- b. Avoid walking through low vegetation when possible.
- c. Inspect body and clothing twice a day when there is a possibility of exposure to ticks.
- d. At night, place clothing where ticks cannot get into them; and arrange bed so ticks cannot crawl into it. Do not lay field clothing on a bed.
- e. If a tick is found attached to the body, remove it immediately, being careful to avoid tearing it apart and leaving the head embedded. Before removing, cover the tick with heavy oil (mineral, cooking, or machine) to close its breathing pores. It may not disengage at once; if not, allow the oil to remain in place for half an hour. Then remove the tick with tweezers, making sure that all parts come away. Wash the area thoroughly with soap and water.
- f. Follow local recommendations concerning the taking of tick shots for protection against tick fever.
- g. To help prevent insect bites, spray clothing with insect repellent at cuffs, belt line, and collar.
- h. See a doctor immediately if in tick country and you have fever symptoms - - chill, followed by continued fever, severe headaches, pains in bones and muscles, and skin eruptions on the third day.

5. **Pajahuello Ticks** - Employees exposed to Pajahuello ticks or other tick bites should follow the same precautions as those for Rocky Mountain

spotted fever ticks. Treatment for Pajahuello tick bites consists of the following:

- a. Remove as much of tick's saliva as possible using suction cups or by mouth for 20 minutes. Avoid making incisions. Pajahuello tick-bite symptoms include a dark purple ring or eruption around the wound.
- b. Apply antiseptic and sterile dressing.
- c. Persons with pronounced allergic response may experience a systemic reaction requiring treatment for shock.
- d. Obtain medical treatment if irritation persists.

6. **Chiggers** - Employees exposed to chiggers should:

- a. Avoid sitting on the ground or on logs and avoid low vegetation when practicable.
- b. Apply powdered sulfur to legs and hands.
- c. Bathe in hot, soapy water.
- d. Use insect repellents such as dimethyl, pthalate, and indalone.

7. **Black-Widow Spiders and Scorpions** - In black-widow spider and scorpion areas, employees should:

- a. Wear work gloves.
- b. Turn them inside out after placing them on ground temporarily.
- c. Inspect material before handling.
- d. Be careful in outdoor toilets.
- e. If any bite shows rapid inflammation and pain, see doctor.

8. **Bees, Wasps, and Yellow Jackets**

a. Prevention

- 1) Employees who are known to be allergic to insect stings must obtain vaccine and/or allergy medication before going into the field and must carry with them in the field. The employee's coworker must know this information so that they can provide assistance, if necessary.
- 2) Wear long-sleeved, shirts with close-fitting collar and sleeves, wear trousers tucked in boots.

b. First Aid

- 1) Remove stinger if possible; cleanse sting site with soap and water or antiseptic solution.
- 2) Apply paste of baking soda and cold cream.
- 3) Cold applications will relieve pain and calamine lotion will relieve itching.
- 4) Take anti-allergy medication if reaction is severe.
- 5) If unusual reaction, apply constricting band above bite, apply cold packs, and rush to the doctor.

9. **Snakes**

a. Prevention

- 1) Wear high boots in poisonous-snake country.
- 2) Be observant around places obscured by foliage or otherwise when walking in rocky country or climbing ledges.
- 3) Use a bar for moving materials and timber that have been stacked or piled in snake areas. Do not put hands under any stored material where snakes might be present.

b. First Aid

- 1) If bitten, remain quiet and, if possible, avoid movement under your own power. If necessary to walk, move slowly with frequent rests.
- 2) Do not attempt to catch or kill snake. While species identification is helpful, do not risk another attack. One bite is better than two.
- 3) Carry a snakebite kit in poisonous-snake-infested areas. It should be used only if unable to get to a doctor or hospital within an hour.
- 4) In isolated areas, 2 hours or more from medical attention, telephone ahead to the nearest hospital or physician, so that anti-venom can quickly be made available. The administering of anti-venom can quickly be made available. The administering of anti-venom is not a first aid procedure; it requires preliminary testing of the victim for sensitivity to horse serum. Only a person with medical training should attempt to give the anti-venom.

