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ENVIRONMENTAL HEALTH & SAFETY

FIELD RESEARCH SAFETY

UNC CHARLOTTE
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Chapter I - Preface and Overview

The UNC Charlotte Field Research Safety Manual provides recommendations, policies, guidelines, and resources for UNC Charlotte personnel to conduct field research safely and successfully. This manual enables UNC Charlotte personnel to minimize risks associated with conducting field research in local, regional, national, or international locations. Field sites may include natural reserves, public lands or parks, wilderness locations, coastlines, waterways, construction areas, mines, excavations, or other field stations. It is intended that the Principal Investigator and supervisory personnel will supplement this information with instruction and guidance regarding specific practices and procedures unique to the work being conducted in the field.

Definitions

“Field Research” refers to academic research, work, or studies conducted outside of a classroom or laboratory, in the natural environment. Specifically, at UNC Charlotte, Field Research consists of activities that are authorized by UNC Charlotte and conducted by faculty, staff, students, or other authorized individuals for the purpose of research, teaching, or testing in locations that are physically secluded or remote from campus, where planning for risk in a natural environment is essential. Normally, Field Research does not include travel for conferences, seminars, or visits to other institutions. The terms "field work," "field studies," and "field activities" are all considered "Field Research." For the purpose of this definition, the term "campus" refers to the UNC Charlotte main campus buildings, labs, and other controlled areas.

"Student employee" is defined by the University at PIM-15, as well as in this HR resource: https://hr.charlotte.edu/managers/hiring/student-employees

This manual will be reviewed and revised periodically.

Chapter II - Introduction

Field research is an important part of teaching and research at UNC Charlotte. Since field research activities may take place off campus, locally, regionally, or internationally, it is crucial that all UNC Charlotte personnel plan and prepare for risks, health, and safety concerns in the field. Integration of field safety planning into field research protocols will ensure research objectives are met as well as regulatory requirements to protect UNC Charlotte employees and students from illness or injury and protect the environment.

UNC Charlotte maintains written EHS compliance programs, including but not limited to the Accident and Incident Prevention Program, Bloodborne Pathogen Program, Chemical Hygiene Plan, Confined Space Program, Fall Protection and Elevated Work Program, Hearing Conservation Program, Hot Work (Welding Cutting and Brazing) Program, Personal Protective Equipment Program, Respiratory Protection Program, and several other programs related to health and safety. In addition, there are the Animal Care and Use Program, Biosafety, and various programs with the Office of Research Protections and Integrity. These programs outline the framework for identifying, mitigating, correcting workplace hazards, ensuring employee training and compliance, medical surveillance awareness and recordkeeping.

A. UNC Charlotte personnel and students participating in field research are responsible for following all UNC Charlotte policies and procedures including:

- Review completed Field Safety Plan (Appendix A) prior to trip.
- Assemble research equipment and necessary supplies for field research before departure.

- Conduct a risk assessment (within Appendix A) to determine potential hazards in field research sites and effective mitigation strategies.
- Obtain and record training for field activities.
- Know procedures to follow in the event of an emergency as described in the Field Safety Plan.
- Reporting all injuries and incidents to EHS using the Employee Incident Form.
- Reporting unsafe conditions, malfunctioning equipment, and other safety concerns to principal investigators or supervisory personnel.
- Having approved research protocols from the UNC Charlotte Institutional committees as applicable.
- Using personal protective equipment and safety equipment as determined by a risk assessment (Available in Field Safety Plan, Appendix A) or as outlined in approved research protocols.

For specific information on fieldwork hazards and precautions, talk to your supervisor.

Chapter III - Planning

Environmental hazards and risks are inherent in field environments. Understanding the hazards and anticipating the risks of each field site will enable UNC Charlotte personnel to reduce the possibilities of negative consequences, including incidents or accidents. Planning and preparation before leaving is one of the most important phases of the field research experience. This section will outline the recommended planning and preparation steps for field research projects.

A. Field Hazard Assessment

A field hazard assessment should be completed for each individual field site. To conduct this assessment, research the environmental hazards that may be present in a field location, including:

- Biological hazards
- Chemical hazards
- Cultural/practice-related hazards
- Physical hazards
- Weather hazards
- Social hazards
- Unforeseen hazards

To conduct a hazard assessment specific to the field site location, complete a Field Safety Plan located in Appendix A. This record will list all the identified risks associated with the field site and the measures taken by UNC Charlotte personnel to reduce the risks.

There are many general, physical, and environmental hazards in nearly every location worldwide. All field researchers, regardless of the work location, should read Appendix B to learn more about some general, physical, and environmental hazards. If your research is anywhere in North America, please also read Appendix C- North America. If your research will take you outside North America, please also read Appendix D- International.

1. Animals and Pests

There are many general safety hazards pertaining to animals and pests in nearly every location worldwide. All field researchers, regardless of the work location, should read through this section to learn more about some general guidelines to prevent unwanted animals and pests. If your research is in

North America, please also read Appendices E and F. If your research will take you out of North America, please also read Appendices E and G- Animals and Pests International.

A number of animals and pests may be encountered in the field. Follow these guidelines to prevent close encounters of the painful kind:

a. Avoid contact with animals.
b. Be aware of the appearance and habitat of pests likely to be found, such as those described in Appendices E, F and G.
c. Carefully look for pests before placing your hands, feet, or body in areas where pests live or hide, like woodpiles, crevices, etc.
d. Carry a first aid kit with you on an excursion so you can treat bites or stings. If the pest is venomous or if the bite does not appear to heal properly, seek medical attention immediately.
e. Do not camp or sleep near obvious animal nests or burrows.
f. Keep garbage in rodent-proof containers and store it away from your campsite or work area. Food crumbs and debris may attract insects and animals.
g. Minimize the amount of time you use lights after dark as they may attract pests and animals.
h. Thoroughly shake all clothing, shoes, and bedding before use.
i. Use netting to keep pests away from food and people.
j. Wear clothes made of tightly woven materials and tuck pants into boots.
k. Wear insect repellent. Mosquito-borne illnesses are responsible for more than a million deaths each year.
l. Keep food items away from animals - raise them off the ground, keep in sealed containers, etc.

2. Proper Rodent Handling

Steps can be taken to reduce the risk of rodent-borne diseases. Most importantly, make the area unattractive to rodents. Cover or repair holes in a building to prevent unwanted rodents. If camping, keep the area clean of trash and store food carefully to prevent attracting rodents. Don't camp near rodent burrows. If rodent feces or dead rodents are discovered, some precautions will help reduce the risk of exposure to rodent-borne diseases when cleaning the area:

a. Dead rodent: Using gloves, soak the rodent, droppings and nest with a solution of one-part bleach to nine parts water; let soak for at least five minutes before picking it up with a plastic bag. Place bag in a second plastic bag.
b. Indoors: Do not stir up dust. Ventilate the area by opening the doors and windows for at least 30 minutes to diffuse potentially infectious aerosolized material. Use cross-ventilation and leave the area during the airing-out period.
c. Rodent feces: Do not sweep or vacuum rodent droppings. Spray the droppings with one-part bleach to nine parts water, let soak for at least five minutes, then wipe up the droppings. If possible, wet mop the area with the bleach solution.

3. Diseases

There are diseases caused by viruses, bacteria, fungi, and parasites in nearly every location worldwide. This guide is not intended to cover every health risk in every location, but it provides information about some more common diseases. Always check with your primary health care provider before traveling out of the country to learn about specific health risks for the region you will conduct your research. All field researchers, regardless of the work location, should read through Appendix H- Diseases General to learn more about some general diseases that exist worldwide. If your research is in North America, please also read Appendix I- Diseases North America. If your research takes you out of North America, please read

Appendix J- Diseases International. More information regarding diseases can be accessed from the Centers for Disease Control and Prevention.

B. Field Safety Planning

Field Research Guidelines

1. "**Field Research**" for the purpose of these Guidelines refers to academic research, work, or studies conducted outside of a classroom or laboratory, in the natural environment.

2. Specifically, at UNC Charlotte, Field Research consists of activities that are authorized by UNC Charlotte and conducted by faculty, staff, students, or other authorized individuals for the purpose of research, teaching, or testing in locations that are physically secluded or remote from campus, where planning for risk in a natural environment is essential.

3. The terms "field work," "field studies," and "field activities" are all considered "Field Research." For the purpose of this definition, the term "campus" refers to the UNC Charlotte main campus buildings, labs, and other controlled areas.

4. Normally, Field Research does **not** include travel for conferences, seminars, or visits to other institutions, organizations, and community partners.

