

Title:	SCIENCE SAFE WORK PRACTICE #12: SAFETY MANAGEMENT WHILE CONDUCTING FIELD WORK
SWP document #	FSSC-SSWP-012-v1.0
Date of this revision:	2024-05-13

This Safe Work Practice is approved and maintained by the Faculty of Science Safety Committee. Please contact Leanne Lucas, Safety Advisor–Science Activities, with any questions or concerns (leanne.lucas@smu.ca)

1. PURPOSE

To provide insight, instruction, and procedures for conducting safe off-campus field work (See Section 3. TERMS AND DEFINITIONS), and to help evaluate and mitigate safety risks through education, planning, and reporting.

2. SCOPE

- 2.1.** Enforcement of these instructions is the responsibility of the faculty member carrying out the field work. Faculty are responsible for ensuring that students know about and follow these instructions. Ensuring that faculty members know about this instruction is the responsibility of the Dean of Science and the Safety Advisor, Science Activities. Ensuring that faculty members follow this instruction is the responsibility of the Dean of Science. Each individual is ultimately responsible for their own safety in the field.
- 2.2.** These instructions **apply to all** undergraduate/graduate students as well as research assistants and faculty members conducting courses and/or research in the field.
- 2.3.** Departments and faculty members will tailor their own unique field safety training based on this document.
- 2.4.** Please follow local laws and regulations for the jurisdiction in which you are travelling and working.

3. TERMS AND DEFINITIONS

- 3.1.** “Field work” is any academic activity conducted outside the research or teaching laboratory or classroom. This includes short duration, single day trips, to longer periods of time spanning days to weeks requiring over-night lodging.

- 3.2. “Wildlife”, for the purposes of this document, refers to all non-domesticated biota capable of independent movement.
- 3.3. “Watercraft” are all powered and unpowered vessels used to traverse water bodies.
- 3.4. “Isolated Workplace”. A workplace is considered to be isolated if at any time during the duration of a worker’s time at the location:
- 3.4.1. the surface travel time under normal circumstances to transport an injured employee from the workplace to a hospital or emergency care facility takes more than 40 minutes, or
 - 3.4.2. the time required under normal circumstances for EHS to arrive at the workplace takes more than 40 minutes.
 - 3.4.3. Isolated workplaces may need a written isolated workplace first aid plan. Please refer to sections 4.18 and 4.19 of the Workplace Health and Safety Regulations – First Aid (See Reference 8.8) for more information.

4. HEALTH, SAFETY AND ENVIRONMENTAL CONSIDERATIONS

- 4.1. The health and safety of persons conducting field work is primarily affected by the surrounding physical environment.
- 4.1.1. **Temperature** can be a safety hazard for individuals improperly attired or ill-prepared.
 - 4.1.1.1. **Hypothermia** (symptoms: lagging behind, stumbling, slurring of speech) can affect ill-prepared individuals. If it occurs, take shelter, get warm, and **do not** use alcohol.
 - 4.1.1.2. In warmer weather, **heat stroke** can be a potential hazard (symptoms: headache, nausea, flushed skin, changes in breathing and mental state). Ensure you wear a hat, have appropriate clothing, use sunscreen, seek shade, and drink plenty of water. Please refer to the Saint Mary’s University Heat Stress Guidelines <https://www.smu.ca/about/heat-stress-guidelines.html>.
 - 4.1.2. **Terrain** can also pose a hazard to unprepared persons. Use caution around cliffs, slopes and tidal sections that can be isolated and fallen, as well as falling rocks, mines, and quarries. In the aquatic environment, use caution around currents, slippery rocks, and high seas. Dress appropriately for the conditions. Ensure you are extremely well informed of the hazards associated with the fieldwork location prior to arriving.
 - 4.1.3. **Plants and Animals** can inflict injuries by teeth, claws, stings, toxins/venom, and allergens. Some general guidance:
 - 4.1.3.1. Use appropriate protective and safety equipment when handling wildlife.
 - 4.1.3.2. If the field work does not involve wildlife, avoid contact. Familiarize yourself with any potential wildlife hazard inherent to the fieldwork site.
 - 4.1.3.3. Use insect repellents or protective clothing when working in areas with a high incidence of insect-vectoring disease and to avoid any potential allergic reaction to insect bites/stings (which may only be problematic when bite/stung multiple times).
 - 4.1.3.4. Domesticated animals can often be unpredictable. Use common sense and avoid contact with pets and farm animals.

