

Field Work

Effective: September 2000

**Vice-President,
Finance and Administration**

Applicable Legislation

Occupational Health and Safety Act (OHSA), R.S.O. 1990, Section 27(2)(c)
Fish and Wildlife Conservation Act and Regulations, 1999

Intent: To define responsibility for safety and risk management in field work, to promote self-reliance and preparedness for field activity, and to outline requirements for communications between field workers and the University. Considerations for personal care and safety and environmental responsibility in the field are summarized.

Definitions:

buddy system a system of organizing employees into work groups so that each employee of the work group is designated to be observed by at least one other employee in the work group.

field safety officer the employee who exercises OHSA supervisory responsibility for field work and co-ordinates health and safety in the field.

field work work or study at remote and/or outside locations which warrant special considerations for risk management (e.g. personal accident insurance) and supervisory due diligence (e.g. training for specific field hazards, buddy systems, emergency and survival preparedness, pre-arranged schedules for communications).

Requirements of the *Occupational Health and Safety Act, Section 27(2)(c)*

27.(2)(c) a supervisor shall take every precaution reasonable in the circumstances for the protection of a worker.

Policy:

1. Departments planning or undertaking field work shall establish their own internal procedures to review field work organization and safety preparedness prior to the commencement of travel for field activity. This review shall include an assessment of supervisory due diligence, safety instructions, workers' compensation coverage for each person in the field crew, and the need for personal accident and liability insurance.
2. The Department Chair, Administrative Head, or Director shall authorize all field work arranged by personnel within his/her organization. Documentation shall be copied to the Risk and Insurance Manager and shall be retained for seven years.
3. One member of the field party shall be appointed as field safety officer and his/her authority and responsibility shall be defined and explained to all members of the field crew.
4. Departments planning or undertaking field work shall issue detailed safety instructions to field personnel. These instructions shall address the specific occupational hazards associated with the activity and the required due diligence. (The health and safety considerations identified in the Guidelines section of this policy will be helpful in ascertaining this due diligence.)
5. Departments planning or undertaking field work shall provide activity-specific training for all field work personnel (e.g. first aid and CPR qualification, off-road vehicle use and safety, boating or canoeing skills, etc.)
6. Survival skills training shall be provided for all personnel venturing into remote or risk-prone areas (e.g. mountainous regions, avalanche zones, ice floes or ice fields, volcanic regions, caves, tundra, deserts, other areas of extreme environmental conditions, etc.).
7. All special training shall be documented by the field safety officer and shall be reviewed prior to the field trip.

Guidelines:

Thorough planning and preparation are essential for field safety since a wide range of activities, environmental conditions and occupational risks and hazards can challenge field work personnel. Many accidents in the field can be associated with insufficient preparation by field personnel who face the challenges and risks of the natural environment. The field safety officer must co-ordinate risk management initiatives in advance of and during field work activities. The following considerations are intended to promote actions for self-reliance and preparedness for field activity.

Insurance Coverage

Consult the Office of the Risk and Insurance Manager about the coverage provided by the University's property and general liability insurance policies. The requirement for any supplementary or special insurance (e.g. for boats, air travel, etc.) shall be identified. The need for personal accident insurance and vehicle insurance must also be discussed.

General information about insurance coverage may be found at the University's web site www.fin.uoguelph.ca/Manuals/Manuals.HTM, numbers TR.20 and TR.21.