5. In addition, "Field Research" should not be confused with the term "Field Trip." (See Field Trip Planning and Compliance Procedure for information about Field Trips)

6. Prior to engaging in Field Research, those engaging in Field Research should engage in the following steps:

All Field Researchers

a. Complete the Field Research Safety Plan (Appendix A), and consult the Field Research Hazards Appendices below to identify hazards

- Appendix B — General physical and environmental hazards
- Appendix C — Hazards in North America
- Appendix D — International hazards
- Appendix E — Animals and pests general
- Appendix F — Animals and pests North America
- Appendix G - Animals and pests international
- Appendix H — Diseases general
- Appendix I — Diseases North America
- Appendix J — Diseases International
- Appendix K — Field research kit items
- Appendix L — Field Safety Research Risk Matrix

b. Complete the ORPI Compliance Questionnaire

- Describe research project or activity
- Answer questions about human subjects research, microorganisms, infectious materials, animals, conflicts of interest, international travel, etc.

c. Consider the number of people traveling off-site for Field Research

- If more than one person is engaged in Field Research, the PI should complete the Plan to Foster a Safe and Inclusive Working Environment for Off-Campus or Off-Site Research and distribute the completed plan to all Field Research participants.
- If one or more **non-employee students** are engaging in Field Research off-site , ensure that they complete and sign the Off-Campus Activity Acknowledgement of Risk, Release, and Behavioral Agreement

NOTE: The Acknowledgement of Risk, Release, and Behavioral Agreement is NOT intended for student employees ("student employee" is defined in PIM-15) who are engaging in activities as a part of their University employment.

Additional Steps Related to Travel Destinations

1. International Travel

a. International Travel Program (organized through Education Abroad or the Office of International Programs)

- Follow OIP or OEA procedures for registration, insurance, etc.

b. Independent/Non-Programmatic International Travel (NOT organized through Education Abroad or the Office of International Programs)

- Enroll in GeoBlue supplemental health insurance for all international travel
- Faculty: Contact David Landrum in OIP to enroll in GeoBlue Business Plan
- Students: Contact OEA to enroll in GeoBlue Student

c. Export Control (EC)

- Follow Export Control procedures

2. Domestic Travel

For off-campus University-sponsored student activities that are **not course-related (non-field trip activities)**, activity leaders should ask students to sign an Off-Campus Activity Acknowledgement of Risk, Release, and Behavioral Agreement.

NOTE: A University-sponsored course-related, off-campus domestic activity led by a faculty member and designed to serve educational purposes is deemed a "Field Trip" and should follow the Field Trip Planning and Compliance Procedure.

3. Field Trip Planning & Compliance Procedure

Field trip planning involves more factors than the simple logistics of where, when, who, and how long. This **Field Trip Planning & Compliance Procedure** ensures that some of the less obvious essentials are not neglected as you prepare for your field trip. It specifically addresses the needs to:

a. Manage risk,

b. Consider supplemental accident insurance for participants,

c. Collect emergency contact information,

d. Obtain release and behavioral agreement, and

e. Secure any authorizations that might be needed from post-secondary education regulators in the jurisdictions through which trip participants may pass.

***Required Field Trip Forms**

4. Field Trip Planning Form

a. All University faculty members planning to lead or sponsor a domestic field trip must complete this planning form as early as possible in the planning process.

b. This form serves multiple purposes:

- For **internal and external reporting purposes**, it creates a record of official University-sponsored field trips.
- For **insurance purposes**, this form must be submitted to obtain accident insurance for field trips; such insurance provides medical benefits (up to $5,000 per Insured) to participants and chaperones for injuries sustained while on a field trip sponsored by UNC Charlotte.
- For **compliance purposes**, this form helps ensure that the University is authorized to offer learning opportunities in the jurisdiction(s) where you travel.
- For **organizational purposes**, this form directs you to resources you will need to keep good records and organize your trip.

5. Field Trip Acknowledgement of Risk, Release, and Behavioral Agreement

a. All students participating in field trips must sign the **Field Trip Acknowledgement of Risk, Release, and Behavioral Agreement**.*

b. If you need to modify this agreement for your program, please contact Legal Affairs.

*IMPORTANT: Agreement must be signed voluntarily. If a participant is unwilling to sign the agreement, they cannot participate. If the field trip is for credit or is a required element of the course, alternative projects or activities must be offered.

6. Field Safety Plan

A Field Safety Plan in Appendix A should be completed for each UNC Charlotte field project, including off-campus local, regional, national, international, or remote sites.

The safety plan should include site-specific information, emergency procedures and a list of emergency contacts. Developing a complete field safety plan and ensuring that all project participants are familiar with the field safety plan will better prepare the team to manage risks in the field and mitigate negative consequences. Established site procedures may be in place for field locations. However, the field safety plan should be completed to outline the hazards and mitigation strategies specific to UNC Charlotte research projects and personnel.

The completed safety plan should be kept within the lab safety manual, and we recommend all the members of the field research team keep copies of Appendix A during the trip. A single field safety plan can cover multiple trips to the same location. The field safety plan should be revised whenever a significant change to the location or scope of fieldwork occurs. EHS can assist in the completion or review of the field safety plan. For assistance, please contact EHS using a service request, email at ehsoffice@charlotte.edu or call 704- 687-1111.

C. Risk and Insurance Services

The Office of Risk Management and Insurance administers the University's Risk Management Plan to protect UNC Charlotte's reputation and financial assets. The office also supports University departments by assessing potential risks, recommending action to manage hazards, and suggest the contractual transfer of those potential risks. In the event of a loss, the Office of Risk Management will provide guidance in the mitigation of losses and assist in the recovery through insurance.

1. Authorized Driver

a. Only UNC Charlotte employees and student workers are allowed to drive UNC Charlotte-owned, leased, or rented vehicles for official university business.
b. Drivers must be 18 years old with a valid, current U.S. license. When renting a vehicle for UNC Charlotte business, drivers are subject to the age requirement set forth by the rental company.
c. 15 Passenger Vans: Specifically, for drivers of 15 passenger vans, individuals must complete the University's 15 Passenger Van Training and send a copy of their results to the Office of Risk Management and Insurance (hnance3@charlotte.edu).

For further information please contact UNC Charlotte Motor Fleet at 704-687-0596.

2. Insurance

a. Auto Insurance

- Liability

  - In accordance with NC law, all University-owned vehicles must carry liability insurance. The term 'vehicle' is defined broadly, and includes private passenger vehicles, vans, forklifts, mowers, tractors, golf carts (both gas and electric), trailers, and other types of vehicles.
  - University-owned vehicles, leased departmental vehicles, other licensed equipment, and all motor fleet vehicles, are to be used for official state business only. The vehicles shall be driven only by state employees and must be used in the course and scope of their employment. It is unlawful for any state employee to use a state-owned vehicle for any private purpose whatsoever.

- Physical Damage

    - University-owned vehicles and mobile equipment are covered for physical damage only if they have been specifically added to our insurance policy. The auto physical damage deductible for an accident is $500, provided the vehicle has been added to the policy for comprehensive and collision coverage. In the event of a covered loss, the unit which owns the vehicle is responsible for paying the policy deductible.
    - Please contact the Office of Risk Management & Insurance to add physical damage coverage for any vehicle.
    - All auto accidents involving state vehicles or other property damage, regardless of amount of damage, must be reported within 24 hours of the accident. Please see the Claims Reporting Page to see how to handle an accident.
    - To add a vehicle to the University's auto insurance, please complete the "Add a Vehicle" form and return it to the Office of Risk Management and Insurance. If physical damage coverage is desired, be sure to indicate such in the appropriate box on the form.
    - The unit that owns and operates a given vehicle is responsible for the annual insurance premium associated with that vehicle.

b. Domestic Rental Car Insurance

- Liability

    - The University's automobile liability insurance will cover the individual as well as the vehicle when the vehicle is rented within the course and scope of employment. Therefore, employees should not purchase additional liability insurance coverage sold by the rental company.

- Physical Damage

    - It is preferred that vehicles be rented under the State of North Carolina's contract with Enterprise Rent-A-Car. If the Enterprise-rented vehicle is valued at less than $40,000, physical damage coverage is automatic and there is no need to contact the Office of Risk Management for insurance, as this coverage is contemplated under the State's contract with Enterprise. However, if the Enterprise vehicle is valued at $40,000 or more, you must notify UNC Charlotte's Office of Risk Management and Insurance so the vehicle can be manually added to UNC Charlotte's policy. We will need the information requested on the "Add a Vehicle" form to add it for you.
    - If there is no Enterprise Rent-A-Car vehicle available, you must contact Risk Management to add the specific vehicle you rented to our policy before driving it. NC policy prevents reimbursement for insurance purchased through a vehicle rental company.
    - For all truck rentals other than those made through Enterprise, be sure to contact Risk Management, as they will have to be manually added to our policy.

