UTHealth Houston

Environmental Health and Safety, Guidance Document

Title: Field Research Project Safety & Security **Section:** SHERM

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This information is intended for those that conduct sponsored field research activities.

Many research projects at UTHealth Houston involve off-campus field activities which may present personnel with unique hazards not necessarily encountered when conducting laboratory based research. Potential field research risks that might be encountered include, but are not limited to:

- Physical and Environmental Hazards
- Personal safety
- Transportation (e.g. driving)
- Animal and Pest Hazards
- Infectious Diseases

This document is intended to serve as a guide to assist in the recognition of the potential risks associated with field work, and to summarize the best-practice steps that can be considered to minimize or eliminate risks through planning and preparation. This information is intended to be applied to field work in remote settings, but much of it is applicable to community-based field work as well. If conducting a research project in an urban or community-based setting, refer to the *Community-Based Education & Research Project Safety & Security Guidance Document*.

Project Risk Assessment

All research projects conducted must undergo a project risk assessment. The project risk assessment should be submitted to the Environmental Health & Safety (EHS) for review. This process is intended to identify the anticipated and potential project specific hazards and risks. From this, “go” and “no-go” criteria specific to your research project can be established and hazards encountered during field work can be effectively managed. The subsequent controls necessary to protect the health and safety of the staff and students involved are documented and agreed upon through the review process. This information is then communicated to all field research participants and any necessary institutional stakeholders, such as the host department and the occupational health program.

For your convenience, a *Field Research Project Safety Plan and Risk Assessment* form designed specifically for field research activities has been developed by EHS. This form is intended to stimulate investigators to identify the risks and hazards to be encountered in the field and subsequent controls to be implemented. Location-specific points of contact and emergency plans must be developed. If any laboratory work will be conducted to

complement the field research activities, please include a description of the laboratory based work associated with the field studies on this form.

The *Field Research Project Safety & Security and Risk Assessment* form and more information about the submission process may be found on the EHS website. For submissions related to IRB requests, please submit to the Biological Safety Program for review and approval.

BEFORE YOU LEAVE: PROJECT PLANNING

One of the most important phases of your field research experience is planning and preparation before you leave. Prepare a written plan of your activities, which can be used to communicate the project details to all participants. A copy of this plan should be provided to colleagues in your department in case of emergency in the field and may be submitted with the project risk assessment to EHS. Consider including the following in your plans:

- General description of your activities.
- List of participating personnel – Include home and cell phone numbers, and emergency contacts. Designate a primary point of contact in the field who will be the person in charge of the field research team.
    - Prepare plan for communication in the field: organize teams and assign team leaders if necessary, establish check-in procedures if teams/individuals are splitting up.
- Scheduled itinerary – Location, dates of arrival and departure, lodging details.
- Local contact information – Location-specific contacts who can facilitate contacting you in the event of an emergency.
- General safety measures such as go/no go criteria, access to drinking water, procedures for working in high heat (>95°F), necessary personal protective equipment (PPE), and first aid considerations.
    - Prepare a list and compile the necessary components for a field first aid kit.
- Compile a list of potentially hazardous plants, animals, terrain, weather conditions, physical demands, and other hazards which may be encountered in the locations visited. Document the controls to be implemented for these hazards.
    - Complete the *Field Research Project Safety & Security and Risk Assessment* form.
    - Be aware of the symptoms, prevention, and first aid for physical hazards such as dehydration, heat exhaustion, heat stroke, hypothermia, etc.
- Contact Employee Health (713 500 3267) to identify the required and recommended travel vaccinations and prophylaxis medications for the locations to be visited.
- Whenever possible, field work activities should be conducted in teams of at least 2 people.
- Carry photo identification at all times.

Items required may vary depending on location due to the local risks present.

- List and compile any additional safety provisions for the journey, as required – first aid kit, first aid manual, medications, allergy treatments if needed, sunscreen, water purification tablets or filter devices, flashlights, flares, extra batteries, two-way radio, PPE necessary for field work (i.e. gloves, safety glasses, hard hat, proper footwear, etc.) and others.
- Identify the appropriate training required for each field research team member to be conducted prior to participation in the field activities. Indicate training providers and dates of training if possible.

Medical Care and First Aid

Injuries sustained in the field should be addressed immediately by the designated project first aid provider. They must make the determination when an individual requires emergency medical evacuation and/or transportation to

the nearest hospital if the injury cannot be addressed in the field. When necessary, written arrangements must be made in advance with local facilities for emergency medical treatment. Please ensure this is completed before travel.