- 4.1.3.5. Some plants are toxic on contact or when ingested. Use appropriate protective clothing when casual contact may occur or when working with such plants. Do not ingest anything from the field unless verified safe by an authority.
- 4.1.3.6. Water can be contaminated with toxic compounds or biological agents. Some plants and mushrooms can be lethal when ingested. Carry necessary food and water.
- 4.1.3.7. **The Nova Scotia Department of Natural Resources advises to contact the local DNR office and notify them where you will be working. They will advise of any known hazards, including problem wildlife. Be aware of your surroundings, travel in pairs, and make noise while you are travelling. If eating, do not discard any food scraps which can attract animals. If you meet potentially dangerous wildlife (coyotes, wolves, bears, moose, etc.), do not feed, touch, or photograph the animal from close distances and remove yourself from the area by slowly backing away while remaining calm. Do not turn and run because this may initiate a predatory response. Use personal alarm devices to frighten or threaten the animal and encourage the animal to leave by providing an escape route. If an animal exhibits aggressive behavior, then be larger and noisier by throwing sticks and rocks.**
- 4.2. Transportation to and from the field site is often accomplished by automobile. Exercise diligence and obey all highway safety regulations when operating a vehicle. For additional information, please refer to the Saint Mary's University Vehicle Rentals and Insurance Coverage – Frequently Asked Questions section of the Financial Services Department website: <http://smu-web5.smu.ca/pages/webfiles/FAQs-VehicleRentalInsuranceCoverage.pdf>. Saint Mary's University liability insurance does not include coverage for helicopters and short-distance aircraft, and should be purchased individually, if required. Please contact the SMU Risk Manager for confirmation and guidance.
- 4.2.1. Off-road vehicles can be extremely dangerous to operate. Always wear approved safety equipment and exercise due care when using off-road motorized vehicles in the field. Ensure that any required training and registration is completed, as required. <https://novascotia.ca/natr/ohv/>
- 4.2.2. Ensure all mandatory safety equipment is on board and worn where appropriate (i.e. life jackets) when using watercraft. Please see Part 3 Section 14 of the Occupational Health and Safety General Regulations for more information: https://novascotia.ca/just/regulations/regs/ohsgensf.htm#TOC1_3
- 4.2.3. Ensure air travel by helicopter or short-distance aircraft have appropriate safety equipment available.
- 4.3. Field equipment can pose safety hazards. Use the equipment only for its intended purpose and ensure that all involved individuals have adequate training. Field equipment must be maintained in serviceable condition.
- 4.4. Ensure that you do not become lost. Stay on established trails, use appropriate direction finding devices and/or maps, or employ an experienced guide. Share details about the planned work including departure and return dates, vehicle make/ model/ colour/ license plate number, etc. with an emergency contact person prior to departure.

- 4.5. Alcohol and drug consumption is not allowed. Please see the Saint Mary's University Student Responsible Use of Cannabis Policy https://www.smu.ca/webfiles/6-2018_StudentCannabisPolicy.pdf, Saint Mary's University Responsible Use of Alcohol Policy https://www.smu.ca/webfiles/5-1003_Liquor.pdf, and the Saint Mary's University Drug and Alcohol Policy https://www.smu.ca/webfiles/6-2017_SaintMarysDrugAndAlcohol.pdf.
- 4.6. Pay particular attention to time and location when planning field work so that hazardous situations due to human activities (e.g. fieldwork in tidal zones, hunting season) can be avoided.
- 4.7. Conducting field work at a time and place frequented by hunters or all-terrain vehicles should be avoided.
- 4.8. Safe lifting practices are important to protect your health. Please review the CCOHS safe lifting video <https://www.youtube.com/watch?v=qP5nyfTDbfE> and Manual Materials Handling <https://www.ccohs.ca/oshanswers/ergonomics/mmh/generalpractice.html> for guidance. Depending on the nature of the work being performed, additional resources on safe lifting procedures are available from CCOHS.
- 4.9. Your personal safety and security are important. Please be aware of your surroundings and travel in pairs or with your group, where possible. Avoid frequenting remote locations alone. In case of an incident, see resources available from the Counselling Centre <https://www.smu.ca/student-life/counselling-centre-resources.html>. See the Saint Mary's University Sexual Violence and Harassment Policy https://www.smu.ca/webfiles/2-2025_SexualViolenceHarassment.pdf.