3. International Auto Insurance

Purchase the maximum liability limits available from the rental company and full physical damage coverage on the vehicle. If possible, add the University as an additional insured.

4. Use of Personal Vehicles

According to the State of North Carolina, if you use your personal vehicle on State (UNC Charlotte) business, your personal automobile insurance policy is considered to be primary. The University's auto insurance will not provide coverage for the use of personal vehicles, even if used in the course/scope of University duties.

5. Claims

a. Property

- All losses must be reported to Risk Management within 24 hours of knowledge of damage to University property by completing the property loss reporting form. Please contact Risk Management & Insurance at 704-687-5711 for assistance with completion and submission of those forms to the NC Department of Insurance. By contacting RMI you can avoid potential redundancy of process.

b. Auto Claims

- In the event of an accident involving a University vehicle (owned, leased or rented by the University) the driver should do the following:
- Call for medical assistance if required
- Contact the local police at the time of the accident and get a police report
- Do not comment on liability, payment of bills, or argue the merits of the claim
- If a University employee is injured and needs medical attention, visit the EHS Injury Incident Reporting page for instructions on reporting the incident. Also, contact the Workers' Compensation Manager at 704-687-0681
- Contact their supervisor or department head
- Secure the name, address, and phone number of all involved parties and witnesses
- If another vehicle is involved, secure information on the vehicle, driver, owner, and insurance carrier and policy number
- If the vehicle is rented from a rental agency, the rental agency must be contacted immediately.
- Contact Risk Management and share any available details or if there are any questions

*Note: Departments are responsible for any deductibles that may apply

6. Certificate of Coverage

Liability coverage for the University is outlined in the most recent Certificate of Coverage document (available under the Coverage Documents heading on the RMI website). This document illustrates the coverage provided by the State and excess liability policies and serves as our version of a certificate of liability insurance.

7. International Travel

a. Protocol for Faculty, Staff & Graduate Student International Travel

- Office of International Programs (OIP) collects information regarding faculty/staff travels to identify the University's connection with various countries. Faculty/staff engaged in professionally-related international travel are strongly encouraged to notify the Office of International Programs regarding their travel plans by contacting us at international@charlotte.edu. Furthermore, if you wish, OIP may contact you pending your

destination to provide information regarding UNC Charlotte initiatives associated with a particular country/university/alumni group. A listing of UNC Charlotte and overseas university agreements is online at https://oip.charlotte.edu/resources/international-links.

- As faculty/staff, if you are interested in taking UNC Charlotte students with you on your overseas trip and you have not yet coordinated your work with the Office of Education Abroad, then the OEA staff should be notified immediately. Note: Any UNC Charlotte student participating with faculty/staff on a trip, regardless of whether the student's participation is or is not for academic credit (e.g., conference attendance, site visit, etc.), must be registered with OEA. You can contact OEA at edabroad@charlotte.edu or 704-687-7747.
- Graduate students conducting overseas travel independently are required by the UNC System Office to purchase international insurance regardless of the purpose of travel: conference presentation, research, or others. Like the registration, the insurance purchase must be handled by the Office of Education Abroad (OEA). Please find the information about how to purchase international travel insurance on OEA's website. Notification of Export Control Officer (ECO): International travelers are responsible for notifying the University's ECO (exportcontrol@charlotte.edu, 704-687-1877) of their travel plans prior to travel. Travel Authorization (TA) Forms that indicate international travel destinations will automatically be routed to the ECO through the University's imaging system.

b. Export Control Compliance

Division of Research, Office of Research Protections and Integrity (ORPI)

International Travel

- **University-Owned Equipment, Technology, and Other Electronic Devices**
  - Computers, tablets, and any other equipment owned by the university or purchased with any sponsored award (i.e., grant)
  - Unpublished software or sourcecode
- **Research-Related**
  - Presenting research data in a conference
  - Meeting with collaborators to discuss research
  - Taking samples, specimens, reagents
  - Sharing unpublished information about research results to any foreign person during an international travel

Note: Shipping any of the items listed above to a foreign destination, should also be in accordance with Export Control applicable laws and regulations. The examples above are not exhaustive. Please refer to the University's website on Export Control. If you still have questions, contact the Export Control Officer for additional information.

Before taking any University-owned equipment/technology abroad, you must register with the ORPI by filing the International Travel with University-Owned Equipment Form at least 14 days prior to departure.

- The registration with ORPI serves as a Temporary (TMP) Export License Exception Certification that a traveler should have available during the trip.
- A license may be required to take the items listed above abroad, and it can take several months for the agency to review and approve a license. A license may be required when the TMP exception is not applicable.

- Training: The University offers training through the CITI Program on safeguarding equipment/technology/data during International Travel. It is highly recommended that travelers complete this training before traveling abroad.
- Personal equipment/technology not purchased using university funds or sponsored awards are not subject to these requirements.
- Always keep your computer and other electronic devices with you, in a hotel safe, or other secure location.
- University property cannot be taken to an embargoed country without consulting the Export Control Officer. Please reference the Countries of Concern page for more information on this policy.
- When applicable: Change your password(s) after returning home.
- If you need to access the internet while abroad, always use the University's Secure VPN.
- If property is stolen or confiscated while abroad, file and obtain a copy of a police report and notify the Export Control Officer.
- If you use any digital device abroad, there is a possibility that malicious software will be inserted into the device or that information on your device will be accessed.
- Do not leave the device unsecured in your hotel room or car.
- The university offers some options for "clean" electronic devices that can be taken abroad.
- Acquaint yourself with the risks of carrying digital devices when traveling outside the U.S. by reviewing the **State Department's website.**
- Assume that all information on your devices may be publicly accessible. Do not travel with confidential, controlled, or sensitive information on your devices. Federal agents may search international travelers' laptops or other electronic devices, to include taking the device to an offsite location for review. This policy applies to inbound and outbound travel.
- Biological and Chemical Materials

    - International travel with biological or chemical samples constitutes an export under U.S. export regulations and may require a license. Also, there may be additional health and safety requirements for transporting these materials. If you intend to travel with or ship biologics or chemicals, consult with the Export Control Officer beforehand.

- Export Control Officer contact information: exportcontrol@charlotte.edu or 704-687-1877.

8. Employee International Travel Insurance

a. Insurance Information

- Most insurance policies do not provide special coverage to protect travelers while overseas. For example, medical evacuation services, non-network provider services, repatriation of remains, etc. are not usually included in a standard US insurance policy. You can review your insurance policy coverage to determine overseas coverage.
- If you decide to obtain University insurance coverage for international business travel, then UNC Charlotte faculty/staff can currently enroll in an international insurance policy, State of North Carolina International Business Travel Accident & Sickness Program. The State of North Carolina International Business Travel Accident & Sickness Program is intended for faculty/staff representing UNC Charlotte on official university business (i.e., attending a conference, site visit).
- The policy has the option of coverage for your traveling spouse and/or dependents. For further information, please contact the Office of Education Aboard.

b. Insurance Enrollment Process

- If you wish to purchase insurance, please complete the International Insurance Enrollment Form from the Office of Education Aboard. The following information is required to process the

request. If you are requesting coverage for a spouse or dependents, then be certain to include the requested information for every person included in your coverage request.

- **Business travel insurance requests take up to 2 weeks to process. Submissions must be made at least two (2) weeks prior to the travel departure date.**
- Please have the following information ready, as it will be required to complete the International Insurance Enrollment Form.

c. Required Information

- Name as it appears on passport
- Date of birth
- Dates of coverage (departure date and return date)
- Destination country(ies)
- Business purpose
- Method of payment - Faculty/Staff have the option to pay for the insurance in one of the following manners:
    - Cash
    - Check (payable to UNC Charlotte)
    - Interdepartmental transfer or provide a fund # (if department will cover the expense)
- To arrange payment, contact Alan Yehoshua-Coffman at adugan3@charlotte.edu.
- For general questions/concerns regarding international insurance coverage, please contact Alan Yehoshua-Coffman at 704-687-7754 or adugan3@charlotte.edu.

9. Student Non-Employee International Travel Insurance

Any student who travels abroad under the auspices of UNC Charlotte will be enrolled in international health insurance. **This insurance is mandatory and cannot be waived under any circumstance** – even if the student already has additional insurance coverage through their parents, affiliate provider, etc. This policy is very comprehensive, including coverage for many medical-related expenses as well as evacuation.

a. Enrollment

- UNC Charlotte Education Abroad (EA) will automatically enroll approved students in GeoBlue's Study Abroad Plan approximately one to two months prior to the student's departure. Once EA enrolls students in the insurance, they will be notified via email. The notification email will detail next steps for the student to register their GeoBlue account, download their GeoBlue ID card, how to submit payment for the insurance, etc.

