Fieldwork Hazard Assessment / Safety Plan

Note: This Fieldwork Assessment / Safety Plan, the Fieldwork Safety Program, and the associated training have been updated to better prepare and protect University employees during fieldwork operations. The biggest change includes the addition of Occupational Safety Training Resources to help you address the potential risks/hazards that you might face during your field activities and where to obtain training/more information.

Before preparing this Fieldwork Assessment / Safety Plan, the Team Leader should review the Fieldwork Safety Program to assist with planning and preparing for occupational health and safety problems that one may encounter in the field.

For any questions, please contact UMS Safety Management at 581-4055, or email [sem@maine.edu](mailto:sem@maine.edu).

Introduction

Field research activates can present some unique hazards. These hazards require you have the same procedures, training, and personal protective equipment in place to protect research teams that work on campus.

As the Team Leader you are responsible of the safety of your team and completing this Fieldwork Hazard Assessment/Safety Plan. In addition to the requirements noted in the Fieldwork Safety Program, the team leader may be responsible in the following:

* Approval by your chain of command and any necessary state or federal jurisdictions that have local/regional authority (e.g. Maine Forestry Service)
* Environmental restrictions and compliance requirements (e.g. Maine Department of Environmental Protection) involving use of chemicals (e.g. preparations, storage, disposal). Contact Safety Management.
* Special insurances that may be required. Contact UMS Risk Management
* Complete an International Travel Safety Plan. Information is located on the UMS Risk Management webpage (on the MyCampus Portal) at <https://mycampus.maine.edu/group/mycampus/international-travel-assistance>, phone 621-3038.
* Contact your campus Department of Research Compliance (or similar) for information regarding Animal Welfare guidance and Biosafety etc.

Considerations for Transporting and Using Chemicals:

* Selection of Hazardous Materials/OSHA’s Hierarchy of Controls for Chemicals:
  + Elimination: Do you need the use the chemical to accomplish the job?
  + Substitution/Reduction: Can you substitute for a less hazardous chemical or use less to accomplish a task?
* All containers must be labeled in a manner where the name and the hazards (if applicable) are easily identified.
* All chemicals must be stored in containers suitable for transportation and outside of the vehicles passenger compartment
* All chemicals/hazardous materials must be transported in according to the Materials of Trade Requirements
* Provide containers for the collection and transport/return of hazardous chemicals and contaminated items (e.g. PPE) back to the campus laboratory.
* Do not label containers of waste as “hazardous” until they have been returned back to campus laboratory.
* If possible, chemical preparations (dilutions, mixtures) must be prepared in the laboratory on campus prior to transportation to the field location.
* Disposal of stock chemicals in waterways or on land is prohibited unless written approval has been granted by an authority having jurisdiction (e.g. Maine DEP, Forestry Service)
* Dilution of hazardous waste is considered a form of treatment by the EPA and Maine DEP and is prohibited
* Chemicals approved for use on wildlife for medicinal or veterinary purposes must be assessed for their environmental hazards. Procedures must utilize secondary containment during treatment, where and when feasible, to minimize amounts that enter the environment.

Proper planning and implementation will help you reduce the potential of an injury or illness for everyone on your team.

This Fieldwork Assessment / Safety Plan has been designed to assist the Team Leader, or member in charge of the project or fieldwork as they evaluate risks involved in their field research so they can develop a comprehensive safety plan.

This completed Safety Plan must be shared with all the members of the field research team and kept on file within the department. It is not necessary to send this Fieldwork Hazard Assessment / Safety Plan to Safety Management unless the team leader would like additional guidance.

A single Safety Plan can cover multiple trips to the same location or the same type of work. This Fieldwork Hazard Assessment/Safety Plan must be revised whenever a significant change to the location or scope of fieldwork occurs. Safety Management (SM) is available to review these plans, if requested, and may conduct periodic reviews of departmental plans.

|  |  |  |  |
| --- | --- | --- | --- |
| General Description of Fieldwork | | | |
| Principal Investigator: | | Department: | |
| Phone number: | | E-mail address: | |
| Field Research Title: | | | |
| Itinerary | | | |
| Location(s) of fieldwork  Country:  City (nearest):  Geographic Site/GPS coordinates: | Arrival date:  Departure date: | | |
| Communications | | | |
| Team Leader: | | | Phone/email: |
| University Emergency Contact: | | | Phone/email: |
| Family Emergency Contact: | | | Phone/email: |
| Communication Plan (describe your protocol). Include the following:   1. means of communication that will be available during fieldwork (equipment) 2. schedule for maintaining contact with the university representative 3. timeline for alerting authorities to begin search and rescue if the communication plan is not met) | | | |
| Field Team Membership (Please list the names of all members of the field research team, and the Field Team Leader.) *Include a separate sheet if necessary.* Consider cell phone coverage/international plans for all cell phones (if applicable) on site   |  |  | | --- | --- | | ***Name*** | ***Designated Emergency Contact*** | | 1. Team Leader - |  | | 2. |  | | 3. |  | | 4. |  | | 5. |  | | 6. |  |   **Note: Distribute final plan with all team members and emergency contacts.** | | | |