Communications

Communication between field workers and the University is essential for safety reasons. The following recommendations may be appropriate for University-sanctioned field excursions:

- < Leave an itinerary with the Administrative Officer in the department, preferably including phone numbers and times when people may exchange messages (if possible).
- < Don't go into a new area or region "cold". Talk to someone who has worked there before to obtain helpful information to adequately prepare for the field work.
- < Inform others (locally) of your daily travel plan, and leave them notes and maps. Detail your planned route and possible alternate routes. Specify the expected time and date of arrival at a destination and your return to base camp.
- < Work in pairs rather than alone when in dangerous or remote areas, or when one of the individuals is inexperienced.
- < The expedition leader and/or field safety officer must evaluate the training, preparedness and survival skills of the field party, must be a qualified first aider, and must be aware of any unique medical condition of each field worker (e.g. allergic reaction to insect stings, ailments, medications, circumstances that might cause onset of symptoms etc.) Expedition leaders should consult Occupational Health Services about obtaining Certificates of Fitness from field workers.
- < All personal injury incidents must be reported to the University at the earliest opportunity. (See [Safety Policy 851.04.02](#) concerning Injury and Incident Reporting.)
- < In remote areas, dependable radio or satellite communication and backup are essential. Establish contact with local expeditors, R.C.M.P., forestry or other officials so that your timetable and whereabouts are known locally. A personal locator beacon and GPS device may be required.

- < If a badly injured excursion member needs medical evacuation, know:
 - who to telephone for a medical evacuation;
 - location of nearest medical facility to which evacuation would proceed;
 - who to contact for medical advice and who to advise of your situation;
 - location of the nearest available fixed-wing or helicopter aircraft, and how to contact the service in an emergency.

- < Anticipate the effects that an injured member might have on the success of your excursion.

- < A listing of emergency numbers for the nearest medical facility, R.C.M.P, government officials, and air transportation should be carried by all members of the field party.

Canadians travelling abroad often assume they can a phone effortlessly to Canada. If you bypass foreign operators and hotel telephone systems by using a calling card, you should avoid hassles and unexpected service charges. Call 1-800-561-8868 or visit **www.bell.ca/callcard** for information about international calling with *Canada Direct* service.

Environmental Issues

Care of the environment requires knowledge of possible effects of intrusion. Issues which should be addressed in planning a field excursion include:

- air: Emissions and noise can disturb wildlife and humans.

- animal wildlife: Care should be taken to avoid adversely affecting the nesting, feeding and migration of animal wildlife. Contact the Ministry of Natural Resources about Ontario's Wildlife Management Units and hunting regulations.

- archeological: Archeological sites are of historical or cultural significance. If a suspected site is encountered do not alter the site. Proper authorities should be informed of the location.

- aquatic life: Consider noise and boat speed effects on aquatic life. Federal and provincial laws regulate fishing. Contact the Ministry of Natural Resources for details.

cultural and subsistence:	Local customs, traditions and religious beliefs should be considered when planning and conducting a field excursion. Communication with area residents can often minimize concerns.
erosion:	Altering surface conditions can change the rate and pattern of the erosion process.
vegetation:	Accessing an area may disturb vegetation and may result in erosion. Cutting vegetation can affect feeding and nesting of animal wildlife.
waste:	Waste materials include petroleum products and solvents, general camp wastes such as food, trash and sewage, and equipment wastes. Wastes will require transportation to an authorized recycling or disposal facility.
water:	Surface and groundwater should be safeguarded by careful practices in the field.

The transportation and safe use of hazardous materials for field work activities may present concerns. Consult the Hazardous Materials Safety Officer in Environmental Health and Safety for assistance. See [Safety Policy 851.08.10](#) concerning Transportation of Dangerous Goods.

Field Site Hazard Assessments

- < Identify possible hazards unique to the locale of the field work (e.g. insects, altitude, wildlife, temperature extremes, diseases, etc.);
- < Consult with local officials responsible for wildlife management, site access control, etc;
- < Develop plans to avoid hazards and manage risks;
- < Develop plans to deal with emergencies (e.g. bear-repellent, survival and safety equipment);
- < Consider the use of a personal locator beacon and GPS device if you plan an extended visit into a wilderness area;
- < Consider risk management initiatives appropriate for boating, scuba diving (see *O.Reg 629/94, Diving Operations*), use of firearms, work in extreme climates, etc. Some excursions may require the services of an experienced field guide. (Environmental Health and Safety has reference material on field work safety precautions.)