First aid kits are essential for all off-campus activities. Each department or field research team is responsible for purchasing and maintaining first aid kits, ensuring that the appropriate location specific components are included in the kits. Contact the Occupational Health Program for advice on the contents of a first aid kit and to arrange a first aid training course.

All animal bites, scratches, mucous membrane exposures, or injuries that break the skin and are likely to be contaminated are to be treated as exposures. Perform first aid procedures immediately and notify your field supervisor. If you are ill with fever or other symptoms of an infection and you also have animal contact, let the first aid provider or local physician know that you have been exposed to animals in the field. Report any unusual or lengthy illnesses to the first aider, local physician, or occupational health physician if you have returned to UTHealth. Any bites, scratches, mucous membrane exposures, or other injuries or illnesses sustained in the field must be reported to through the Supervisors First Report of Injury form. This important reporting mechanism is utilized to ensure proper medical treatment and follow up is performed, if necessary, and provides the documentation needed for reimbursement claims submitted through insurance.

Emergency Plans

You should develop detailed emergency situation plans for each field research location to be visited, including considerations for evacuation, communication, nearest hospital locations and contacts. In addition, consider the following points in your emergency plan:

- Designate an individual in the field research team to be the responsible first aid provider. Have at least one back up or designate several first aid providers if multiple field study locations will be visited simultaneously which are geographically separated. First aid providers should be trained in first aid, CPR/AED and addressing field emergencies – contact the UTHealth Houston Recreation Center for more information on this training.
- Understand if any field research team members have any medical predispositions that should be considered for field emergency preparedness (e.g. asthma, allergies, etc.).
- Ensure all staff and student participants have obtained the necessary travel insurance coverage, inclusive of emergency evacuation services.
- Whenever possible, field work activities should be performed using the buddy system, in teams of at least two people in case of emergency. This link provides information specifically for international travel:
- Ensure all individuals carry photo identification at all times in case of accident or injury.

Competency and Training

- It is strongly suggested that at least one field research team participant obtain BLS(CPR/AED) and First Aid training. CPR/AED and first aid training courses are available through the UTHealth Houston Recreation Center.
- Any excursion into the field should include carrying some basic first aid supplies. There is no perfect first aid kit, but here are some guidelines to consider when assembling one:
    - First aid kits don't save lives, people do. Get trained on how to use everything in your kit.
    - Customize your kit for your destination, tasks, group size and level of training. Commercial first aid kits are a good starting point for creating a customized kit.

Principal investigators are responsible for ensuring that all staff and students receive adequate project specific training on field research activities and safety. All procedures must be understood and practiced prior to going out into the field so that each individual is comfortable with the activities in which they will participate.
For field research involving animals, training must be obtained on the proper handling and management techniques for the species to be encountered. PIs remain responsible for providing project specific hands-on training to all staff and students performing field research.

FIELD RESEARCH INVOLVING ANIMALS

All field research which involves trapping or handling wild animals must be reviewed and approved by the UTHealth Houston Animal Welfare Committee (IACUC) prior to commencing the project. This review is intended to address the ethical considerations and wellbeing of the animals, and ensures all individuals listed on the project approval are properly trained and have successfully enrolled in the occupational health program. Further information: AWC review process

Animal Handling Techniques

Here are some helpful common sense steps that you should take to reduce your risk of injury or illness from wild animals:

- Discuss the zoonotic diseases associated with the species you are studying, along with transmission and prevention strategies with the attending veterinarian and the occupational health physician. Familiarize yourself with emerging diseases in the region(s) you are traveling as these may develop or change rapidly – ProMed is a powerful resource.
- If a group member(s) develop an illness or are bitten, develop a plan to keep everyone apprised of the situation, their condition may progress rapidly and further compromise their health or the health of others.
- Handle all animals as if they are potentially infectious; be careful and use precautions at all times. Always leave yourself a means to escape.
- Treat bites, scratches, and other exposures or injuries promptly.
- Always wear all the PPE (gloves, gowns, mask, etc.) that you are required to wear.
- Wash your hands before and after animal contact.
- Do not eat, drink, or put anything in your mouth while in animal areas. Keep hands away from your face.
- If you are working with venomous animals, don't be with them alone and ensure anti-venom, antidote, etc. is drawn up and ready for administration.
- To help prevent bites, scratches, and injuries:
    - Recognize that the animal may be frightened
    - Never let your guard down
    - Get help when moving or lifting large animals
    - Use chemical restraint (sedation) whenever possible
- Do not touch or go near sick animals or animals with unusual behavior.
- Take care to avoid cuts when using sharp objects.
- Consider animal restraints if performing injections into animals that may present a sharps hazard to you.
- DO NOT RECAP NEEDLES!