10. Emergency Management

a. Establishing an Emergency Plan

- All travel, regardless of destination, brings a certain level of inherent risk. Even if you are an experienced traveler, it is important to have a completed Field Safety Plan, Appendix A, that considers the following:
    - Action plans that respond to those risks.
    - UNC Charlotte and local emergency contacts.

- Destination information (e.g., lodging information, transportation plan, medical facilities, rules and regulations, currency, customs, and cultural norms).
- Potential risks or threats associated with the destination.

- You may be asked to share copies of your field safety plan before traveling.

b. Responding to an incident

- If you are involved in an incident, follow your field safety plan and contact the appropriate support services:
- If you need local assistance like police, ambulance, or fire department, call the equivalent of 911 for the country you are in.
- All travelers may also use the Alert Traveler app to call for local assistance.
- If you are on campus, notify UNC Charlotte, contact the UNC Charlotte Police Department at 704-687-2200 as well as your supervisor, and request their assistance as necessary.
- If you are in a crisis, or have a lost/stolen passport, contact the nearest U.S. embassy or Consulate.
- Visit the U.S. Department of State's page on emergencies abroad for additional information.

c. Reporting an incident

- If an employee is not on campus and/or the grounds of Charlotte and is injured while performing a work process, contact the Enterprise Risk Management (ERM) immediately or as soon as possible to make notification of the incident at 704-687-8271.
- If the employee needs immediate medical attention that cannot wait until their return, they should seek medical care at the nearest urgent care facility. If the injury is life threatening, they should seek care at the nearest hospital emergency room.
- During life-threatening injuries or illness:

  - Call 911 or seek medical attention immediately.
  - Know the physical location and provide accurate directions to the field location to emergency medical personnel.

- After treatment is rendered, return the employee to work in accordance with instructions by the medical provider.
- All documentation related to the incident as well as the treatment paperwork must be promptly provided to ERM; it can be emailed to angallen@charlotte.edu or faxed to 704-687-6789 (this is in addition to the below reporting the incident online to EHS).
- For EHS reporting : Employees complete the Employee Incident Report by accessing the link. Supervisors complete the Supervisor Incident Investigation via EHSA OnSite.
- For specific questions, contact the Workers' Compensation Manager directly at 704-687-0681.

11. Employees

All accidents and injuries occurring at work or in the course of employment must be reported to the employee's supervisor, even if no medical attention is required. If the incident involves injury to a non-UNC Charlotte party or damage to or theft of UNC Charlotte property, please email Risk Management or review the Risk Management website for claims reporting information.

12. Restricted Travel Areas

a. At UNC Charlotte, a "Restricted Travel Area" is any international location for which:

- The U.S. Department of State (Department of State) has issued a Travel Advisory Level 3 or Level 4 for a country;
- The Department of State indicates "Reconsider travel" or "Do not travel" for a particular area within a country for which it has otherwise issued a Travel Advisory Level 1 or 2;
- The Centers for Disease Control and Prevention (CDC) has issued a Travel Health Notice Level 3 (Warning)
- UNC Charlotte has otherwise restricted travel for reasons of safety and security.
- University-supported travel to countries or regions for which a Department of State Travel Advisory Level 3 or a CDC Travel Health Notice Level 3 is in effect requires special approval as set forth in Section III below. As a general rule, the University will review countries or regions for which a Department of State Travel Advisory Level 4 or a CDC Travel Health Notice Level 4 is in effect, and decisions will be made based on criteria approved by the University to support travel abroad.
- Regardless of whether a Department of State Travel Advisory Level 4, or a CDC Travel Health Notice, Level 3 or 4 is in effect, the University reserves the right not to approve support for international travel, or to rescind previously approved support, any time when, in the University's sole discretion, the University determines that travel is inadvisable for reasons of health or safety.

For further information please contact the Office of Education Abroad at edabroad@uncc.edu

13. Unmanned Aircraft Systems (UAS)

a. Policy Adherence

- All UAS flights for research purposes (regardless as to the location), or on/above University premises for a University Activity or for hobby or recreational use, must comply with all applicable federal and state statutes and regulations established by the Federal Aviation Administration and the North Carolina Division of Aviation, as well as University Policy 717.
- Operators must submit a UAS/Drone Flight Notification form as soon as practicable, but no less than 48 hours prior to the flight.

b. Insurance

a. Every UAS owned by the University must be insured for liability coverage. Physical damage coverage is optional. To procure insurance for a University-owned drone, please contact the Office of Risk Management and Insurance (jfiorel3@uncc.edu).
b. Contact Risk Management & Insurance with any questions.

D. Registration of Research

The Office of Research Protections and Integrity (ORPI) provides oversight, education, and support for integrity and compliance issues related to research at UNC Charlotte. Our staff promotes ethical and high-quality research by partnering with faculty, staff, and students in the navigation of the evolving regulatory environment.

As the University's hub for research oversight, the ORPI encompasses programs for Animal Care and Use (IACUC), Biosafety (IBC), Conflict of Interest (COI), Export Control (EC), Human Subjects Research Protection (IRB), Laboratory Animal Resources (LAR), and Research Integrity (Research Misconduct and Responsible and Ethical Conduct of Research [RECR]). Please refer to the contacts below and to our component program pages for resources to support your work at the University.

1. Programs

a. Conflict of Interest - Assists faculty and staff with program-related form submission and policies, especially U.P. 101.24, Conflicts of Interest and Commitment, and U.P. 102.1, External Professional Activities of Faculty and Other Professional Staff. Reviews conflict of interest (COI) disclosure forms and coordinates with department heads and the UNC Charlotte COI Committee to mitigate conflicts of interest.
b. Human Subjects Research - Facilitates the activities of the Institutional Review Board (IRB) and supports investigators pursuing approval to conduct human subjects research.
c. Biosafety - In conjunction with the Institutional Biosafety Committee (IBC), ensures safe and compliant use of biological agents and materials in research and teaching related activities.
d. Export Control - Protects the transfer of information, technology, commodities, and software in accordance with Federal law.
e. Research Integrity - Addresses allegations of research misconduct in accordance with University policy and federal regulations. Facilitates responsible conduct of research training in fulfillment of sponsor requirements.
f. Animal Care and Use - Coordinates the review of animal protocols by the Institutional Animal Care and Use Committee (IACUC) to ensure the ethical use of vertebrate animals in research or teaching.
g. Laboratory Animal Resources - Manages care of vertebrate animals used in research and supports investigators with tailored training and research services.

E. Occupational Health

Field research projects may include specific occupational health requirements, including medical clearance or surveillance, respirator use, vaccinations, or prophylaxis. Specific requirements may vary depending on geographical location, potential risks, personal protective equipment used and other factors.

For field projects that do not fall under the purview of the institutional committees, principal investigators, staff, and students may contact their primary medical providers for occupational health recommendations. In addition, all personnel participating in field research projects are encouraged to review CDC or state department guidance for recommended vaccinations and prophylaxis according to their destination.

It is highly recommended that individuals who are pregnant, immune-compromised with severe allergies or other chronic medical conditions consult with their primary medical provider before participating in field research projects.

1. International Travel

a. Make an appointment with your primary medical provider, ideally at least four to six weeks before you leave. The provider should review your medical history to make sure you get up to date on the correct vaccinations, medicines, and information to travel safely. If your travel program lasts several months, you will want to ensure that you've gotten all your routine health check-ups, including dental care, because the quality of dental and medical care may be different in host countries or

more expensive than in the U.S. If you take medicine regularly, make sure you have enough for the length of your trip.

2. Travel Vaccines

a. You may need additional travel-related vaccines depending on your travel destinations. A travel visit with a travel medical provider is recommended to determine the appropriate vaccinations required for their trip. A travel appointment should be scheduled far in advance since some vaccines are given as a series over six months. The medical provider should offer the most up-to-date information about food and water safety, insect protection and other travel and safety-related information.

F. UNC Charlotte Employee Medical Services

Federal Occupational Safety and Health Standards (29 CFR 1910.151) on Medical and First Aid require that: "The employer shall ensure the ready availability of medical personnel for advice and consultation on matters of plant health." In addition, "In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. Adequate first aid supplies shall be readily available."

The Health Center is the primary contact for employees who are injured on the job or become ill because of an occupational exposure. All job-related injuries and/or illnesses, no matter how minor, shall be reported, evaluated and treated. Each employee has the responsibility for reporting injuries/illnesses to their immediate supervisor and for seeking appropriate treatment. These requirements help to ensure the health of the employee by promoting prompt, appropriate treatment. These requirements also support the University's accident prevention program by providing a mechanism to report accidents, identify hazards, and eliminate accident causes.