Health Protection (also, see Safety Policy 851.13.04)

- < Country-specific health protection recommendations are available from:
 - Occupational Health Services
 - Wellington-Dufferin-Guelph Health Unit (821-2370)
 - World Health Organization, www.who.int/en
 - U.S. Centres for Disease Control and Prevention, www.cdc.gov/travel
 - International Association for Medical Assistance to Travellers (IAMAT) www.iamat.org

- < Plan prevention for diarrhea and water and food-borne diseases:
 - *cholera* - a bacterial enteric disease causing severe diarrhea
 - *hepatitis A* - a viral disease that is vaccine preventable
 - *schistosomiasis* - a parasitic disease causing diarrhea, not vaccine preventable
 - *typhoid fever* - a Salmonella bacterial infection that is vaccine preventable

- < Plan prevention for insect-borne diseases:
 - *dengue fever* - a mosquito-transmitted viral disease for which there is no vaccine
 - *Japanese encephalitis* - a mosquito-transmitted viral infection that is vaccine preventable
 - *Lyme disease* - a tick-borne spirochaetal disease that is now vaccine preventable (consult your physician about LYMERix)
 - *malaria* - a mosquito-transmitted parasite infection that is usually preventable with anti-malarial medication
 - *tick-borne encephalitis* - a European viral infection transmitted by tick bites, vaccine preventable

- *yellow fever* - a mosquito-transmitted viral infection that is vaccine preventable
- < Plan prevention against blood-borne diseases:
 - *AIDS* - a sexually-transmitted viral infection that is not vaccine preventable
 - *hepatitis B* - a viral infection that can cause chronic liver disease, vaccine preventable
- < Plan prevention against zoonotic diseases:
 - *hantavirus* - a viral disease transmitted via the droppings of deer mice and other rodents, not vaccine preventable
 - *rabies* - a viral disease transmitted by animal bites, vaccine preventable

Mosquitos, Black-flies, Ticks and Stings

Mosquitos and black-flies thrive in hot and humid weather and are attracted to humans because we give off heat and moisture and carbon dioxide. Peak biting periods for mosquitos are dawn and dusk. Black-flies only bite during daylight hours. These insects will generally be less bothersome in the direct sunlight and on windy days.

To protect yourself from these annoying biting insects, wear loose-fitting, light-coloured clothing with long sleeves and high collars. Hats with mosquito netting will protect your face and neck. Repellents that contain 30% DEET (N-diethyl metatoluamide) are most effective when applied lightly and evenly and in accordance with the product's directions. (Check the "Bug Forecaster" on the web site: www.muskol.com.)

The ticks which spread Lyme disease by feeding on humans and domestic animals and deer live in brush, woods and tall grass. The geographic areas where they are most prevalent are the northeastern and north-central United States. Symptoms of bites vary among individuals and include flu-like illness and rashes or spots about the affected area. In rare cases, chronic Lyme disease can damage the nervous system and joints. Precautions include wearing long pants and long-sleeved shirts that are worn tucked-in. Repellent containing permethrin should be sprayed near the openings on clothes and repellents containing DEET should be used sparingly on skin. Check for tick bites on skin and under hair at the end of every day. If a tick is found on the skin, it should be removed with tweezers, killed in alcohol, and saved. Report to a physician if you suspect you have been bitten.

Stings from bees and wasps can cause allergic reactions, the most serious being anaphylaxis. Personnel who are susceptible to such conditions should consult a physician or pharmacist for health care advice.

Medical Care Abroad

- < Consult Occupational Health Services about your business-related travel medical needs and contingencies.
- < The International Association for Medical Assistance to Travellers (IAMAT) maintains a list of approved physicians in most countries. Visit www.iamat.org
- < When planning travel abroad, investigate the travellers' health section of the Atlanta-based Centers for Disease Control and Prevention at www.cdc.gov. This site contains information about health risks to travellers and offers appropriate advice.