Accidents happen to even the most experienced and careful workers since animals can be very unpredictable. Please use caution at all times when working with wild animals. Know what first aid to use if you have an accident or exposure, and always report exposures immediately to your field supervisor. Training on animal handing is offered by The Center for Laboratory Animal Medicine and Care (CLAMC) and questions regarding the handling of animals should be discussed with a CLAMC veterinarian: Animal handing training

IF YOU ARE PREGNANT OR IF YOU ARE ATTEMPTING TO BECOME PREGNANT

Women who are pregnant should consult the occupational health physician or their personal doctor before performing field research, especially if it involves handling or has potential exposure to wild animals.

If You Have a Chronic illness

If you are being treated for a chronic illness, be sure to notify the occupational health physician before you have animal contact. Diseases that lower your immunity, such as HIV infection and cancer, as well as drugs that lower immunity, like prednisone, may put you at increased risk of contracting a zoonotic infection. Exposures to certain animal species may be unsafe for you.

Diseases Transmitted from Animals to Humans

Humans do not usually “catch” infectious diseases that affect animals. However, there are some important exceptions. Infections of animals may sometimes cause very significant illness in humans. These infections, which begin in animals, but are then transmitted to humans are called ***zoonotic diseases,*** or ***zoonoses***. In many cases, the animals do not look or act sick. Although the animals may have developed resistance to these infectious agents, humans with no previous exposure to them may lack protective immunity. Some examples of zoonoses are: influenza, salmonellosis, campylobacteriosis, rabies, Q fever, tularemia, plague, ringworm, malaria, West Nile virus, Lyme disease, Chagas disease, typhus/spotted fever group rickettsial diseases, among others.

RISK ASSESSMENT AND ACTION

Examples of Hazards to Consider While Planning:

(Note: This is not an exhaustive list of hazards.)

Physical	Biological/Chemical	Environmental	Wildlife	Other
Dehydration	Bodily Fluids or Secretions	Flash Floods	Bites/Scratches	Political Instability
Heat Stroke	Animal Carcasses	Lightning	Zoonotic Diseases	War/Civil Unrest
Heat Exhaustion	Impure Water	Winter Storms	Insect Vectors	Theft/Robbery
Sunburn	Research Chemicals	Hurricanes	Venomous Animals	Terrorism
Hypothermia	Foodborne Disease	Tornadoes	Large Mammals	
Cuts/Needlesticks	Harmful Algal Blooms	Forest Fires		
Slips/Falls		Poisonous Plants		

Tips for Field Research Projects in Urban Areas:

Before the trip

- Map out the route with Google maps, Key maps, or another resource.
- Carry local contact information and local police and EMS contact info.
- Leave copies of safety plan and itinerary with a colleague in your department or school.
- If meeting with someone, call them prior to departure to verify:
    - The correct address
    - There will be someone there to meet you
    - Correct parking location

Traveling

- Wear prudent attire, do not appear over or under dressed. Blend in with locals.
- Inspect vehicle for safety (tires, overloading, brakes, etc.).
- Project certainty of route and destination.
- Avoid "high risk" regions.
- Travel with a colleague/ trusted other.

- Establish rapport with regular drivers.
- Determine risk levels of varying means of transport (bus, train, taxi, hitch hiking, etc.).
- (Women) Sit with other women or middle aged couples.

Parking

- Choose well-lit parking areas.
- Look around for loiterers before getting out of your motor vehicle.
- Always lock valuables and packages out of sight in the vehicle.
- If you get out of your vehicle, always turn off the ignition, remove the key, and lock your vehicle doors, no matter how soon you plan to return. This is particularly important at service stations and convenience stores.
- Try not to park next to vans, large SUVs, pickup trucks, or other vehicles whose size and structure can provide concealment.
- Exercise particular caution when using underground or enclosed parking garages. Always try to walk in the center aisle, rather than close to parked cars.
- If you have the choice, park in areas that have an attendant or in locations with heavy pedestrian traffic.