The immediate supervisor of an employee who is injured on the job or becomes ill due to an occupational exposure shall be responsible for conducting an investigation upon first knowledge of the accident, completing a "Supervisor's Accident Report Form," and forwarding the report to the Safety Office no later than:

1. Three (3) working days for First Aid Cases
2. Two (2) working days for Doctor's and Restricted Workday Cases
3. Twenty-four (24) hours for a Lost Workday Case
4. Immediately for a Fatality

a. Copies of the report form are available from the Safety Office and may be requested by calling extension 4291. The injured/ill employee shall participate in the investigation when possible.

G. UNC Charlotte Student Health Services

The primary purpose of the Student Health Center is to provide health care for those persons currently enrolled as students at The University of North Carolina at Charlotte. In addition, Postdoctoral Fellows are provided health care services through the Health Center on the same basis and at the same rates as the general student population. Under certain circumstances, limited services are provided to University employees and participants in on-campus conferences or camps.

Persons visiting the Health Center are required to provide identification (student ID card or other identification with a photograph) verifying enrollment status. The Health Center does not offer treatment at other University locations. The Health Center operates on a schedule established by the Vice Chancellor for Student Affairs. The current schedule of operation may be obtained by contacting the Student Health Center at (704) 687- 4617.

In a health emergency while on campus, contact Campus Police at extension 911. That office has been charged with responsibility to assist students in accessing emergency medical care.

Accident summary forms are available at the Health Center for all students desiring to report accident causes, hazardous areas, complaints, etc. The Office of Risk Management and Insurance (RMI) will investigate the problems described in the report.

H. U.S. Federal Agency Permits and Licenses

Samples including biological materials, e.g., human or animal specimens, viruses, bacteria, fungi, plants, animals, arthropods, environmental samples or other materials, may be collected during field research studies and may need to be transported or shipped back to UNC Charlotte campuses. The import, interstate movement, and export of some materials is strictly regulated by various U.S. federal agencies and may require permits or licenses. Failure to comply with regulations and secure the required permits or licenses when transporting regulated materials may result in shipment delays or destruction at U.S. ports of entry, shipment refusal by carriers and be subject to fines and/or criminal penalties. This section provides an overview of permits and licenses that may be required for field samples. Processing and approval times for permits and licenses vary.

Principal Investigators must be the primary permit holders. Other research personnel may be listed in the permits as users or secondary permit holders. Permit holders assume all legal responsibility for the materials listed in the permits, material handling, transportation, and security requirements. They must meet the conditions specified in individual permits at all times.

Please email UNC Charlotte Office of Research Protections and Integrity if your field research projects require permits or licenses for assistance.

1. CDC Import Permit Program

The CDC Import Permit Program regulates the importation of infectious biological materials that could cause disease in humans to prevent their introduction and spread into the U.S. The program ensures that the importation of these agents is monitored and that facilities receiving permits have appropriate biosafety measures in place to work with the imported agents. Materials requiring import permits include:

a. Infectious biological agents capable of causing illness in humans.
b. Materials known or reasonably expected to contain an infectious biological agent.
c. Vectors of human disease, like insects or bats.
d. These items may be imported into the U.S. for a variety of reasons, including:

   - Outbreak surveillance.
   - Research and development of diagnostics, vaccines, and therapeutics.
   - To benefit from unique laboratory testing available in the U.S.
   - To support research to better understand the potential threats posed by these agents.

e. Regulatory authority for the program is given to the Secretary of Health and Human Services through the Public Health Service Act, which allows for the development and enforcement of regulations to prevent the introduction, transmission, or spread of communicable disease from foreign countries into and throughout the U.S. or its possessions. The regulations, 42 CFR § 71.54,

require that anyone wishing to import infectious biological agents, infectious substances or vectors must first obtain a permit issued by the CDC.

f. Learn more about the CDC Import Permit Program.

g. Visit CDC Import Permit Applications for instructions on applying for an import permit. Note that an inspection may be conducted before a permit is issued, to ensure the applicant's facility has appropriate measures to minimize the accidental release of biological agents capable of causing human disease.

h. Contact information:

c. Centers for Disease Control and Prevention Import Permit Program
1600 Clifton Road NE, Mailstop H21-7
Atlanta GA 30329
Telephone: 404-718-2077
Fax: 404-471-8333
Email: importpermit@cdc.gov

2. USDA Animal and Plant Health Inspection Service Permits

a. USDA's APHIS permits are required to import and export, transit and release regulated animals, animal products, veterinary biologics, plants, plant products, pests, organisms, soil, and genetically engineered organisms.

3. Animal and Animal Products

Includes live animals, semen, embryos, and materials derived from animals or exposed to animal-source materials such as animal tissues, blood, cells or cell lines of livestock or poultry origin, RNA/DNA extracts, hormones, enzymes, microorganisms, including bacteria, viruses, protozoa, and fungi. In addition, animal materials, including dairy products like butter and cheese, and meat products like meat pies and prepared foods from countries with livestock diseases exotic to the U.S.

a. If you are importing or exporting a pet dog or cat, there may be requirements by more than one federal agency. Please refer to:

- Export Guidelines and Regulations
- Import, Organisms and Vectors Guidelines and Regulations
- Apply for an Import or Transit Permit (Check application status)
- Pet Travel Information
- CDC

4. Live dogs - Resale or Research

a. If you are importing live dog(s) for resale, whether through commercial sale or adoption, please visit *How to Bring Dogs into the United States for Commercial Sale or Adoption* for important information about live dog imports.

5. Biotechnology Permits

a. Includes genetically engineered organisms considered to be regulated articles.

b. A permit application should be submitted to APHIS:

- Learn about BRS Permitting and Notification Process
- Apply for a BRS Notification or Permit

c. Visit USDA BRS Permits User Guide for additional information.

6. Plants, Organisms, and Soil

a. Plant Health Permit Website.

b. Obtain appropriate permits such as import or transfer permits.

7. Veterinary Biologics

a. Includes vaccines, bacterins, antisera, diagnostic kits, and other products of biological origin.

b. Apply for a Veterinary Biologics Permit.

8. Invasive Species in North Carolina

There are some targeted Hungry Pests that have federal quarantines in certain areas of North Carolina. Other federal and state quarantines may apply. North Carolina also has some crops, forest, or urban area(s) where these pests or diseases could survive year-round.

9. USDA APHIS Electronic Permits

APHIS eFile is a web-based system that allows users to apply for and receive import, interstate movement, transit, release permits, permit renewals and amendments, submit annual reports and receive regulatory guidance.

a. Visit APHIS eFile.

b. Contact USDA-APHIS.

10. U.S. Fish and Wildlife Service Permits

The U.S. Fish and Wildlife Service (USFWS) issues permits under various wildlife laws and treaties at different offices at the national, regional and/or wildlife port levels. Generally, all wildlife, including parts and products, imported or exported from the U.S. for any purpose must be declared and cleared through an authorized wildlife port. USFWS does not issue hunting and fishing licenses. Instead, those are issued by state wildlife agencies.

Permits provide a means to balance the use and conservation of protected species. You can help conserve protected species by complying with these laws to ensure that your lawful activities are separate and distinct from those that harm wild populations. Service permit programs ensure that such activities are carried out in a manner that safeguards wildlife. Additionally, some permits promote conservation efforts by authorizing scientific research, generating data, or allowing wildlife management and rehabilitation activities to go forward.

Before you get started, first determine whether your species of interest is listed under domestic and international law and whether you need a permit.

The U.S. Fish and Wildlife Service understands that there are occasions when prohibited activities may be unharmful or even beneficial to protected species. Their objective is to use permits to authorize and monitor activities consistent with the conservation, protection and enhancement of wildlife, plants, and their habitats. Permits also facilitate the collection of species-specific trade data. USFWS can determine trends in trade from the data derived from permits to ensure that wildlife trade is sustainable. Most of the permits the USFWS issue are for the import and export of species that are protected by the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES). Several additional laws that protect wildlife can also be relevant. Follow the three-step process below to determine if a permit is needed.

a. Step One: Determine the scientific name of your species.

