

Safety Manual for People using the NCSU Forests

Procedure for Reporting Emergencies:

1. First, ascertain scene to determine if life-threatening circumstances exist. Determine whether or not you can effectively render aid (with proper PPE), or if immediately calling for help would be the best option.
2. Second, notify appropriate rescue, police, and University personnel.
 - Call 911
 - On campus and Schenck Forest, for non-emergencies notify Campus Police at 515-3000.
 - Provide appropriate information, including directions to your location.Or take the person to the nearest emergency room:
3. Make yourself visible to emergency personnel to provide guidance to responders about the location of the injured and answer questions.
4. Notify University personnel using the list below, starting at the top and working through it until you talk to someone.
5. Accident Report Forms
 - A Supervisor's First Report of Injury form must be completed for all emergency, non-emergency and near miss incidents.
 - Employee Statement Form
 - Form 19 and Leave Options form must be completed for non-emergency and emergency treatment that requires treatment at a clinic or hospital.
 - Supervisor's Medical Treatment Authorization Form
 - Post-Accident Checklist

All forms are available at <http://www.ncsu.edu/ehs/accident.htm> and sent to Environmental Health and Safety (Campus Box 8007).

If not life-threatening, students should go to Student Health Services if open. Otherwise:

Hill Forest	Durham Regional Hospital (919) 470-6137 Approx. 1 mile N of 85 interchange. 3643 N Roxboro RD Durham, NC 27704
Goodwin Forest	Central Carolina Hospital (919) 774-2394 1135 Carthage ST Sanford, NC 27330
Hosley Forest	Franklin Regional Medical Center (919) 496-5131 100 Hospital DR Louisburg, NC 27549
Hope Valley Forest	UNC Hospitals (919) 962-6637 101 Manning DR Chapel Hill, NC 27514
Schenck Forest	Rex Hospital (919) 784-3100 4420 Lake Boone TRL Raleigh, NC 27607

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All employees who work in the forest should fill out an information sheet that includes, at a minimum: name, address, phone number, cell phone number (if appropriate), who to contact in an emergency, and any known allergies or medical problems that forest personnel may need to know. This form will be kept on file in the Liaison Silviculturist's office, in the vehicles, and at the Hill Forest.

Phone List to notify of medical, fire, safety, and security emergencies on the school forests
(listed in order of contact):

Name	Title	Office Phone	Mobile Phone	Home Phone
Liz Snider	Forest Liaison Silviculturist	919-515-3988	304-777-9459	304-777-9459
Sam Cook	Executive Director of Forest Assets	919-515-5723		
Tom Gower	Department Head	919-515-3873		

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General Hazard Communication

Please note that this is a general list and may not cover all hazards encountered. One must use common sense when using the forest, stay aware of one's surroundings, and be alert for any potential hazard. What follows is a table of potential hazards and methods to deal with them:

Hazard	Description and Method to Deal with Hazard								
Bitten by Potentially Rabid Animals	<ol style="list-style-type: none"> 1. Immediately wash the wound with copious amounts of clean water to flush foreign bodies, and if possible, disinfect wound with a solution of 1 part povidone iodine: 9 parts water if this is available. 2. Contact Rex Hospital and arrange for medical examination and post exposure treatment if necessary 3. It is required that all potential exposures to rabies be relayed to the NC State veterinarian <div style="margin-left: 40px;"> DHHS - Veterinary Public Health 1912 Mail Service Center Raleigh, NC 27699-1912 8 AM -5:00 PM, M - F: 919.733.3419 After hours, weekends and holidays: 919.733.3410 </div> <p>Immediately notify the appropriate County Health Department. Numbers for other counties are available. For additional information, please contact:</p> <table border="1" style="margin-left: 40px; width: 60%;"> <thead> <tr> <th style="text-align: center;">Local County Health Dept</th> <th style="text-align: center;">Telephone Number</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Beaufort</td> <td style="text-align: center;">252.946.1902</td> </tr> <tr> <td style="text-align: center;">Durham</td> <td style="text-align: center;">919.560.7600</td> </tr> <tr> <td style="text-align: center;">Wake</td> <td style="text-align: center;">919.212.7000</td> </tr> </tbody> </table>	Local County Health Dept	Telephone Number	Beaufort	252.946.1902	Durham	919.560.7600	Wake	919.212.7000
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Insect and Arachnid Bites and Stings	<p>Use insect repellent according to label instructions. Wear long pants, and tuck them into your boots, or use duct tape to form a tight seal between boots and pant leg. If you know that you are allergic to insect bites, inform people you work with and carry appropriate medicine for the allergic reaction. Be especially careful in fall of the year when bees and yellow jackets are preparing for winter, as they tend to become very aggressive.</p> <p>It is common for people to experience <i>localized</i> reactions to stings and bites. The affected area may swell, redden, and itch. This should not cause alarm, as it is not life threatening. If symptoms and signs begin to arise such as hives, swelling or itching in other parts of the body, difficulty breathing, or any other reaction not local to the contact area, a <i>systemic</i> reaction is occurring which could become life threatening. Those people who know that they experience systemic reactions to such things as bees, wasps, etc. should carry an epinephrine injection kit (for immediate control) and a histamine blocker (such as Benedryl) with them that can be easily obtained. The “<i>epi</i>” will allow enough time for the Benedryl to enter the blood system (though more than one dose of “<i>epi</i>” may be needed), but transportation to a medical facility must also occur for a thorough check by appropriate medical authorities.</p>								