|  |  |  |
| --- | --- | --- |
| Local Contacts | | |
| Local (field) Contact: | | Phone/email: |
| Nearest hospital: | | Phone/location: |
| Emergency Services (police, fire, rescue): | | Phone/radio: |
| Hazards/Risk Considerations | | |
| The items listed below serve as a prompt for hazards/risks that may be associated with fieldwork. It is not all inclusive. Check all of the items in Column A that apply to your project, Column B provides a list of equipment, procedures, and tools that will help you prepare and experience a safe and successful research trip. Check all that apply and purchase or prepare those items for your trip. | | |
| **Column A** | **Column B** | |
| **Work Related Hazards**   1. Animal handling 2. Flying debris or impact (eyes) 3. Impact or electrical contact (head) 4. Excessive noise 5. Cuts, abrasions (hands) 6. Impact or compression (feet) 7. Fall hazards – working at heights 8. Water hazards 9. Low visibility hazards (hunting, road work, etc.) 10. Electrical 11. Fire hazards (welding, cutting) 12. Chemical hazards 13. Chemical and Waste Collection and Transport 14. Other: | **Personal Protective Equipment:**   1. Barriers for direct contact with animals 2. Safety glasses/goggles/face shield 3. Hard hat (with/without headlight) 4. Hearing protection 5. Gloves (as appropriate) 6. Work boots (hiking, steel toe) 7. Personal fall arrest system 8. Floatation devices 9. Fluorescent orange or reflectorized vests 10. Personal Protective Equipment (e.g., insulated protective clothing, flame-resistant or flame-retardant clothing 11. Portable fire extinguisher 12. Portable eyewash station, Personal Protective Equipment, Safety Data Sheets, SOP’s 13. DOT rated containers with closure capability, Secondary containment (e.g. bus trays, spill pallets for transport and collection/control of spilled material), funnels, pumps, hoses, container labels *(Note: Do not use “Hazardous Waste” labels until containers have been returned to campus)*, Transport Log, Materials of Trade (MOT) Transportation Guidance 14. Other: | |
| **Environmental Hazard:**   1. Excessive heat/sunlight 2. Excessive cold 3. Under water/diving (contact Diving Safety Officer at 581-5273) 4. Remote location 5. Insects/Ticks/Spiders 6. Confined Space 7. Other: | **Clothing/Equipment/Provision:**   1. Light clothing, wide-brimmed hat, sunscreen 2. Thermal clothing, blankets, etc. 3. Wet suit 4. Navigation Tools, Bivouac gear, etc. 5. Insect repellant, appropriate clothing 6. Other: | |
| **Personal Health:**   1. Medical conditions 2. Allergies (food, plant, insect, etc.) 3. Inadequate food source 4. Inadequate drinking water source 5. Review the Centers for Disease Control (Travelers Health) at https://wwwnc.cdc.gov/travel/ | **Preparedness:**   1. Medications (taken on a regular basis) 2. Allergy treatments (as needed) 3. Adequate food supplies 4. Water purification tablets or filter devices 5. Review information regarding location and Travel Health Notices | |
| **Emergency:**   1. Injury or medical emergency 2. Flat tire, out-of-gas, etc. 3. Night work, caving, etc. 4. Lost, trapped, stranded 5. Ice 6. Chemical Spill Kit 7. Emergency Spill Notification 8. Other: | **Equipment/Provision:**   1. First Aid and CPR Certification, kit and field manual, Phone numbers 2. Vehicle emergency kit (spare tire, jack, flares) 3. Flashlight with extra batteries 4. Ability to signal (flares, mirror, light sticks, etc.) 5. Two-way radio and/or cellular phone 6. Flagging tape or entrance marker flag 7. Shovel, rakes, hand tools 8. Generator with sufficient fuel 9. Extra food, water, and clothing 10. Outer container (e.g. 5 gallon pail w/lid), absorbent pads, acid/base neutralizers, PPE, disposable shovel/scoop, pan, brush, collection bags, labels, marker 11. Phone numbers: Report all hazardous spills to Maine State Police 1 800 452 4664 and campus chain of command 12. Other: | |
| Description of Fieldwork | | |
| Provide a detailed description of the fieldwork to be conducted. | | |

# Occupational Safety Training Resources

This section is designed to help you address the potential risks/hazards that you might face during your field activities and where to obtain training/more information. Personnel must receive the appropriate training for the functions and environment they will be operating in either beforehand or as part of the work.