On site

- Avoid walking alone whenever possible.
- When walking, walk in the middle of the sidewalk and walk facing oncoming traffic.
- Attempt to appear confident and purposeful when you walk and be alert to your surroundings at all times.
- If you carry a purse, carry it close to your body, preferably in front. Carry no more money or credit cards than you absolutely need.
- When walking, try not to overload yourself with packages or other items. Keep your hands as free as possible.
- When walking, choose busy, well-lit streets and avoid isolated areas, alleys, vacant lots, abandoned buildings, and construction sites.
- When walking during hours of darkness, wear light colored clothing and carry a flashlight.
- If you carry a purse with a shoulder strap, be prepared to let it go if snatched. Otherwise, you could be knocked down and hurt.
- When walking, carry a loud whistle or high-decibel personal alarm. Use them to attract attention or summon help if you feel you are in danger. Carry the whistle or alarm in your hand so you can use it immediately.
- If followed or threatened by someone who is walking, use your whistle or personal alarm or scream loudly, cross the street and run in the opposite direction.
- When entering any structure be aware of all exits. Make sure nothing blocks the exits.

What to do if something occurs.

- At any point the situation doesn't feel safe, leave.
- Contain any anger and fear and speak in an authoritative tone that is loud enough for others to hear, but don't scream or yell.
- If the person or persons are attempting a robbery hand them whatever they want, do not resist.
- If the person or persons are attempting a rape, fight and don't stop fighting.

Reporting

- After an incident immediately call the local authorities.
- The authorities are going to need the following information.
    - Who was involved (this includes names or descriptions of unknown individuals)
    - What happened
    - Where the incident occurred (address or other descriptors if address is unknown)
    - When the incident took place

- Are there any injuries

What you should not do

- Do not carry fire arms or other offensive tools. These tools require special training and may be subject to certain legal requirements.
- Do not consume alcohol before or during field work.
- Do not carry large amounts of cash or valuables on your person of vehicle.
- If cash gifts, cash equivalents, or gift certificates are required for compensation for participating in research only carry the minimum amount to complete the study in the time allotted for the visit.
- Do not carry cash gifts, cash equivalents, or gift certificates required for field research in a manner that can be seen by the public. Cover in an envelope prior to delivery.

Tips for Field Research Projects in Remote and/or Wilderness Areas:

Before the trip

- Map out the route with Google maps or another resource.
- Carry local contact information and local police and EMS contact info.
- Leave copies of safety plan and itinerary with a colleague in your department or school.
- If meeting with someone, call them prior to departure to verify:
  - The correct address
  - There will be someone there to meet you
  - Correct parking location
- Inspect all equipment and gear to ensure it is in good condition.
- Make sure that all participants are trained on the completed safety plan.
- Ensure that you will have access to safe drinking water on site, or the means to disinfect water for drinking.
- Take fully charged cell phone(s) or satellite phone(s) and a method to recharge batteries with you; if traveling in groups, walkie-talkies may be a useful adjunct. If you will be separated or divided into groups check in on a set schedule.

On site

- Avoid walking alone, use the buddy system or remain together as a group whenever possible.
- When walking, try not to overload yourself with packages or other items. Keep your hands as free as possible.
- When walking during hours of darkness, wear light colored clothing and carry a flashlight.
- When walking, carry a loud whistle or high-decibel personal alarm. Use them to alert others in your group to your location in the event that you are separated from them.
- When working in an area with biting insects present (mosquitoes, ticks, etc.), wear insect repellent that contains DEET or another EPA-registered insect repellent. Treat clothing with permethrin.
- Check yourself for ticks daily, and immediately remove any that are found.
- If camping, arrive early to have daylight to set up your campsite.
  - When setting up, do not place campsite near the tallest trees in the vicinity due to lightning risk.
  - If camping in an area with bears present, store food away from camp. Use either a bear-resistant food container (if available) or hang food from a tree in a bag.
- Rest frequently (in shade, if possible) and stay hydrated. Know the signs of heat-related illness.
- Only drink treated water, whether that be water brought with you or water that's been treated on site.

What to do if something occurs.

- At any point the situation doesn't feel safe, leave.
- Contain any anger and fear and speak in an authoritative tone that is loud enough for others to hear, but don't scream or yell.
- If the person or persons are attempting a robbery hand them whatever they want, do not resist.

- If the person or persons are attempting sexual assault , fight and don't stop fighting.
- If you experience an extreme weather event, get to a safe area as soon as possible.
- If bitten or scratched by an animal, clean the site of the wound immediately.