- What is the species of wildlife or plant? To determine whether these regulations apply to your species of interest, you will first need to determine the scientific name, genus and species, as wildlife protections are designated at the species, or sometimes the subspecies level.
- For example, the scientific name of the monk parakeet is genus Myiopsitta, species monachus, or "Myiopsitta monachus," the scientific name of Brazilian rosewood is genus Dalbergia, species nigra, or "Dalbergia nigra" and the scientific name of the hawksbill sea turtle is genus Eretmochelys, species imbricata or "Eretmochelys imbricata." The scientific name of the Sumatran tiger is genus Panthera, species tigris, subspecies sumatrae, or Panthera tigris sumatrae.
- Ask a veterinarian, scientist, or qualified appraiser to help you determine what type of wildlife or plant you have. You may also be able to find the scientific name online.

b. Step Two: Determine how your species/specimen is protected

- Once you know the scientific name of your species of interest, determine whether the species is protected under each U.S. or international law. Keep in mind that a species may be listed under multiple laws, so that multiple authorizations may be required. If more than one type of permit for an activity is required by multiple regulations, we may be able to issue one consolidated permit authorizing the activity, provided certain criteria are met. Please start by checking the following species lists:

  - CITES - Search by scientific name or common name in the list of CITES Species.
  - Endangered Species Act - Visit the U.S. Fish and Wildlife Service's Endangered Species program website.
  - Marine Mammal Protection Act - The U.S. Fish and Wildlife Service has jurisdiction over the walrus, polar bear, sea otter, marine otter, West African manatee, Amazonian manatee, West Indian manatee, and dugong. All other marine mammals are regulated by the National Oceanic and Atmospheric Administration (NOAA) Fisheries. Learn more about marine mammal permits at the NOAA Fisheries webpage on the topic.
  - Wild Bird Conservation Act - See the species listed under the Wild Bird Conservation Act.
  - Lacey Act - Check the current list of injurious wildlife. Injurious wildlife are species, including offspring and eggs, designated through regulation to be injurious to the health and welfare of humans, the interests of agriculture, horticulture or forestry and the welfare and survival of wildlife resources of the U.S. Species, including offspring and eggs, designated through regulation to be injurious to the health and welfare of humans, the interests of agriculture, horticulture or forestry and the welfare and survival of wildlife resources of the U.S. Please see our guidance if you are a constrictor snake owner. Also, visit the Fish and Aquatic Conservation Program's Injurious Wildlife webpage.
  - Migratory Bird Treaty Act - View the list of MBTA-protected birds.

c. Step Three: Discover which application you need.

- What activity do you seek to conduct? Generally, if you seek to conduct import, export, take or conduct interstate or international commercial activities and your species of interest is protected under domestic or international law but can also be legally traded, the next step is to apply for a permit. First, find the permit application you need.
- Please note: If your specimen is only protected under CITES Appendix II or III and you are traveling with or moving your personal belongings, you may meet the CITES personal and household effects exemption requirements.
- If you already know that your species of interest or your activity do not meet the criteria of the CITES personal and household effects exemption, such as all commercial endeavors, all CITES Appendix-I, ESA, WBCA, MMPA and MBTA protected species, and species listed as Injurious Wildlife under the Lacey Act, a permit is required.
- Are you now ready to apply for a permit? If so, you can search for the application you need.

    - Contact U.S. Fish and Wildlife Service.

d. Other permits or agreements:

- Depending on geographical locations or protected areas, additional permits or agreements with local governments, sovereign nations or organizations may be needed to conduct field research projects. Before conducting any fieldwork, check with local authorities for additional permits or agreements that may be needed.

I. Safety Equipment and Supplies

1. Field research projects may require traveling to other countries and remote locations and working at field sites that lack basic services such as potable water, plumbing, reliable communications, or availability of emergency medical services. During planning field research projects, it is essential to budget for appropriate safety measures including purchasing emergency equipment and supplies.
2. Be sure to contact Export Control at least two (2) weeks before taking any equipment overseas/internationally.
3. Bring all required safety equipment to each field research site, including personal protective equipment. List all the required equipment, gear and supplies in the UNC Charlotte Field Safety Plan. For remote outdoor field sites, assemble the supplies listed in the UNC Charlotte Field Research Safety Kit. See Appendix K. For outdoor remote sites, bring 10–20% more consumables than what you anticipate using during the research project.

J. Transportation of Personnel and Supplies

1. Include all modes of travel for all personnel traveling to the field research site in your field safety manual. A list of vehicles or equipment used at the field site should also be included in the field safety plan, along with any required training or required work practices to use the equipment.

K. Communication

Communication between all field research participants is vital to ensure a successful and safe research experience. All team members need to be physically, mentally, and logistically prepared to participate in the

field research experience. The following guidelines will help prepare team members for the field research experience.

1. Participants

a. Provide field research project information to all participants. Include a description of what to expect according to the field site, contact information for principal investigators/field site leaders, other participants, and emergency contact information.

b. Review important rules in detail, including:

- Personal physical safety rules: Include all rules related to physical safety. For example, wearing seat belts at all times, not walking alone, etc.

- Emotional safety: As noted above, UNC Charlotte tolerates zero harassment.

    - UNC Charlotte is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty, staff, and guests. UNC Charlotte expressly prohibits discrimination, harassment and retaliation by employees, students, contractors, or agents of the university based on any protected status: race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, genetic information, and Title IX sexual harassment.
    - Unless a person is restricted by law from doing so, any employee who is informed of or has a reasonable basis to believe that sexual harassment, including Title IX sexual harassment, has occurred, shall immediately report all information regarding the occurrence(s) to the Office of Civil Right and Title IX at UNC Charlotte.

- Alcohol and other drugs: Review rules, legality, and how these can affect the learning environment and group dynamics.
- Smoking: Follow the UNC Charlotte rules for smoking. UNC Charlotte has a smoke/tobacco-free policy. In places where smoking is allowed, follow local regulations for smoking.
- Amorous or romantic relationships: Refer to the employee and student code of conduct policies.
- Cellphone or other electronics: Establish guidelines for their use during field research activities.

c. Review the Field Safety Plan in detail.
d. Review expected hazards and conditions, security concerns and travel logistics.
e. Get input from all participants and answer any questions from participants; it may be necessary to schedule individual meetings to determine if a field research experience is the right choice for some of the participants.
f. Schedule a field research orientation meeting before going out in the field. Set the tone for a safe learning field research environment by clearly discussing the participant's code of conduct, expectations, rules, duties, and consequences for all team members.
g. Schedule additional planning meetings as needed.

2. Field Site Local Contacts and Collaborators

a. Principal investigators or field research project leaders must contact local contacts or collaborations before field projects begin. They must provide all pertinent information on local resources to all team members.

3. UNC Charlotte Personnel

a. Principal investigators or field research project leaders should the keep completed safety plan within their laboratory safety manual or laboratory safety documents. It is recommended that a copy is shared with their department head and brought into the field with them for reference. The department head or designated contact person on the UNC Charlotte campus should know the location of the field research team. If there are any changes, the safety plan should be updated. The designated on-campus contact must keep frequent communication with the field research team. A schedule for frequency and means of communication should be established before the field research begins.

b. If the field research team leader does not communicate with the designated on- campus contact at the scheduled times, the on-campus person must attempt to contact the field research team. This includes contacting additional field research team members, local contacts or collaborators or local authorities.

c. If no contact with the field research team can be made, contact the department head and local Police.

Chapter IV - Training

All UNC Charlotte research, whether conducted in laboratory settings or outdoor field settings, requires safety training. All personnel participating in field research activities should complete the appropriate training and completion of training should be documented.

All required training should be included in the Field Safety Plan. Required training will vary depending on the nature of the field research.

A. Office of Research Protections and Integrity Training

The Office of Research Protections and Integrity requires a wide range of training due to compliance requirements depending on the work to be performed. Please be sure to fill out the ORPI Compliance Questionnaire to begin communication with the necessary ORPI programs.

B. Environmental Health and Safety Training

The Environmental Health and Safety department at UNC Charlotte provides various training that may be required or highly recommended for field research sites depending on the nature of the work being conducted. The list of required training will be outlined in the Field Safety Plan (Appendix A). For recommended training, please contact UNC Charlotte EHS.

C. Office of Diversity, Equity, and Inclusion Training

UNC Charlotte is committed to a positive work environment where employees respect each other and our students. UNC Charlotte has an online training module: UNC Charlotte Employees: Niners Know - Title IX Training. All faculty, staff and student workers must complete mandatory training sessions.

D. Department-Specific Training

Each department may have additional required or recommended training for field research projects. Training required by the department will be included in the Field Safety Plan and will be provided by the Principal Investigator, field site lead or their designee.

E. Project Specific and Specialized Training

Field research projects may require specialized training based on specific tasks to be conducted in the field. The Principal Investigator or field project leader will ensure that all personnel receive the appropriate training in specific skill areas to allow personnel to make effective risk assessments (Available in Field Safety Plan, Appendix A) in the field.