10. West Nile Virus - Mosquitoes

a. Prevention - The easiest and best way to avoid WNV is to prevent mosquito bites.

- When you are outdoors, use insect repellents containing up to 30% DEET. (10% for children) Follow the directions on the package.
- Avoid outdoor activity at peak mosquito feeding times (dawn and dusk).
- Wear long sleeve shirts and pants.
- Eliminate water-holding containers (buckets, tires, etc.) from your property. This will reduce numbers of several mosquito species.
 - Bird baths should have their water changed every week to prevent mosquito breeding, and gutters should be checked to make sure they are not plugged.
 - Water-holding tree holes should be filled with dirt, sand, or a pliable insulation cement to prevent further mosquito breeding.

b. Symptoms - WNV affects the central nervous system. Symptoms vary.

- **No Symptoms in Most People.** Approximately 80 percent of people (about 4 out of 5) who are infected with WNV will not show any symptoms at all.
- **Milder Symptoms in Some People. (West Nile Fever)** Up to 20 percent of the people who become infected will display symptoms which can include a sudden onset of a high fever (>102 degrees), severe headache, nausea, vomiting, sore throat, backache, joint pain, prominent muscle aches and weakness, prolonged fatigue, rash (more commonly associated with West Nile fever than encephalitis), swollen lymph nodes. Symptoms can last for as short as a few days, though even healthy people have been sick for several weeks.
- **Serious Symptoms in a Few People. (West Nile Encephalitis)** About one in 150 people infected with WNV will develop severe illness. The severe symptoms can include high fever, headache, vomiting, neck stiffness, stupor, disorientation, sensitivity to light, altered reflexes, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis. These symptoms may last several weeks, and neurological effects may be permanent. The death rate among those showing symptoms of severe West Nile infection (encephalitis or meningitis) is around 10% and most severe cases are elderly people.

- c. Prevention - The easiest and best way to avoid WNV is to prevent mosquito bites.

11. LaCrosse Encephalitis - Mosquitos

a. The Disease and the Mosquito

- 1) In Minnesota we have approximately 50 species of mosquitoes. Not all mosquitoes feed on people, and the primary vector of LaCrosse encephalitis is the Eastern Tree Hole mosquito (*Ochlerotatus triseriatus*).
- 2) The Tree Hole mosquito is found almost exclusively in wooded or shaded areas, and usually does not fly more than 200 yards from the area where it was produced. It feeds during the day, unlike many of our pest mosquitoes that feed mostly at dusk and dawn.
- 3) Tree Hole mosquitoes reproduce in water-holding tree holes (pockets of rainwater that collect between the main trunks of trees with two or more trunks). They also reproduce in waste tires, buckets, cans, and any other container that can hold rainwater.
- 4) The female Tree Hole mosquito can pass LaCrosse encephalitis virus into her eggs. In this way, the virus is maintained in the same areas year after year. If large numbers of water-holding containers are present in an area where LaCrosse virus is also present, there may be significant numbers of infected mosquitoes by late summer. The highest risk of LaCrosse encephalitis is typically from mid-July through early September.

b. Prevention

- 1) See Prevention under West Nile Virus in previous section

c. Signs and Symptoms

- 1) Most people infected with this virus will have either no symptoms, or a mild flu-like illness.
- 2) A small percentage of people (especially children) may develop encephalitis (inflammation of the brain).

- 3) Most of the severe cases start with headache, fever, nausea, and lethargy. The illness may rapidly progress into disorientation, seizures, and coma
- 4) There is no treatment for the illness other than supportive care until the illness is over.

For more info on Tick and Mosquito Transmitted Diseases, visit the MN Dept of Health Website: <http://www.health.state.mn.us/diseases.html>

You can also call Dave Neitzel with the MN Dept of Health at 612-676-5414. (He is the person who gave the talk on Tick and Mosquito diseases at the St. Paul Crew Meeting on March 30, 2005.)