5. EQUIPMENT AND SUPPLIES

- 5.1. The primary article of safety equipment in the field is appropriate clothing. Sturdy boots with non-slip soles are ideal because they provide maximum ankle support and foot protection. Dress warmly, including hat, gloves, and windproof jacket (except in summer) and carry waterproof clothing. Adequate clothing is particularly important to increase the chances of a positive outcome should there be an accident (e.g. dressing appropriately in case one gets lost, wearing non-slip boots to prevent slips and falls in inclement weather or on loose terrain, etc.).
 - 5.1.1. Under some conditions rubber boots, waders or durable shoes are ideal. Some locations (e.g. drill core facilities) require steel-toed boots to be worn. Ensure that you are aware of any footwear requirements.
 - 5.1.2. Wear a "hunter orange" hat and/or jacket and/or high-visibility vests when conducting field work in the forest during hunting season. See <http://www.gov.ns.ca/NATR/hunt/regulations/> for Nova Scotia hunting regulations or look up regulations for the appropriate jurisdiction.
 - 5.1.3. An approved first aid kit complying with the Nova Scotia Occupational Health and Safety Act (https://www.novascotia.ca/just/regulations/regs/ohsworkplace.htm#TOC1_4) should be available in the field. In the case of persons who are unsure of their response

to common allergens (bee stings, tree nuts, etc.), the first aid kit accompanying them into the field should include an epinephrine auto injector (EpiPen or similar).

- 5.1.4. Required and preventative medications should be carried in the field. Individuals with severe allergies to agents potentially encountered in the field should carry appropriate medication, as well as persons requiring medication at specific times. Individuals should inform the team supervisor about severe allergies, and the individual's team should be trained on how to apply the medication (e.g. EpiPens).
- 5.2.** Field work often requires specific permits, licenses, certifications, and permissions. Ensure that these are in order for the particular work at hand and maintain copies or originals should authorities request to see them in the field.
 - 5.2.1. A driver's license should be carried in the field if one is driving an automobile.
 - 5.2.2. Additional certifications and licenses may be required for those completing field work (i.e. scuba diving certification, firearms licence, etc.). These will be determined by the field work supervisor. See *Scope*, #3.
 - 5.2.3. Written permission should be secured and documented (e.g. email, text, etc.) from private land-owners before using their property.
- 5.3.** The on-site supervisor of the field work must have intermediate first aid training certification for those injuries that could be sustained from climbing/falling, wilderness first aid certification may be obtained if deemed necessary. It is highly recommended that all other individuals participating in field work at least have intermediate first aid training. Consult a certified Nova Scotia-based first aid provider for training.
- 5.4.** An approved flotation device must be worn when using watercraft as well as when conducting field work in, on, and over water. Ensure the flotation device is recommended for the task (e.g. self-inflating PFDs are not recommended for wading). Please see Part 3 Section 14 of the Occupational Health and Safety General Regulations for more information on recommended personal protective equipment: https://novascotia.ca/just/regulations/regs/ohgensf.htm#TOC1_3
- 5.5.** Carry drinking water when in the field or use products specifically intended for disinfection of drinking water.
- 5.6.** A portable telephone or a two-way communication device (cellular or satellite) should be available in the event of a severe accident or injury. Ensure the device is charged before departing into the field, or, for multi-day trips, ensure you have a means to charge your device(s).
- 5.7.** A compass, GPS unit, relevant topographical maps, or aerial photograph should be used to avoid becoming lost in unfamiliar territory. Ensure you are trained and familiar with the compass, GPS, map, etc. prior to entering the field. Sufficient training in basic orienteering principles is also necessary to ensure that navigation aids can be used effectively.
- 5.8.** Active wildlife protection devices (this includes firearms, pepper spray, etc.) may be taken into the field only if required and all users must have any required training and licenses, where required. To use active wildlife protection devices one must obtain approval from the field work supervisor. The field work supervisor must report the plan to bring any active wildlife protection devices into the field to the Dean of Science and/or the Dean of the

Faculty of Graduate Studies and Research **at least one week in advance** of any field work activities. Usage must always follow the appropriate governmental regulations/guidelines (i.e. municipal, provincial, federal, etc.).

6. PROCEDURE

Note: This outline may change depending on nature of fieldwork and worker responsibilities.