## The items listed in Table 1 – Hazards or Tasks below serve as a prompt for hazards/risks/tasks that may be associated with fieldwork. Information that you obtain from this assessment should assist you in determining the appropriate equipment and training required for the fieldwork.

Note, this listing is not all inclusive. Specific concerns and tasks not addressed in the table below may be discussed with UMS Safety Management at 581-4055 or [sem@maine.edu](mailto:sem@maine.edu) / or UMS Risk Management at <https://mycampus.maine.edu/group/mycampus/risk-mgmt-and-insurance>

## Prior to beginning the fieldwork, a hazard assessment must be completed to evaluate the potential hazards associated with the project.

## **Safety Management Training**

SM on-line training is located on the MyCampus Portal at <https://mycampus.maine.edu/group/mycampus/sm-training>. Team members may also review the SM Training calendar at <https://mycampus.maine.edu/group/mycampus/training-calendar> for any SM training courses offered.

## **Other Training Resources**

Some training is not conducted in-house (at the campus) nor provided by the University. For those trainings, the Team Leader should consult with the appropriate agency for training requirements.

**TABLE 1 – Hazards or Tasks**

| **✓** | **Hazard (or) Task** | **How to Obtain Training/More Information** |
| --- | --- | --- |
|  | Operating a computer terminal for more than four (4) consecutive hours on a daily basis | See SM training link above. |
|  | Remaining behind and assisting persons in orderly evacuation in an emergency | See SM training link above. |
|  | Using a fire extinguisher in an emergency | See SM training link above. |
|  | Working in areas with exposure to elevated surfaces and fall hazards | See SM training link above. |
|  | Using ladders | See SM training link above. |
|  | Working on scaffolds | <https://www.osha.gov/SLTC/etools/scaffolding/index.html> |
|  | Using vehicle mounted elevating work surfaces (telescoping and/or articulating) | <https://www.osha.gov/Publications/aerial_lifts_safety.html>  <https://webstore.ansi.org/Standards/SIA/ANSISAIAA922006R2014-1522240> |
|  | Operating a forklift, walker-stacker, or other industrial truck | Contact SM at 581-4055 for assistance in identifying training resources |
|  | Using a crane or hoist | <https://webstore.ansi.org/Standards/ASME/ASMEB30101116HooksHoistCranes>  Contact SM at 581-4055 for assistance in identifying training resources |
|  | Performing service or maintenance on machines or equipment with stored/potential energy (lockout / tagout) | See SM training link above. |
|  | Working with or around electricity | <https://www.osha.gov/OshDoc/data_Hurricane_Facts/portable_generator_safety.html>  <https://ieeexplore.ieee.org/document/7165859>  <https://www.youtube.com/watch?v=wal2KP1bbIY> |
|  | Welding / soldering / brazing / spark producing (cutting metal) | <https://www.osha.gov/Publications/OSHA_FS-3647_Welding.pdf>  <https://nasdonline.org/1083/d000873/arc-welding-safety.html> |
|  | Entering (or overseeing entry into) a confined space – such as cave, crevice, raceways, processing enclosures, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry. | See SM training link above. |
|  | Working in or around open ground pits, trenches, or excavations | <https://www.osha.gov/SLTC/trenchingexcavation/>  <https://www.osha.gov/Publications/osha2226.pdf> |
|  | Using farming/agricultural machines or equipment | See SM training link above.  National Institute for Occupational Safety and Health, Agricultural Safety at <https://www.cdc.gov/niosh/topics/aginjury/> |
|  | Applying pesticides or working in an area that uses pesticides (i.e. farms, greenhouses, nurseries, or forests) | Maine Board of Pesticides Control (Licensing and Certification) <https://www.maine.gov/dacf/php/pesticides/applicators/licensing.html> |
|  | Working in remote areas where there is an absence of prompt medical care (clinic, hospital, etc.) | These training can be scheduled through the local Red Cross or team members may contact the University of Maine Training and Safety at <https://umaine.edu/umts/>, or he Maine Bound Adventure Center or through a wilderness medicine provider (e.g., Wilderness Medical Associates International at <https://www.wildmed.com/> , NOLS at <https://www.nols.edu/en/>), or the American Red Cross <https://www.redcross.org/take-a-class/cpr/wilderness-sports> |