2.650 Weather

1. **Lightning** - Lightning storms can be severe in the high country. Storms can appear without notice, blowing in over the mountaintops. When lightning is imminent, don't take chances.
 - a. Avoid large or lone trees.
 - b. Get away from horses and livestock.
 - c. Avoid tops of ridges, hilltops, wide-open spaces, ledges, outcrops of rocks, and sheds or shelters in exposed locations.
 - d. If available, get inside a rubber-tired vehicle, such as a pickup truck.
 - e. Stay away from wire fences, metal pipes, rails, and other metallic paths that could carry lightning to you from some distance away.
 - f. Get away from open water. If you are in a boat, get to land and find shelter immediately.
 - g. If you feel your hair stand on end (which is an indication that lightning is about to strike), squat low to the ground on the balls of your feet. Place your hands over your ears and your head between your knees. Make yourself the smallest target possible and minimize your contact with the ground. **DO NOT** lie flat on the ground.

Lightning Facts

- a. Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.
- b. Lightning-strike victims carry no electrical charge and should be attended to immediately. If breathing has stopped, begin mouth-to-

- mouth resuscitation. If the heart has stopped, a trained person should administer CPR. If the victim has a pulse and is breathing, look for other possible injuries. Check for burns where the lightning entered and left the body. Be alert also for nervous system damage, broken bones, and loss of hearing or eyesight.
- c. "Heat lightning" is actually lightning from a thunderstorm too far away for thunder to be heard. However, the storm may be moving in your direction.
 - d. Most lightning deaths and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.
2. **High Winds** - Working in timbered areas during periods of high winds, or immediately after windstorms, can be very hazardous. If caught in the woods during a heavy windstorm, get into a natural opening large enough to give protection from falling trees and limbs, or find a sheltered draw. Stay away from wooded, marshy, and recently and partly cut areas.
3. **Tornados** - Every state is in at least some risk for this hazard.
- a. **Know the terms used to describe tornado threats:**
 - Tornado Watch - Tornadoes are possible. Remain alert for approaching storms. Listen to local radio and television outlets for updated reports.
 - Tornado Warning - A tornado has been sighted or indicated by weather radar. Take shelter immediately.
 - b. **What to do during a tornado watch:**
 - Listen to radio or television for latest information, or Contact Central Dispatch for latest weather conditions.
 - Be alert for approaching storms. If you see revolving funnel-shaped clouds, report them immediately by telephone to the State or County Police Department.
 - Watch for tornado danger signs:
 - Dark, often greenish sky
 - Large hail
 - A large, dark, low-lying cloud (particularly if rotating)
 - Loud roar, similar to a freight train
 - Be prepared to take shelter immediately.
 - c. **What to do during a tornado warning:**
 - Immediately move to the basement of the building.

- Put as many walls as possible between you and the outside. Get under a sturdy table and use arms to protect head and neck. Stay there until the danger has passed.
- Do not open windows.
- Stay away from windows, doors, and outside walls. Go to the center of the room. Stay away from corners, because they attract debris.
- Get out of vehicles immediately and go to the lowest floor of a sturdy nearby building or a storm shelter.
- If caught outside with no shelter, lie flat in a nearby ditch or depression and cover your head with your hands. Be aware of potential flooding. Do not get under a bridge or overpass. You are safer in a low, flat location.
- Never try to outrun a tornado in urban or congested areas in a car or truck; instead, leave the vehicle immediately for safe shelter. Tornadoes are erratic and move swiftly.
- Watch out for flying debris. Flying debris from tornadoes causes most fatalities and injuries.

4. Extreme Heat

- [Heat OSHA 3154](#)
- [Protecting Yourself in the Sun OSHA 3166-06R](#)
- [CDC Heat Guide](#)
- [Working Outdoors Fact Sheet OSHA](#)
- [FS Extreme Weather Policies](#)

2.660 Survival Tips - No one expects to get lost in the woods, but it can happen - even to an experienced person. Don't let it happen to you. Know your own physical limitations.

1. Travel

- a. Be observant. Watch the trail and remember your route. Note landmarks, streams, mountains, and the lay of the land.
- b. Keep track of time and weather.
- c. Be alert for loose rocks, ledges, and other hazards.
- d. Travel alone only if you are experienced. On the trail, keep your group together; don't let anyone lag behind.

e. Make camp before dark. Traveling in darkness or during a storm could lead to tragedy.