6.1. Pre-Field Work

- 6.1.1. A work or travel plan, and the fieldwork assessment checklist, should be filed with someone not involved with the field trip.
- 6.1.2. Where anyone connected with the project spends 10% or more of their time over a 4-week period at the isolated workplace, a written **isolated workplace first aid plan** will be required at each isolated workplace (https://www.novascotia.ca/just/regulations/regs/ohsworkplace.htm#TOC1_4). Feel free to consult with the HR Officer (OH&S and Wellness) and the Safety Advisor, Science Activities when developing the isolated workplace first aid plan. Plans must include:
 - 6.1.2.1. (i) a comprehensive description of how each isolated workplace will comply with at least the minimum standards prescribed by the Nova Scotia Occupational Health and Safety Act,
 - 6.1.2.2. (ii) a method of transport for injured employees from each isolated workplace,
 - 6.1.2.3. (iii) a method of communication with and from each isolated workplace, and
 - 6.1.2.4. (iv) a description of the nature of work being performed at each isolated workplace

6.2. Daily Work

- 6.2.1. All field activity will be recorded (e.g. by hand in a hardbound book or on a computer).
- 6.2.2. All participants shall have and use necessary safety equipment.
- 6.2.3. Field work should not be conducted alone. Work in pairs or larger groups where possible.

6.3. Post-Field Work

- 6.3.1. Ensure Fieldwork supervisor is made aware upon returning from fieldwork (if applicable).
- 6.3.2. The researcher must enter in their book or computer (with appropriate back-up) a record of daily activity.

7. FORMS

- 7.1. Fieldwork Risk Assessment Checklist. This document is used to provide contact information and an assessment of risks with corresponding risk analysis and risk management plans. This form **MUST** be completed prior to fieldwork and submitted to the Safety Advisor, Science Activities.

8. REFERENCES

- 8.1. Heat Stress Guidelines. Saint Mary’s University. <https://www.smu.ca/about/heat-stress-guidelines.html>
- 8.2. Vehicle Rentals & Insurance Coverage Frequently Asked Questions. Saint Mary’s University. <http://smu-web5.smu.ca/pages/webfiles/FAQs-VehicleRentalInsuranceCoverage.pdf>
- 8.3. Occupational Health and Safety General Regulations, Part 3 Personal Protective Equipment, 14 Risk of Drowning. Occupational Health and Safety Act, Nova Scotia. https://novascotia.ca/just/regulations/regs/ohgensf.htm#TOC1_3
- 8.4. Saint Mary’s University Student Responsible Use of Cannabis Policy https://www.smu.ca/webfiles/6-2018_StudentCannabisPolicy.pdf, Saint Mary’s University Responsible Use of Alcohol Policy https://www.smu.ca/webfiles/5-1003_Liquor.pdf, and the Saint Mary’s University Drug and Alcohol Policy https://www.smu.ca/webfiles/6-2017_SaintMarysDrugAndAlcohol.pdf
- 8.5. Video: Lifting Objects at Work. CCOHS. <https://www.youtube.com/watch?v=qP5nyfTDbfE> and Manual Materials Handling (MMH) General Practice. CCOHS. <https://www.ccohs.ca/oshanswers/ergonomics/mmh/generalpractice.html>
- 8.6. Resources. The Counselling Centre. <https://www.smu.ca/student-life/counselling-centre-resources.html>. Sexual Violence and Harassment Policy. Saint Mary’s University. https://www.smu.ca/webfiles/2-2025_SexualViolenceHarassment.pdf
- 8.7. Hunting and Furharvesting Summary of Regulations. Nova Scotia Natural Resources and Renewables. <http://www.gov.ns.ca/NATR/hunt/regulations>
- 8.8. Workplace Health and Safety Regulations, Part 4. Occupational Health and Safety Act, Nova Scotia. https://www.novascotia.ca/just/regulations/regs/ohsworkplace.htm#TOC1_4 and <https://novascotia.ca/lae/healthandsafety/docs/Workplace-First-Aid-A-Guide-for-Employers-and-First-Aiders.pdf>
- 8.9. Off Highway Vehicles - Summary of Off-highway Vehicles Act and Regulations, Nova Scotia. <https://novascotia.ca/natr/ohv/>

9. REVISION HISTORY

Date	Version	Summary of changes
	V1.0	Converted document from Work Instruction to Safe Work Practice, previous version SOP-FSSC-WI-012 v1.0. Updated document and form. Added new roles, clarified information in “health and safety” and “equipment and supplies” sections. Updated definition of “remote location” to “isolated workplace” as per NS first aid regulations, and updated links.