

Safety Guide for Conducting Field Research in Haliburton Forest

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Approved by the Safety Committee of the Faculty of Forestry
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1.0 Introduction

The purpose of this guide is to provide you with an overview of your responsibilities when conducting field research in Haliburton forest, and to ensure that all research is conducted in the safest possible manner. This guide is one of three that all students, staff and faculty members of the U of T must read before conducting research in Haliburton:

- 1) U of T Occupational Health and Safety Guide for Supervisors
<http://www.utoronto.ca/safety/supgdgr.htm>
- 2) U of T Guidelines for Safety in Field Research
<http://www.utoronto.ca/safety/Policies/fieldres.htm>
- 3) Haliburton Safety Guide (this guide)
<http://www.forestry.utoronto.ca/safety.html>

You and your supervisor will be asked to sign two forms confirming that you understand and consent to all the responsibilities outlined in these three guides. You will also be asked to sign a research agreement that outlines your responsibilities toward Haliburton Forest. If you are going to conduct canopy research, you will also be asked to read and sign the forms contained in two additional guides:

- 4) Canopy Lift Safety Guide.
<http://www.forestry.utoronto.ca/safety.html>
- 5) Operator's manual for the Scanlift SL240
<http://www.forestry.utoronto.ca/safety.html>

2.0 Responsibilities

This section outlines the responsibilities of each person in the chain of command that has been established in compliance with the Guidelines for Safety in Field Research (guide #2 listed above). All persons are responsible for reporting any hazard and safety incident to their team leader and their academic supervisor. If you feel they have not, or will not take appropriate action, then you should report it to the Haliburton Safety Coordinator (Ian Kennedy). Most importantly, you should exercise your “right to refuse to unsafe work” if necessary (see guide #1).

Academic Supervisor. As outlined in the Guidelines for Safety in Field Research, the primary responsibility for compliance with all four safety guidelines listed above lies with the Academic Supervisor. The primary responsibilities include 1) approving the composition of the research team, 2) establishing a clear chain of command, 3) identifying safety risks particular to the team’s research, 4) ensuring that appropriate steps are taken to minimize those risks, 5) ensuring that each member of the team is aware of the risks and the procedures required to minimize the risks, 6) ensuring that each team member has signed the “Field Research Safety Planning Record” and the “Haliburton Safety Form”, 7) submitting these safety forms to the Dean’s office prior to conducting research, 8) ensuring that each student has completed the “Haliburton Forest Research Agreement” and submitted it to the Haliburton Forest Liaison, 9) submitting a list of drivers (including driver’s license numbers) to the office of risk management.

Team Leader. The team leader is responsible ensuring that safety procedures are followed by their team on a day-to-day basis. The primary responsibilities include: 1) implementing the safety procedures established by the academic supervisor, 2) conducting ongoing risk assessments and reporting any new hazards to the Academic Supervisor and the Haliburton Safety Coordinator, 3) resolving any immediate safety concerns that arise in the course of field work, 4) maintaining regular contact with the academic supervisor and the Haliburton Forest Liaison, 5) informing all higher-ups of safety incidents (including “near misses”) and concerns, including the Academic Supervisor, the Haliburton Safety Coordinator, and the Bone Lake Camp Coordinator, 6) reprimanding any Team Member who does not follow safety procedures (including unsafe driving), and 7) ensuring that there is a complete first aid kit in each vehicle.

Team Member. Each team member is responsible for 1) acknowledging the risks of their particular research project by signing the “Field Research Safety Planning Record” and the “Haliburton Safety Form”, 2) using the appropriate protective equipment provided and following the safety procedures outlined in the “Field Research Safety Planning Record” and the “Haliburton Safety Form”, 3) working safely and in a manner to prevent harm to himself/herself and others, 4) reporting hazards and safety incidents (including “near misses”) to their Team Leader and the Academic supervisor, and 5) following the safety rules that have been established for living in the Bone Lake Camp (see section X.0 below), and 6) ensuring that there is a complete first aid kit in their vehicle.