2. **Foot Travel** - Wearing the proper clothing for the job you are doing or the area in which you are working can make the difference between an enjoyable and miserable experience. The following common-sense suggestions will aid your choice of personal equipment for working:

a. Wear work boots. **Tennis shoes may not be worn.**

b. Select clothing and nonskid, laced boots suited to the country, climate, and the job; caulked boots for windfall country; rubber boots for snow; high-topped shoes for snake country. Wear cuffless trousers and gloves for all fieldwork. Socks changed daily may prevent infections.

c. Avoid traveling or working alone in isolated areas.

d. Proper equipment to carry when traveling in back country:

1) First-aid kit.

2) Snakebite kit, if in snake country.

3) Compass and map.

4) Matches, always in a waterproof container.

5) Pocketknife.

6) Belt ax.

7) Flashlight, where night travel is contemplated.

8) One day's supply of food.

e. Exercise judgment:

1) Choose safe travel routes and stream crossing.

2) Avoid traveling or camping in snag areas in windy weather. Choose campsites in areas free of unsound trees, limbs, and steep ground where rocks may roll.

3) Make sure of secure footing and safe working positions.

4) Do not run blindly if you hear a rolling rock, log, or tree. Determine the direction of fall, and then get out of the path.

5) Be sure other workers know where you are working.

6) Wear sunglasses or safety glasses in brushy country for eye protection.

- 7) Watch your step. Rocky slopes, especially slide rock and steep country, are treacherous. Have one hand free, preferably on the uphill side, for protection against falls or obstructions.
- 8) Walk - - do not run- - down slopes.

3. If You Do Get Lost

- a. Keep calm, don't panic, and do not walk aimlessly.
- b. Climb to where you can see the surrounding country to reorient yourself.
- c. Select a sheltered spot and prepare camp and firewood before dark.
- d. Follow a road, trail, or telephone line downhill; as a last resort, follow a stream or canyon downhill.
- e. If you cannot find your way, stay in one place, conserve your strength, and build a fire so that searchers can see smoke.

4. Keep Your Fire Safe

- a. Select a site on level ground sheltered from high wind, and away from heavy brush, logs, tree trunks, overhanging branches, and other fuel.
- b. Clear the ground down to mineral soil in a circle 10 feet across.
- c. Keep your fire small.
- d. Never leave your fire unattended.
- e. When you break camp, put your fire DEAD OUT. Drown it with water, stir the coals, and drown it again.

5. Shelter - Exposure to the elements is more dangerous than hunger and thirst. You may live more than a week without food, for 3 days without water, but for only a few hours in severe weather.

- a. Get out of the wind. Move from exposed ridges or open flats. Go to the lee (sheltered-from-the-wind) side of a mountain, behind trees, rocks, or other natural barriers.
- b. Find natural shelter in rock formations, caves, dense evergreen forest, or behind large logs. In winter, be sure that snow from overhead branches will not fall into your fire.
- c. If you cannot find a natural shelter, build a "lean-to" with poles and evergreen boughs stuck into the ground or snow.
- d. DO NOT camp in a gulch or ravine bottom- - a sudden storm could wash you out.

6. **Hypothermia** - Hypothermia is the rapid, progressive mental and physical collapse that occurs when a person's body is chilled to the core and body temperature drops to less than 90 degrees Fahrenheit. It is caused by exposure to cold, and it is aggravated by wet, wind, and exhaustion. It occurs most often when the temperature is between 30 and 50 degrees - - making it hard for people to accept its danger.

Cold kills in two distinct steps: (1) exposure and exhaustion and (2) hypothermia. Exposure occurs when your body begins to lose heat faster than it produces it. To compensate, you voluntarily exercise to stay warm, and your body makes involuntarily adjustments to preserve normal temperature in the vital organs. Both responses drain your energy reserves until they are exhausted.