Reporting

- After an incident immediately call the local authorities.
- The authorities are going to need the following information.
    - Who was involved (this includes names or descriptions of unknown individuals)
    - What happened
    - Where the incident occurred (address or other descriptors if address is unknown)
    - When the incident took place
    - Are there any injuries (if injuries are from an animal, try to identify the species)

What you should not do

- Do not carry firearms or other offensive tools. These tools require special training and may be subject to certain legal requirements.
- Do not consume alcohol before or during field work.
- Do not carry large amounts of cash or valuables on your person of vehicle.
- Do not touch dead animals, unless required for your research.
- Do not approach large wildlife (bear, elk, bison, etc.) closer than 100 yards and smaller wildlife (foxes, snakes, etc.) closer than 25 to 50 yards. It is illegal in US National Parks to intentionally disturb wildlife.

INTERNATIONAL TRAVEL

UTHealth Houston provides an insurance policy to all employees and students while traveling internationally on university business through On Call International. It is important that UT employees and students are aware of the resources available to them for safe and efficient travel. For more information contact Risk Management & Insurance (RMI) (713-500-8100) or visit the link above.

ABOUT ON CALL INTERNATIONAL

Medical Services

Pre-trip health information (e.g. vaccination and medical alerts)
Referrals to local doctors or medical providers
Medical monitoring and claims assistance
Guarantees of payment to local hospital/clinics
Emergency medical evacuation and repatriation services
Tele-counseling

24/7 access to counselors to support mental and emotional health
Security Services

Real time safety and security information about your destination
24/7 access to security specialists
Security evacuation services
Travel Services

Legal referrals
Translations and interpreters

Lost document assistance (e.g. passport, visa)
Global risk intelligence information via the plan info portal and incident alerts upon trip registration

Additional Resources

International Travel

US Department of State
https://travel.state.gov/content/travel/en/international-travel.html

US Department of State - Smart Traveler Enrollment Program (STEP)
https://step.state.gov/step/

Overseas Security Advisory Council (OSAC) - Bureau of Diplomatic Security
https://www.osac.gov/Pages/Home.aspx

Central Intelligence Agency (CIA) - World Factbook
https://www.cia.gov/library/publications/the-world-factbook/docs/profileguide.html

General Health and Safety

US Centers for Disease Control and Prevention (CDC) - Travelers' Health
https://wwwnc.cdc.gov/travel/

CDC - Drinking Water: Camping, Hiking, Travel
https://www.cdc.gov/healthywater/drinking/travel/

The National Institute for Occupational Safety and Health (NIOSH) - Hazards to Outdoor Workers
https://www.cdc.gov/niosh/topics/outdoor/default.html

World Health Organization (WHO) - International Travel and Health
http://www.who.int/ith/en/

Peace Corps
https://www.peacecorps.gov/volunteer/health-and-safety/

National Capitol Poison Center - Poisonous and Non-Poisonous Plants
https://www.poison.org/articles/plant

Wildlife and Zoonoses

CDC - One Health, Zoonotic Diseases
https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html

CDC - Ticks
https://www.cdc.gov/ticks/index.html

US Geological Survey - National Wildlife Health Center

https://www.nwhc.usgs.gov/

US National Park Service (NPS) - Wildlife and Outdoor Hazards in Parks
https://www.nps.gov/subjects/healthandsafety/outdoor-hazards.htm

American Veterinary Medical Association - Disease Precautions for Hunters
https://www.avma.org/public/Health/Pages/Disease-Precautions-for-Hunters.aspx

Weather and Extreme Environmental Conditions

National Oceanic and Atmospheric Administration - Weather
http://www.noaa.gov/weather

Electronic Library of Construction Occupational Safety & Health - Lightning
http://www.elcosh.org/document/2250/d000149/Lightning%2BSafety.html?show_text=1

NIOSH - Cold Stress
https://www.cdc.gov/niosh/topics/coldstress/

NIOSH - Heat Stress
https://www.cdc.gov/niosh/topics/heatstress/default.html

Occupational Health and Safety Administration (OSHA) - Heat Safety Tool (Android and iPhone app)
https://www.osha.gov/SLTC/heatillness/heat_index/heat_app.html

NPS - Fire Safety
https://www.nps.gov/subjects/healthandsafety/fire-safety.htm

Training

UTHealth Houston Recreation Center - Basic Life Support (BLS) and First Aid Training Courses
https://www.uth.edu/recreation-center/programs/wellness
National Outdoor Leadership School (NOLS) - Wilderness Medicine Training
https://www.nols.edu/en/about/wilderness-medicine/