|  | Operating a watercraft or vessel (either motorized or man-powered)  The Scientific Boating Safety Association (SBSA) is a professional association of Universities and research institutions who cooperate to develop procedures and standards for scientific boating operation. | Maine Inland Wildlife and Fisheries Boat Safety Training courses at: <https://www.maine.gov/ifw/programs-resources/safety-courses/boating-safety.html>  BoatUS Foundation at <https://www.boatus.org/> and U.S. Coast Guard, Boating Safety Courses at <https://www.uscgboating.org/recreational-boaters/boating-safety-courses.php>  Scientific Boating Safety Association (SBSA) <http://scientificboating.org/> |
|  | Diving / Snorkeling | University of Maine Diving Operations Mgr. and Scientific Diving Program, Chris Ragaud at [crigaud@maine.edu](mailto:crigaud@maine.edu) |
|  | Conducting tree work (logging/felling/trimming, and working aloft or climbing trees, using chainsaws) | OSHA Logging Operations standard at <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.266>  <https://www.osha.gov/SLTC/etools/logging/manual/felling.html> |
|  | Wearing Personal Protective Equipment (PPE) | The supervisor is responsible to conduct PPE training to employees. Also, the team leader may contact SM at 581-4055 for more information.. This training may be offered on the SM Training Calendar, see training link above. |
|  | Working at heights | Contact SM at 581-4055 for assistance  <https://www.osha.gov/SLTC/etools/construction/falls/mainpage.html> |
|  | Exposed to vehicular traffic | OSHA, Manual on Uniform Traffic Control Devices (Pedestrian and Worker Safety) at <https://www.osha.gov/doc/highway_workzones/mutcd/6d_pedestrians.html> |
|  | Working in hunting areas | U.S. Fish and Wildlife Service at <https://www.fws.gov/refuges/hunting/tips-for-hunters-and-non-hunters/> |
|  | Working around excessive noise levels | See SM training link above. |
|  | Using class 3b or 4 lasers | See SM training link above. |
|  | Handling or using radioactive materials or radiation producing equipment | Contact SM at 581-4055 for assistance. |
|  | Performing tasks with exposure to human blood or other regulated bodily fluids (clean up, handle, perform first aid, etc.) | See SM training link above.  <https://www.osha.gov/SLTC/bloodbornepathogens/> |
|  | Performing tasks with exposure to respiratory/inhalation hazards such as chemicals, nuisance dusts, asbestos, silica, etc. | See SM training link above. |
|  | Using hazardous chemical or cleaning up chemical spills | Contact SM at 581-4055 for assistance. |
|  | Transporting, packaging, shipping or receiving hazardous materials | Contact SM at 581-4055 for assistance. |
|  | International Driving | US Department of State, Driving and Road Safety Abroad at <https://travel.state.gov/content/travel/en/international-travel/before-you-go/driving-and-road-safety.html> |
|  | Working in caves:  Horizontal Access | (Info only: National Speleological Society at <https://caves.org/>)  See SM training link above for Cave Safety  Also, the team leader may contact SM at 581-4055 for more information. |
|  | Working in caves:  Vertical Access | Requires a minimum of SPRAT or IRATA level 1 certification or equivalent [SPRAT](https://sprat.org/), [IRATA](https://irata.org/)  *Insert link to rope access standards*  (Info only: <http://caves.org/section/vertical/>)  See SM training link above for Cave Safety  Also, the team leader may contact SM at 581-4055 for more information. |
|  | Driving/riding snowmobiles or all-terrain vehicles (ATVs) | <https://www1.maine.gov/ifw/atv-snowmobile/safety-information.html>. Training information may be found at <https://www.maine.gov/ifw/programs-resources/safety-courses/index.html> |
|  | Working around large animals | Contact your campus Research Compliance office/department for Institutional Animal Care and Use Committee (IACUC) and the Institutional Biosafety Committee (IBC) training requirements. |
|  | Highway or construction sites (Flagger Certification/Reverse Signal Operations) | Links and flagging resources may be found on the Maine DOT webpage at <https://www.maine.gov/mdot/mlrc/technical/flagging/> |
|  | Infectious diseases | Centers for Disease Control, Health Information for International Travel (CDC Yellow Book). The most current copy of this book may be reviewed from the link provided on the Travelers’ Health webpage <https://wwwnc.cdc.gov/travel/>.  International Travel information from the U.S. Department of State at <https://travel.state.gov/content/travel/en/international-travel.html>. |
|  | Wildfires | National Fire Protection Agency (NFPA) <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire>  Maine Department of Agriculture, Conservation and Forestry at <https://www.maine.gov/dacf/forestry/index.html> |