- a. Symptoms - When your energy reserves are exhausted, lowered body temperature affects the brain, depriving you of judgment and reasoning power. You will not be aware this is happening. You will have uncontrollable fits of shivering; vague, slow, or slurred speech; memory lapse or incoherence; immobile, fumbling hands; frequent stumbling, lurching gait; drowsiness, apparent exhaustion, inability, to get up after a rest. This is hypothermia. Your internal temperature is sliding downward. Without treatment, this slide leads to stupor, collapse and death.
- b. Treatment - Treatment must be immediate and drastic. The victim may deny he or she is in trouble. Believe the symptoms, and not the victim. Get the victim out of the wind and rain and strip off all wet clothes. If he's or she's only mildly impaired, give the victim warm drinks and get the victim into dry clothes and a warm sleeping bag. If the victim is semi-conscious or worse, keep the victim awake and give the victim warm drinks. Leave him or her stripped and put him or her in a sleeping bag with another person, also stripped. If you have a double bag, put him or her between two warm donors. Skin to skin contact is the most effective treatment. Warm the person's trunk first. Use your own body heat to help. Arms and legs should be warmed last because stimulation of the limbs can drive cold blood toward the heart and lead to heart failure. Build a fire to warm the camp.

Never give a frostbite or hypothermia victim something with caffeine in it (like coffee or tea) or alcohol. Caffeine, a stimulant, can cause the heart to beat faster and hasten the effects the cold has on the body. Alcohol, a depressant, can slow the heart and also hasten the ill effects of cold body temperatures.

- c. Defense - The defense against hypothermia is to avoid exposure. Recognize hypothermia weather and dress for it. Stay dry and protected from the wind. If you cannot stay dry and warm under existing weather conditions with the clothes and equipment you have, get out of the weather. Build a fire and make camp - - while you still have a reserve of energy.

- 7. **Frost Bite** - Frostbite is a severe reaction to cold exposure that can permanently damage its victims. A loss of feeling and a white or pale appearance in fingers, toes, or nose and ear lobes are symptoms of frostbite

2.670 Smoking Policy - Smoking raises the level of carbon monoxide in your bloodstream, reducing the blood's oxygen-carrying capability by up to 40 percent. At high altitudes this can severely limit your stamina due to muscles robbed of needed oxygen. If you must smoke:

1. Stop and sit down. Don't smoke while riding or hiking.
2. Use a flat rock as your ashtray or dig down to mineral soil with your heel.
3. Crush your smoke DEAD OUT before you move on.
4. Don't leave unsightly filters behind. Pack them out.
5. In some locations, such as the St. Paul Office, the worksite is smoke free. However, if the field office is not smoke free, the following regulations are in effect:
 - a. Smoking is **prohibited** in all federally owned or leased buildings, offices and vehicles.
 - b. Smoking is **permitted** in nonfederal buildings and offices in designated areas only.
 - c. Administrative Services Section and Business Management Assistants are responsible for ordering and posting "no smoking" signs at their respective locations.

2.680 Miscellaneous

1. **Hazardous Materials** - There are many types of hazardous materials that you will encounter in your job with the Forest Service. The two most common categories are flammables (e.g., gasoline) and chemicals (e.g., pesticides). The basic rule you should practice in the use of hazardous materials is to know its qualities. You should know how and why it could harm you and/or others and what necessary actions you must take to protect yourself and/or others. Standard procedures must be followed in the use, storage, and disposal of the hazardous material and/or containers.

a. All employees must practice the following work procedures:

- 1) Smoking, open flames, or sparks must not be permitted within 50 feet of the place where flammables are stored or used.
- 2) Only Forest Service approved containers will be used for transporting and storing gasoline.
- 3) Gasoline must not be used as a cleaning agent or solvent.
- 4) All internal combustion engines must be stopped prior to refueling operations, and no smoking or open flames will be allowed within 50 feet of fueling operations.
- 5) Always use required equipment and clothing when applying pesticides.
- 6) Clothing worn during pesticide application must be washed daily.
- 7) Employees applying pesticide must shower at the end of each day of work to avoid skin irritations, etc.
- 8) Find out from your supervisor the specific requirements for storage and disposal of the pesticide container.
- 9) Report all pesticide accidents and incidents promptly to your supervisor.

2. Lifting

- a. Put one foot alongside the object, and one foot behind—bend your knees.
- b. Keep your back straight. That doesn't mean vertical—just straight.
- c. Get a good, firm grip with the palms of your hands. A finger grip is weaker and can slip.