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<p>Snake Bites</p>	<p>Wear long pants and boots. If you will be working in an area with known snake populations, you may want to wear snake leggings.</p> <p>Never cut, suck, or apply a tourniquet to a snake bite. A large percentage of bites are “dry bites” which do not result in envenomation, so such treatments can cause more damage than the actual bite itself. The most common venomous snakes in NC (copperheads, rattlesnakes, cottonmouths) deliver hemotoxins (attacking the muscular and vascular tissues) which commonly cause localized reactions, but in some cases result in systemic reactions later (depending upon the level of toxin injected and the health of the bitten individual). Coral snakes deliver neurotoxins, which attack the nervous system – these are much more serious circumstances as they can result in permanent nerve damage. In either case, it is best to immobilize the affected area as best you can. Expect swelling, so remove all constricting objects (rings, boots, clothing). Immediately transport the person to the nearest medical facility for treatment, and if at all possible, bring any information on the snake available (DO NOT BRING A LIVE SNAKE!)</p>
<p>Vehicle Use</p>	<p>Normal vehicle use precautions need to be followed. During dry times that lead to dusty road conditions, slow down and turn on headlights. Be careful when navigating forest roads and be vigilant for hazards presented by holes, wash outs, wildlife, and downed trees. In general, one must proceed slowly on forest roads. If you become stuck, assess the situation, call for help, and proceed only if you may safely extract the vehicle. Do not attempt to move vehicle if there is a danger of the vehicle turning over or sliding down onto you.</p>
<p>Heavy Equipment Use</p>	<p>Follow safe use procedures for each piece of equipment. Each piece of equipment will have its own hazards and requires safety training. Wear appropriate Personal Protective Equipment. Do not use any equipment unless you have been trained in its safe use. If you are working in an area where equipment is working, always make sure that the operator knows your location. Only approach equipment from where an operator will be able to see you, and it is recommended that you wear highly visible clothing such as blaze orange, yellow, or white</p>
<p>Tripping and Falling</p>	<p>Be careful of your footing at all times. Make sure that someone knows where you are so that if you fail to report in, they will know where to start looking for you. Carry a radio, cellular phone, or a whistle so that if you fall or otherwise get incapacitated, you may sound the call for help.</p>
<p>Logging Hazards</p>	<p>Wear appropriate Personal Protective Equipment. Do not use any equipment unless you have been trained in its safe use. When you arrive on a logging site, make sure that the loggers know of your presence and your location. Wear appropriate, brightly colored clothing so that the equipment operators on the site easily see you.</p>