|  | Local hazardous plants | Centers for Disease Control, Health Information for International Travel (CDC Yellow Book). The most current copy of this book may be reviewed from the link provided on the Travelers’ Health webpage <https://wwwnc.cdc.gov/travel/>.  International Travel information from the U.S. Department of State at <https://travel.state.gov/content/travel/en/international-travel.html> |
|  | Backcountry / field sanitation | <https://www.cdc.gov/healthywater/drinking/travel/backcountry_water_treatment.html> |
|  | Local wildlife | US Forest Service site at <https://www.fs.usda.gov/visit/know-before-you-go> |
|  | Natural Hazards (earthquakes, volcano, flood, landslide, etc.) | U.S. Geological Survey (USGS) at <https://www.usgs.gov/mission-areas/natural-hazards/programs> |
|  | Environmental Hazards and Other Noninfectious Health Risks (e.g., high altitude, air quality, sun exposure, temperature extremes, etc.) | Chapter 3 of the Centers for Disease Control, Health Information for International Travel (CDC Yellow Book). The most current copy of this book may be reviewed from the link provided on the Travelers’ Health webpage <https://wwwnc.cdc.gov/travel/>. |
|  | Local insects/arthropods | Centers for Disease Control, Health Information for International Travel (CDC Yellow Book). The most current copy of this book may be reviewed from the link provided on the Travelers’ Health webpage <https://wwwnc.cdc.gov/travel/>  International Travel information from the U.S. Department of State at <https://travel.state.gov/content/travel/en/international-travel.html> |
|  | Historical structures or World Heritage Sites | National Park Service, National Register of Historic Places at <https://www.nps.gov/subjects/nationalregister/index.htm>  International: United Nations Educational, Scientific and Cultural Organization (UNESCO, World Heritage List at <http://whc.unesco.org/en/list/> |
|  | High risk community (ex. disaster, health alert) | Centers for Disease Control, Health Information for International Travel (CDC Yellow Book). The most current copy of this book may be reviewed from the link provided on the Travelers’ Health webpage <https://wwwnc.cdc.gov/travel/>  International Travel information from the U.S. Department of State at <https://travel.state.gov/content/travel/en/international-travel.html> |
|  | Ice hazards | Centers for Disease Control, Health Information for International Travel (CDC Yellow Book). The most current copy of this book may be reviewed from the link provided on the Travelers’ Health webpage <https://wwwnc.cdc.gov/travel/>  International Travel information from the U.S. Department of State at <https://travel.state.gov/content/travel/en/international-travel.html> |
|  | Violence (ex. Political unrest, military) | Contact your campus Police Department for more information.  US Department of State, Help for U.S. Citizen Victims of Crime at <https://travel.state.gov/content/travel/en/international-travel/emergencies/crime.html> |
|  | Adverse weather conditions | <https://www.weather.gov/safety/> |
|  | Using unmanned aircraft systems / drones | UMS Risk Management at <https://mycampus.maine.edu/group/mycampus/risk-mgmt-and-insurance> |
|  | Fueling vehicles (including alternative fuels) | National Highway Traffic Safety Administration (NHTSA) Alternative Fuel Safety at <https://www.nhtsa.gov/crashworthiness/alternative-fuel-safety>  Department of Energy (DOE), Natural Gas Vehicle Maintenance and Safety at <https://afdc.energy.gov/vehicles/natural_gas_maintenance_safety.html> |
|  | Fueling landscape/power equipment | OSHA Landscape and Horticultural Services, <https://www.osha.gov/SLTC/landscaping/additionalinformation.html> |
|  | Electrofishing | <https://www.fws.gov/policy/241fw6.html>  Contact your campus Research Compliance office/department for Institutional Animal Care and Use Committee (IACUC) and the Institutional Biosafety Committee (IBC) training requirements.  Additional safety requirement:   * First Aid (CPR / AED) |
|  | General outdoor information | US Forest Service at <https://www.fs.usda.gov/visit/know-before-you-go>  *Know Before You Go* informational page with information about enjoying the outdoors (driving hiking, drones, off-highway vehicles), staying safe (caves, mines, crime, trees, water safety), braving the elements (hypothermia, floods, heat, lightening), and respecting wildlife. |

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