- d. Draw the object close to you, and be sure your body weight is centered over your feet.
- e. Lift straight up by straightening your legs. This will put the strain on the stronger leg muscles, not your back.
- f. Avoid twisting as you turn with a load. Shift your feet instead. If you intend to lift and turn with a load, point the forward foot in the direction of movement before you lift.
- g. Don't try to lift something above waist level in one motion. Set the load down on a table or bench, and then change your grip for lifting higher.
- h. Putting the object down is easy, and it can be just as safe. Simply follow the lifting procedure—but in reverse.
- i. Be sure you have firm footing. Watch out for tripping or slipping hazards in your path.
- j. Be sure you can see where you're going no matter where you are—especially on stairs.
- k. Don't let a light load make you careless. A sudden move or twist can still cause you to pull a muscle—and that's painful no matter how you do it.
- l. Carry pipe, rail, lumber, or any other long object on your shoulder. Keep the front end high, so you don't whack someone who's not watching where he's going.
- m. When you hand an object to another person, be sure he has a good grip on it before you let go.
- n. If two or more carry a load, decide ahead of time how to handle it. Check your route for obstructions and slipping and tripping hazards.

3. **Laboratory Safety** - Reference Forest Service Health and Safety Code Handbook, Chapter 8. This is available in the Personnel Management Section and the Business Office located in the field offices.

4. **Office Safety** - When we think of accidents occurring in the Forest Service, most of us relate them to outdoor accidents. The truth of the matter is that there are nearly as many accidents occurring indoors. Offices are probably just as hazardous as the outdoors, but you have the advantage, in most cases, of controlling the hazard.

- a. The two most important things to do in an office environment are to practice good housekeeping habits and know where the fire extinguishers and escape routes are. The following requirements should also be practiced in an office environment:

- 1) Keep aisles, halls, and stairways clear of objects.
 - 2) Bottom drawers in file cabinets must carry heaviest loads. Have only one drawer open at a time.
 - 3) Close desk and file drawers, cabinet doors, and bookcase sliding doors when not in use.
 - 4) Materials should not be stored on top of file cases, cabinets, and bookcases.
 - 5) Place extension cords for electrical equipment and telephones where they are not tripping hazards.
 - 6) Ladders should be used (instead of makeshifts such as chairs and boxes) to reach top shelves.
 - 7) When sitting in chairs, keep all four legs of the chair on the floor.
5. **Use and Care of Personal Computers (PC)** - Terminals and printers have been designed to be as safe to operate as possible and comparable to other office equipment. Listed below are some do's and don'ts that will make PC equipment use easier, faster, and more enjoyable:
- a. Don't try to move, disconnect, or repair the terminals or printers. If applicable, contact your unit's Staff Information Manager(s) (SIMs) for assistance.
 - b. Don't cover the terminal with plastic or store paper on top. It needs good circulation of air to prevent overheating.
 - c. Do take a short break away from the PC and work on another project, which does not require the use of a video display if you use it for long periods of time. The National Institute for Occupational Safety & Health (NIOSH) recommends breaking for 10 minutes each hour to 15 minutes every two hours.
 - d. Do contact your unit's SIMs manager if you have any questions or concerns. He/she has access to a large amount of information about Data General equipment and ADP in general.
6. **"Horseplay"** - We sincerely hope that you will find your job both challenging and enjoyable. Having fun on the job is encouraged, but too often it is extended beyond what is constructive and other employees and production suffer. Experience has shown that horseplaying eventually results in an accident or fistfight.

⇒ ⇒ We hope you will use your mature judgment on the job when interacting with your co-workers. It is only fair to expect others to treat you as you treat them.

(NOTE: For additional information, Reference Forest Service Handbook (FSH: 6709.11) and the Health and Safety Code Handbook.)

2.700 Safety Certifications

The following are required every year for FIA fieldwork:

- 1) Defensive Driving
- 2) CPR
- 3) First Aid

To use the following modes of transportation, a course is required every three years, with a refresher every year: **You may NOT use one of these without your training up to date!**

- 1) Motor Boat
- 2) Canoe
- 3) ATV
- 4) Snowmobile
- 5) Trailer