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Power Line Hazards	Always look for the presence of power lines before starting any work in the forest. Do not use any tool or piece of equipment that will conduct electricity near the power lines. Do not fell trees near power lines. Let power company employees or contractors remove problem trees. When problem trees are noticed, mark their location to prevent any operation that may place someone in danger by their proximity to the power line or tree.
Hand Tool Use	Wear appropriate Personal Protective Equipment. Do not use any hand tool unless you have been trained in its safe use.
Pesticide Use	Wear appropriate Personal Protective Equipment. Do not use any pesticide or spray equipment unless you have been trained in its safe use by licensed applicator. Always follow label requirements.
Fire Fighting (includes use of Prescribed Fire)	Wear appropriate Personal Protective Equipment. Always be aware of the fire location and have a secure escape route. When prescribed burning, follow burn boss' instructions and know location of all personnel so as not to set fire in such a manner that other people do not have an escape route. Always have a radio, or a "buddy" with a radio.
Poison Plants	Exposure to poison plants such as poison ivy and sumac are possible. Know the plants and avoid contact with them if possible. If you develop a reaction contact your doctor for treatment. The best treatment is to wash the affected area with copious amounts of clean cold water and a mild soap (which will breakdown the plant oils) as soon as possible. Limiting the use of clothing that has been in contact with poisonous plants will also lower the exposure to the oily resins, since some resins may remain viable on clothing for many months. Wash all affected clothing suspected of containing poisonous resins.
Weather	In times of heat, take frequent breaks, drink lots of fluids, and try to schedule times of work during early morning hours or late in the evening when temperatures are cooler. Know the signs of heat exhaustion and heat stroke and how to treat it. In times of cold, dress appropriately. Shivering is one of the first signs of mild hypothermia. The first step is to use more clothing as well as food and water to generate and capture more body heat, and get moving. If you remain cold, get out of the woods and into a warm environment. Know the signs of mild and severe hypothermia. In thunderstorm season, seek shelter (vehicle or building) from approaching storms. If caught by the storm seek open, but not high ground, squat down on your feet and wait for the storm to pass.

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Ergonomics and Safe Work Procedures

Try to work in your comfort zone: carry loads at chest height; do not carry too much; if it is a heavy load get help; use proper lifting techniques. Never lift above your head.

When walking in the woods always be aware of your footing and try to pick out the best path to proceed through the brush.

When sitting for long periods, adjust the chair to achieve proper body position to avoid fatigue and/or injury.

Using a ladder is a two-person job!

Check in/check out procedure: When you go to work in the forest, always check in with someone so that they will know where you or your group is at and approximately when you will finish. Proceed with your work and when finished, check with that person so that they will know you finished your work safely.

For the person who takes the check in, note where the people will be, what they will be doing, and when they anticipate finishing. If they do not check out in a reasonable amount of time, you should start to look for them and call the appropriate people on the reporting procedures phone list. Ideally, the check in person would be on the University staff or your organization's staff; however, it could be someone in your immediate family if they have phone numbers of forest personnel to call if you do not check out and they know where you are working.

Procedure for encountering a marijuana growing field, potential drug manufacturing lab, or other situation where harm may come from another person, or the possible presence of a dump of hazardous material: First, remove yourself and/or crew in as quiet and unobtrusive a manner as possible. In some drug manufacturing situations, the area may be booby trapped, so leave by the same path that you came in as quietly and carefully as possible. Once you are safely out of the area, contact the Piedmont Forest Staff as soon as possible. Do not go back into the area. Let the Piedmont Forest Staff handle the situation with the appropriate authorities.

Lock out/Tag out Procedures: If you must work on, or check out any situation where you may come to harm by someone activating a switch or a piece of equipment, the following procedure must be followed. This procedure must also be followed for equipment that needs repairs or is unsafe to operate. First, deactivate the system that could cause harm. Next, apply a tag, a label, or a lock that will prevent someone else from activating the system. Complete your operation and then remove the tag, label, or lock. Only the person who applied the tag, label, or lock may remove it.

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Personal Protective Equipment Chart

The following chart detail what type of personal protective equipment (PPE) is required depending on the activity your may conduct on the school forests. The activities are listed in the first column and the PPE are listed in the subsequent columns. In those columns you will find them blank, meaning the PPE is not required, an **O** meaning the PPE is optional but strongly encouraged, an **X** meaning the PPE *is required*.

Activity	Gloves	Long Sleeved Shirt	Hearing Protection	Steel Toed Boots	Chain-Saw Chaps	Snake Leggings	Eye Protection	Hardhat
Timber Cruising	O	O				O	X	X
Using Chainsaw	X		X	X	X		X	X
Boundary Line Maintenance	O	O				O	O	X
Mapping	O	O				O	O	X
Seedling Survival	O	O				O	O	X
Applying Pesticides	X	X	O				X	X
Clearing brush using hand tools	X					O	X	X
Using Grinder	X		X				X	
Operating Equipment	O	O	X	O			X	X
Fire Fighting or Prescribed Burning	X	O	O	O		O	X	X
Attending Forestry Labs where none of the above apply		O				O	O	O