Chapter V - Incident Reporting

Many different emergencies, including injuries or incidents, may occur when performing field research in uncontrolled environments. Having established emergency response plans, first aid training and other training will help to effectively manage situations and help mitigate negative outcomes. The priority in any emergency or incident is to address medical care needs. Report incidents to campus once urgent medical care needs are met, the situation is stable and is safe for individuals to report. University personnel will evaluate and provide support as needed for each situation. In addition, UNC Charlotte must also comply with different reporting requirements to external agencies including, but not limited to OSHA, CDC, NIH, USDA or internal departments or committees, including Title IX reporting to Title IX Coordinator, IBC, IACUC, IRB or other committees. UNC Charlotte PIM #27 Incident Reporting and Investigations requires that all incidents resulting in an injury to an UNC Charlotte employee, student, or visitor, or damage to UNC Charlotte property must be reported to Environmental Health and Safety.

A. Reporting

Students, faculty, staff, and visitors must report any incident and/or hazard to their supervisor or area manager as soon as reasonably practical. Unsafe hazards, incidents/near misses, and work-related injuries/illnesses should also be reported to the EHS office.

1. All job-related injuries or illnesses, no matter how minor, shall be reported, evaluated, and treated immediately. Each employee has the responsibility for reporting injuries/illnesses to his/her supervisor using the Employee's Incident Report.

2. The purposes of reporting injuries are threefold:

    a. To ensure the health of employees by administering appropriate treatment as soon as possible after the injury;
    b. To maintain a good, ongoing injury and illness prevention program through investigation and elimination of accident causes;
    c. For documentation and recordkeeping.

3. To comply with institutional and federal reporting requirements, personnel are required to report any accident (e.g., inoculation through cutaneous penetration, ingestion, probable inhalation following gross aerosolization, spills) involving biohazardous and/or recombinant or synthetic nucleic acid materials. Accident reporting plays a critical role in preventing injuries, so corrective action can be taken to prevent future incidents.

4. The Principal Investigator must complete and submit this form (Accidents Involving Biohazardous and/or Recombinant or Synthetic Nucleic Acids). If it is not possible to report within 24 hours, the form must be submitted by the senior laboratory staff immediately and again by the Principal Investigator in the next 72 hours. If the incident involves recombinant or synthetic nucleic acids, agents used for gene transfer, or infectious agents created by recombinant gene transfer techniques you MUST report to the Biosafety Officer within 24 hours

B. Medical Treatment

1. For campus medical treatment:

    a. Student Health Center is the primary contact for employees with injuries/illnesses due to occupational exposure for all campus locations. Employees requiring treatment should be escorted by their supervisor and shall provide the signed original Employee Incident Report to the Health Center. Follow-up treatment may be at the Health Center or at a specialist as directed by the Health Center staff.

2. When the Student Health Center is closed, the injured employee is to be directed as follows:

    a. Main Campus - FastMed, 2728 W. Mallard Creek Church Road, Charlotte, NC (980-218-1860) or FastMed - 4415 School House Commons, Harrisburg, NC (704-456-1218)
    b. Center City - FastMed, 3250 Wilkinson Blvd, Charlotte, NC (704-319-5176)
    c. NC Research Campus- FastMed, 391 George W. Liles Pkwy, NW, Concord, NC (704-886-1780)

3. Employees requiring treatment should be escorted by their supervisor and shall provide the signed original Employee Incident Report to the Urgent Care Center. Follow-up treatment is to be at the Student Health Center.

4. When the Urgent Care Center is closed and the injury requires treatment before the Student Health Center or Urgent Care Center reopens, then the employee should be sent to the University Hospital Emergency Room, 101 W.T. Harris Blvd., CMC Hospital Main, 1000 Blythe Blvd, or CMC Hospital Northeast, 920 Church St, N. respectively depending on the campus location. Follow-up treatment is to be at the Student Health Center on the main campus. Should emergency treatment be necessary, call Campus Police 704-687-2200 by cell phone or (911) from a campus phone.

5. If an employee is not on campus and/or the grounds of Charlotte and is injured while performing a work process, contact the Enterprise Risk Management (ERM) immediately or as soon as possible to make notification of the incident at 704-687-8271.

6. If the employee needs immediate medical attention that cannot wait until their return, they should seek medical care at the nearest urgent care facility. If the injury is life threatening, they should seek care at the nearest hospital emergency room.

7. During life-threatening injuries or illness:

    a. Call 911 or seek medical attention immediately.
    b. Know the physical location and provide accurate directions to the field location to emergency medical personnel.

8. All documentation related to the incident as well as the treatment paperwork must be promptly provided to ERM; it can be emailed to angallen@charlotte.edu or faxed to 704-687-6789 (this is in addition to reporting the incident online to EHS).

9. For specific questions, contact the Workers' Compensation Manager directly at 704-687-0681.

C. Notification

1. Notification by an appropriate supervisor is to be made to the Environmental Health and Safety office within 24 hours of any report by an employee of an occupational injury or illness. All incidents involving serious bodily injury or death must be reported immediately.

    a. Employee: Notify their supervisor.
    b. Employee: Complete the UNC Charlotte employee incident report.
    c. Supervisor: Supervisors must also obtain a written statement from any witnesses. The Supervisor Incident Investigation Report via EHSA Onsite must be thoroughly completed. Contact the Environmental Health and Safety (EHS) office for assistance. The claim must be made within 24 hours.

D. Investigation

1. All occupational injuries/illnesses must be investigated as soon as possible after the occurrence so that the Incident Prevention program can function. The employee's immediate supervisor is responsible for conducting the investigation, documenting the Supervisor Incident Investigation Report, and submitting forms to the EHS office. The injured/ill employee shall participate in the investigation when possible.

2. A critical part of the Supervisor's Investigation Report is the corrective action taken or recommended to prevent a recurrence. The immediate supervisor shall be responsible for determining appropriate corrective action and follow-up activity to eliminate the incident causes.

3. EHS office will assist supervisors in conducting incident investigations and as deemed appropriate will follow-up with a report. Incidents resulting in a high frequency or high severity of injury should be investigated by EHS.

Chapter VII - Resources

There are many resources available that may provide more in-depth information regarding your field research environment. Please use the references in this section for further information on many of the topics discussed in this booklet.

A. General

1. On Campus

a. Education Abroad Office
b. Environmental Health and Safety
c. Financial Travel Services
d. Motor Fleet
e. Office of International Programs

f. Office of Legal Affairs
g. Office of Research Protections and Integrity
h. Risk Management and Insurance

2. Off-Campus

a. First Aid/CPR Training: First Aid and CPR training are available from several locations. UNC Charlotte Student Health offers courses from the American Heart Association.
b. General: The Centers for Disease Control and Prevention provides information on many topics related to travel, both domestic and international.

c. Impure water: For more information about waterborne diseases, the CDC provides information online at cdc.gov/healthywater/.
d. Medical: Information about a variety of diseases and illnesses, including dehydration, carbon monoxide poisoning, sunburn, excessive heat, hypothermia, and high-altitude sicknesses, can be found online at: cdc.gov.
e. The North Carolina Department of Health and Human Services offers information on infectious diseases and immunizations by calling 800-662-7030.
f. Weather: More information on extreme weather and how to protect yourself can be found from the National Weather Service.

B. Domestic

1. Hantavirus: The CDC has detailed information about hantavirus available at cdc.gov/hantavirus/.

2. Hunting season: To get more information concerning hunting seasons and regulations, contact the U.S Forest Service at 800-832-1355.

3. Lyme Disease: The American Lyme Disease Foundation provides information about the disease.

4. Poison plants: More information about poison plants, including photos, can be found at NIOSH Poisonous plants.

C. International

1. Advisories: Travel advisories are announced through the U.S. Department of State. Current travel warnings, public announcements and consular information sheets are available on their website.

2. Travel health and outbreaks: Updated information about disease outbreaks and international travel health can be found from the World Health Organization.

Appendices

Appendix A Field Safety Plan

UNC Charlotte Field Research Safety Plan

This form may be used by the Principal Investigator or Project Lead to assist in developing a safety plan. **The completed safety plan should be kept within the lab safety manual and we recommend all the members of the field research team keep copies of Appendix A during the trip.** A single safety plan can cover multiple trips to the same location. The safety plan should be revised whenever a significant change to the location or scope of fieldwork occurs. EHS is available to assist in completing or reviewing the safety plan; (704) 687-1111 or ehsoffice@charlotte.edu

Principal Investigator:	**Department:**
Phone number:	**Email address:**

Dates of travel: List multiple dates if more than one trip is planned.

Location of field research:

Country: _____ Geographical Site: _____

Nearest city: _____ Include name, distance from site.

Nearest hospital: _____ Include name, distance from site.

Field research: Please include a brief description of the fieldwork.