Bone Lake Camp Coordinator: The Bone Lake Camp Coordinator is responsible for 1) enforcing the Bone Lake safety rules, 2) posting all of the Bone Lake Camp safety rules in a conspicuous location, 3) ensuring that all short-term visitors read the Bone Lake Camp safety rules, 4) ensuring that all the facilities and equipment in the Bone Lake Camp are well maintained and operated in a safe manner (including communal field equipment), 5) restricting access to dangerous equipment (see section X.0 below) to those that have the express permission of the Haliburton Safety Coordinator, 6) maintaining regular contact with the Haliburton Safety Coordinator and the Haliburton Forest Liaison, 7) reporting hazards and safety incidents (including “near misses”) to the Haliburton Safety Coordinator, 8) posting copies of all the safety manuals next to the board in the main building, 9) posting the emergency phone numbers provided by the Haliburton Safety Coordinator on the board in the main building, 10) ensuring that each team posts their daily location on the board in the main building, 11) ensuring that the propane appliances are in good working order, 12) reprimanding anyone who does not follow the Bone Lake Camp safety rules (including unsafe driving), 13) ensuring that there is a working cell phone that remains in a designated location.

Haliburton Safety Coordinator: The Haliburton safety coordinator is a U of T employee who responsible for ensuring that every researcher (including Academic supervisors) has read the Haliburton Safety Guide and signed all the required safety forms, 2) establishing the chain of command and designating the Bone Lake Camp Coordinator, 3) ensuring that the chain of command remains operational throughout the field season (in particular, making sure the Bone Lake Camp coordinator does his/her job), 4) reporting any safety incidents (including “near misses”) to the head of the Faculty of Forestry safety committee, 5) reporting any safety incidents that involve Haliburton Forest staff or the public to the Haliburton Forest Liaison, 6) ensuring that safety concerns raised by any team member or the Liaison are resolved in a timely manner, 7) providing the Bone Lake Camp Coordinator and Academic Supervisors with emergency phone numbers, 8) maintaining regular contact with the Team Leaders, the Bone Lake Camp Coordinator, and the Haliburton Forest Liaison, and 9) reprimanding anyone who does not follow safety procedures (including unsafe driving).

Haliburton Forest Liaison: The Haliburton Forest Liaison is an employee of Haliburton Forest that is responsible for facilitating communication and cooperation between members of the U of T research community and the staff of Haliburton Forest. The Liaison is responsible for 1) alerting the Bone Lake Safety Coordinator of any safety concerns arising from logging activities or public events, and 2) helping to resolve any safety concerns raised by the Bone Lake Safety Coordinator and the Team Leaders, 3) reprimanding anyone who does not follow safety procedures (including unsafe driving).

3.0 Risks and safety procedures

Driving. Driving on the roads in and around Haliburton Forest carries certain inherent risks. Rough surfaces, periodic washouts, a variety of pedestrian and vehicular traffic combined with narrow rights-of-way, obstructions blown down in storms and on-coming logging traffic demand that drivers remain wary and cautious at all times. **Inside Haliburton Forest, a speed limit of 30km/hr is strictly enforced. The management reserves the right to revoke access to the Forest in response to any use of excessive driving speeds.** Note that the road around Kennisis Lake is particularly hazardous, and that it is a public road that is subject to provincial laws.

Even when using safe driving procedures, drivers can be caught unawares. Following a few “rules of the bush-road” can help avoid accidents.

- Ensure your vehicle is equipped with a spare, vehicle jack, tire iron and wheel chocks.
- Maintain safe speeds, even on straight-aways when the way appears clear. Deer or moose are known to frequent graveled roads and appear faster than a driver can react.
- While the roads are maintained regularly, the volume of traffic in Haliburton Forest sometimes creates washboard or other irregularities in the road surface. Reasonable speed, particularly on hills and curves, is the best defense against these. Avoid the shoulders of the roads in the spring and fall- periods of heavy precipitation will cause these to become soft.
- Know which routes are being used by logging traffic and if possible, avoid them. Logging trucks are not nearly as responsive as smaller vehicles and meeting one, particularly on a curve, often requires the smaller vehicle to yield. Occasionally this might mean reversing until the road becomes wide enough to accommodate both vehicles.
- There is no “off road” driving. Even if your vehicle is equipped with four wheel drive. If all terrain vehicle use is required on the trail system, permission for the designated route must be obtained by the Haliburton Forest representative prior to the undertaking. Extraction of a mired vehicle is often expensive and damaging to the natural environment. If you feel your research requires this type of access, discuss it with Haliburton Forest staff or the Haliburton Safety Coordinator.