Weather Information

Weather forecasts for all of Canada including marine forecasts are posted on the Environment Canada web sites: www.msc-smc.ec.gc.ca

www.ec.gc.ca.

Weatheradio is a service of Environment Canada which transmits weather information on frequencies 162.4 to 162.55 MHz. Weatheradio receivers can be purchased for field use within approximately 60 km of a transmitter. Contact Environment Canada for details and locations of transmitters.

Self-help advice to prepare for severe weather is available on the SAFE GUARD internet web site: www.safeguard.ca

Also, see [Safety Policy 851.09.03](#) concerning Occupational Exposure to Sunlight.

Marine Charts

Marine charts are available (for nominal fees) from:

Hydrographic Chart Distribution Office
Departments of Fisheries and Oceans
1675 Russell Road
P.O. Box 8080
Ottawa, Ont. K1G 3H6
(Tel: 613-998-4931, FAX: 613-998-1217; internet: www.charts.gc.ca)

Avalanche Information

Avalanche information is available from the Canadian Avalanche Association, c/o:

The Canadian Avalanche Centre
P.O. Box 2759
Revelstoke, B.C. V0E 2S0
(Tel: 250-837-2435, FAX: 250-837-4624; internet: www.avalanche.ca)

The Canadian Avalanche Centre compiles avalanche risk information using meteorological data from Environment Canada and field reports from ski resort operators and search and rescue authorities. An average of 10 people per year are killed in Canada by avalanches.

Travel or Operations Over Ice

Ice surfaces are used for transportation routes and as surfaces on which structures are erected. Safety information concerning fresh water ice formation and its use is available in the following publications:

Publication CL1-7-71
Freeze-up and Break-up Dates of Water Bodies in Canada
Information Section
Central Service Directorate
Atmospheric Environment Services
Environment Canada

Technical Memorandum No. 56
The Bearing Strength of Ice
National Research Council

Research Paper No. 469, NRCC 11806
Use of Ice Covers for Transportation
National Research Council

Information and advice may also be obtained from the National Research Council of Canada, Division of Building Research, Geotechnical Section, Ottawa, Ontario K1A 0R6.

Food Safety

For information on food-borne illness, food safety, and safe food handling tips, visit the Canada Food Inspection Agency web site at www.cfia-acia.agr.ca, or that of Agriculture and Agri-Food Canada, www.agr.ca.

Fish and Wildlife Conservation

For information about fish and wildlife conservation and hunting regulations in Ontario, contact the Ministry of Natural Resources (MNR):

MNR Information Office, Toronto, Telephone: 416-314-2000.

MNR web site: www.mnr.gov.on.ca/MNR/

Restricted Fire Zones in Ontario

The Ministry of Natural Resources will, under extreme forest fire risk conditions, declare the establishment of *Restricted Fire Zones*. It is illegal to set and use a fire for any purpose within the boundaries of a Restricted Fire Zone. For further information about Restricted Fire Zones, contact the local office of the Ministry of Natural Resources.

Firearms

The acquisition and registration of firearms and the licensing of gun owners is regulated by the Federal Government under *The Firearms Act*. All new firearms applicants must pass the Canadian Firearms Safety Test, and all firearms must be registered by 2003. Further information is available at postal outlets and by phoning 1-800-731-4000. Firearm ownership and use for University business shall be reported to the University's Security Services. (See [Safety Policy 851.07.12](#) concerning Firearms.)

Roadside Assistance

Consider how available roadside assistance will be if your vehicle breaks down. A GPS device may be essential if the field work involves off-road travel. Determine an action plan and contingencies in advance for mechanical failures of your vehicle.

Related Safety Policies

See [Safety Policy 851.01.14](#) concerning Risk Management, [Safety Policy 851.06.23](#) concerning Field Trips, and [Safety Policy 851.07.11](#) concerning Boats and Watercraft.

Web Sites of Interest:

www.parkscanada.gc.ca
[www.princeton.edu/~ oa](http://www.princeton.edu/~oa)

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