In the case of an accident, contact 911 if personal injury is involved or if it is an otherwise serious accident. Get the officer’s name, badge number, police division

number, and police occurrence number. Do not admit liability. Obtain names, addresses and insurance information of the other driver/drivers and owner/owners of the car/cars involved in the accident. Obtain names and contact information of any witnesses. Get names and addresses of the injured people, and note kind of injuries. If the accident is minor in nature, visit the nearest Collision Reporting Centre to file an accident report. This should be done within 24 hours of the accident, especially in the case of a hit-and-run as the deductible may be waived in some cases. Notify the U of T Risk Management and Insurance Department insurance and claims administrator, Tanya Patina. Complete the Driver's Report of Accident form and send it to the Risk Management and Insurance Department:

Tanya Patina
Insurance and Claims Administrator
215 Huron Street, Room 300
Toronto, Ontario
M5S 1A2
Tel : 416-978-7484
Fax: 416-971-3061
E-mail: tanya.patina@utoronto.ca

Parking. Research in the forest seldom takes place from the seat of your vehicle. You will normally be required to park for the day. This simple task is made difficult by a lack of designated parking areas in the forest and an availability of many more hazardous parking places than safe ones. Parking in a poor location can be disastrous. Following a few rules will ensure your vehicle is safe while you are away.

- Whenever possible, make sure your vehicle is **completely** off the road. Look for wide shoulders, old log landings, or if necessary seek the permission of lessees to park off to the side of their sites.
- **Do not block right-of-ways.** Often that magic parking spot is a boat launch, a trailhead or entrance to a campsite.
- When it is necessary to park on the road, enormous care must be taken in selecting a location.
- **Never** park at the top of a hill or on a bend in the road: vehicles traveling from ahead or behind you will not have enough time to avoid your parked vehicle.
- Select a straight section of road wide enough to get at least 75% of your vehicle off the roadway. Ensure that you have **at least 15m** of clear road ahead and behind you.

Use of Dangerous Equipment. Working in the forest is an inherently dangerous activity but action can be taken to minimize the possibility of accidents. There is equipment at Bone Lake and in the field that can be extremely hazardous if not used properly. This includes chain saws (power saws), brush saws, power tools, electricity generators (power plants), propane appliances, flare guns, bear bangers, the canopy lift. **Do not use any equipment without first having proper training.** Field researchers who have had previous training or experience with these items must first discuss with and obtain permission from the Haliburton Safety Coordinator before using any equipment.

Remember that under no circumstances will equipment be used without the necessary related personal protective equipment.

Activities such as tree climbing, tree felling (or any use of a chain saw), the use of power boats, or conducting research in active logging areas will not be allowed without the permission from the Haliburton Safety Coordinator. Should the maintenance of equipment, preservation of specimens or any other research-related activities require the use of toxic substances, refer to section 10 on toxic substance in the U of T Occupational Health and Safety Guide for Supervisors.

Radios: Each team or individual must carry a radio with them in the field. One should operate the radio's on channel 3 when communicating with other U of T personnel in Haliburton. Channel 1 is dedicated for communication between staff of the Haliburton forest and wildlife reserve and as such should only be used in an emergency. Most importantly, radio's need electricity to work! Be sure to charge your radio at the end of the day. Also, the antenna's are prone to coming loose and so try to keep an eye on this. Finally, each morning before you leave Bone Lake, you should post your work location and planned return time on the board provided by the Bone Lake Camp Coordinator.

Working alone: working without a partner is allowed but is discouraged. Whenever possible it is safest to work with a partner in case of an injury or emergency. It is recognized that in some cases working alone is the only option. In order to reduce the risk of accident or injury one must be able to contact members of their team or a pre-determined emergency contact person in case of an emergency. Thus, there are short wave radios which must accompany individuals at all times (no exceptions).

Bears: First, some perspective on this issue - the odds of being attacked by a bear (i.e., physically attacked and not just bluff-charged) are very small indeed. In fact, your odds of being in an automobile accident are about 10,000 times greater than is a bear attack. On average, in all of North America, less than 2 people are killed each year by black bears. This does not mean that we can take a cavalier attitude, instead we will exercise caution. The following information will help in the remote instance that you are charged or possibly even attacked by a bear.

If you encounter a bear, back slowly away, and if threatened (for example bluff-charged) use noise makers or yell loudly. Note that during bluff charges the bear will usually snort, blow and may clack its teeth together. This is actually a good sign: the bear just wants you out of the area. Continue yelling and backing away slowly until you reach a vehicle (hold your hands in the air to make yourself larger). Stay out of the area for at least one hour following such an incident, especially if the bear was a female with cubs. In almost all cases the bear will leave the area following a bluff-charge. In very unusual cases, bears have been known to hunt humans. This behaviour is recognized by intent stalking. However, bears are not as noisy while stalking as they are during a bluff charge. This is a rare but extremely dangerous situation that requires you to try to not panic and to follow the following procedures: do not run away - the bear is much faster than you. Do not climb a tree except as a last resort - the bear is a good climber and could pull you out of the tree. Continuously, yell loudly, use your noise makers or flares,

and if the bear is close enough - use the spray. Back away in the direction that you want to go, while yelling at the bear, wave arms or a shirt to make yourself look large. It is important to think about the direction that you want to go; backing away further into the bush only increases the danger by prolonging the episode. In the very unlikely event that a bear actually attacks, fight as hard as you can, using whatever weapon is available, including large sticks.

Injury: Most field work in Haliburton will require you to traverse a wide variety of terrain. It is possible that one may injury oneself while doing so. This may be in the form of an ankle injury, cuts and bruises etc. It is therefore very important to always carry with you a fully stocked first aid kit so that you will have the necessary tools to respond to a situation.

Logging trucks and traffic: Driving conditions in Haliburton forest are atypical and as such one should be more cautious than usual. The Haliburton forest roads are not designed with the same safety margins as municipal roads; hence one should drive more carefully. Dangers include blind corners, large rocks protruding from the road surface, soft shoulders, washouts, and logging trucks. An accident between a logging truck and a vehicle is not a pretty site! Drive on the cautious side, obey the park speed limit, and make sure you are informed about where logging is occurring in the park, so that you can avoid trucks if possible.

Canopy Lift: The canopy lift is a complex piece of machinery and as such requires special training and knowledge in order for it to be operated safely. **Only those people who have permission can work in or around the lift.** Due to the complexity of safety issues surrounding the use of the canopy lift, it is treated as a special issue in the Lift Safety Guide.

4.0 Bone Lake Camp

Signage: Summaries of these safety rules and issues should be posted in conspicuous locations at the beginning of each field season so that residents are aware of potential safety issues and regulations.

Propane: The propane appliances should be inspected prior to every field season to ensure that they are in good working condition. Warning: propane appliances which are not functioning properly can emit deadly Carbon monoxide gas. If you run out of propane you can refill the tank in base camp. When transporting either the large (fridges, lights, stove) or small (BBQ) containers, ensure that they are not going to roll around in the back of the truck. Needless to say, you don't want a container to start leaking. When the large tanks run out and need to be changed, the pilots on the stove and underneath the two fridges will need to be re-lit.

Swimming: The dock is in shallow water! At most the water is five feet deep. This is not suitable for diving.

Boating: Any boat to be used on Bone Lake or on any lake in Haliburton Forest must be equipped as per the provincial regulations requirements for safety and licensing. Haliburton Forest also maintains a strict “10hp or less” requirement for motors and some lakes are deemed for no motorized traffic. Please check with the Haliburton Forest representative before heading out on a lake other than Bone Lake.

Camp fires: Please use the existing fire pit for all fires. No fire shall be lit without first being aware of the current “Fire Hazard” rating and the corresponding regulations for that rating in the Haliburton Forest area. Any fire is to never be left unattended at any time. The same rules for fires apply everywhere, put them out with some water when you go to sleep and keep them under control at all times. The extinguished coals are to be cool to the touch of your hand.