University contact:	**Local field contact:**
Name:	Name:
Phone:	Phone:

Emergency procedures: Please include detailed plans for field location, including evacuation and emergency communication. Include a separate sheet if necessary.

First Aid and Specialized Training: Please list any team members who have first aid or other specialized training and the type and date of training. If you do not think you are adequately trained to deliver first aid in the environment you are preparing to work, please consider first aid training offered from the American Heart Association at the UNC Charlotte Student Health Center.

Physical demands: Please list any physical demands required for this field research, for example, diving, climbing, temperature extremes and high altitude.

Risk assessment: Please list identified risks associated with the activity, supplies, equipment, or the physical environment, such as extreme heat or cold, wild animals, endemic diseases, firearms, explosives, violence. List appropriate measures to be taken to reduce these risks. Include a separate sheet if necessary. See Appendices B-J for further information regarding risk and prevention.

Identified risk	**Control of risk**
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Travel immunizations: Please list suggested immunizations/prophylaxis.

Field team membership Please list the names and emergency contacts of all members of the field research team and identify the Field team leader.

Appendix B General Physical and Environmental Hazards

Hazard	Location	Cause	Symptoms	First Aid	Prevention
Vehicle Accident	Worldwide	• Fatigue. • Impaired driving. • Driver error. • Roadway factors. • Vehicle factors.	• Various trauma injuries.	• Call 911. • Secure the scene. • Do not move victim. • Check airways, breathing and circulation. • Treat specific injury.	• Obey traffic laws. • Wear your seatbelt. • Don't drive impaired. • Don't speed or drive recklessly. • Don't use a 12-or-15 passenger van.
Slips, trips, falls	Worldwide	• Loose, irregular, or slippery surface. • Wrong footwear. • Poor lighting. • Obstruction. • Improper, or lack of, use of ladders. • Inattention or distraction.	• Strains, fractures, bruises, and contusions like head, wrist, elbow, shoulder, back, hip, knee, ankle.		• Proper housekeeping. • Wear proper footwear. • Adequate lighting. • Don't carry oversized objects. • Use ladders properly.
Dehydration	Worldwide	Not enough water intake.	• Increased thirst. • Dry mouth. • Flushed face. • Dizziness. • Headache. • Weakness. • Muscle cramps.	• Drink plenty of fluids. • Take frequent rest breaks. • Minimize caffeinated beverage intake.	• Drink plenty of water, at least 2 quarts per day, and more if working strenuously or in a warm climate.

Hazard	Location	Cause	Symptoms	First Aid	Prevention
			• Dark urine.		
Impure Water	Worldwide	Harmful organisms and pathogens living in water sources.	• Gastrointestinal illness. • Flu-like symptoms.	• Drink clear liquids that are uncontaminated. • Slowly introduce mild foods, e.g., rice, toast, crackers, bananas, or applesauce • See a doctor if there is no improvement.	• Carry your own water. • Treat water before use with tablets, purifiers, or by boiling for > 3 minutes.
Sunburn	Worldwide	Excessive exposure to the sun.	• Irritated skin, pink or red in color.	Apply cool water, aloe, or other cooling lotion to affected area.	• Wear long-sleeved clothing and a hat. • Apply SPF ≥ 30 sunblock.
Heat Exhaustion	Worldwide - hot climates	Prolonged physical exertion in a hot environment.	• Fatigue. • Excessive thirst. • Heavy sweating. • Cool, clammy skin.	Cool the victim, treat for shock, and slowly give water or electrolyte replacer.	• Acclimate to heat gradually. • Drink plenty of liquids. • Take frequent rest breaks.
Heat Stroke	Worldwide - hot climates	Prolonged physical exertion in a hot environment.	• Exhaustion. • Light-headedness. • Bright red warm skin.	Cool the victim at once, replenish fluids, and seek medical attention immediately.	• Acclimate to heat gradually. • Drink plenty of liquids. • Take frequent rest breaks.

Hazard	Location	Cause	Symptoms	First Aid	Prevention
Frostbite	Worldwide - cold climates	Exposure to cold temperatures.	• Waxy, whitish numb skin. • Swelling, itching, burning, and deep pain as the skin warms.	Slowly warm the affected areas. Do not rub area and seek medical attention immediately.	• Dress in layers. • Cover your extremities with warm clothing, e.g., hats, facemask, gloves, socks, and shoes.
Sandstorms/ Haboob	Worldwide - Arid climates	Thunderstorm outflow winds.			• If dense dust is observed blowing across or approaching a roadway, pull your vehicle off the pavement as far as possible, stop, turn off lights, set the emergency brake, take your foot off the brake pedal to be sure the taillights are not illuminated. • Don't enter the dust storm area if you can avoid it. • If you can't pull off the roadway, proceed at speed suitable for visibility, turn on lights and sound horn occasionally. Use the painted center line to help guide you. Look for

Hazard	Location	Cause	Symptoms	First Aid	Prevention
					a safe place to pull off the roadway. • Never stop on the traveled portion of the roadway.
Flash flooding/ Mudslides/ landslides	Worldwide	Many factors, e.g., earthquakes, storms, volcanic eruptions, fire and human modification of land.			• Listen to local news stations for warnings • Heed all warnings and evacuation notices. • Stay alert and awake during a storm that could cause a landslide. • Never cross a road with flowing water or mud. • Never cross a bridge if you see a flow approaching. • Avoid river valleys and low-lying areas during times of danger. • If you get stuck in the path of a landslide, move uphill as quickly as possible. • If near a stream or channel, be alert for any sudden increase or decrease in water flow or water that changes from clear to muddy.

Hazard	Location	Cause	Symptoms	First Aid	Prevention
Hypothermia	Worldwide - cold climates	Prolonged exposure to cold temperatures.	• Shivering. • Numbness. • Slurred speech. • Excessive fatigue.	Remove cold, wet clothes, put on dry clothes, or use a blanket or skin-to-skin contact, drink warm liquids, seek medical attention immediately.	• Dress in layers. • Wear appropriate clothing. • Avoid getting damp from perspiration.
Carbon Monoxide	Worldwide	Running a vehicle or burning a fuel stove in an enclosed space.	• Severe headaches. • Disorientation • Agitation. • Lethargy. • Stupor. • Coma.	Remove the victim to fresh air immediately and perform CPR if needed	• Keep areas adequately ventilated when burning fuel. • Ensure that vehicle tailpipe is not covered by snow.
Extreme Weather	Worldwide	Snow squalls, blizzards, heavy rains, lightning, tornadoes, hurricanes.	• Severe weather can result in physical injury and/or death.	Seek shelter immediately.	• Be aware of special weather concerns. • Bring appropriate equipment to deal with severe weather.
High Altitude Illness	Worldwide - high altitudes	Decreased oxygen intake and increased breathing rate.	• Headache. • Nausea. • Weakness.	Use supplemental oxygen and decrease altitude.	• Allow your body to acclimatize by gaining elevation slowly.

Hazard	Location	Cause	Symptoms	First Aid	Prevention
Wildfire	Worldwide	Unplanned fires that burn in natural areas like forests, grasslands or prairies. Spread quickly to other natural areas and communities.			• Pay attention to emergency alerts and notifications for information and instructions. • Evacuate immediately if authorities tell you to do so. • If trapped, call emergency services and give your location. Turn on lights to help rescuers find you. • Use an N95 mask to protect yourself from smoke inhalation or limit your exposure to smoke. • If sick or need medical attention, contact a healthcare provider for further care instructions and shelter in place, if possible.

Appendix C Hazards in North America

Hazard	Location	Cause	Symptoms	First Aid	Prevention
Hunting Season	U.S.	Local hunting seasons and regulations vary.	• A hunting accident may result in serious injury or death.	Seek medical attention for serious injuries or wounds.	• Wear appropriately colored safety clothing. • Avoid animal-like behavior, like hiding in thickets.
Poison Plants	North America	Exposure to poison ivy, poison oak, or poison sumac plants.	• Itchy rash. • Red, swollen skin.	Apply a wet compress with baking soda or vinegar or use a topical ointment. Avoid scratching the rash.	• Avoid contact with poison plants. • Use pre-exposure lotion. • Wash clothes and skin with soap and water after exposure.

Appendix D International Hazards

Hazard	Location	What to do if encountered	Prevention
Violence caused by political unrest or military conflict	International	Leave the area as soon as it is safe to do so.	• Be aware of current travel advisories. See Section VI.
Theft	International	Report theft immediately to local authorities.	• Keep wallet in front pocket. • Carry shoulder bag diagonally and keep bag in front under your arm.

Appendix E Animals and Pests - General

Type	Location	Most Dangerous Species	What to do if encountered	First Aid	Prevention
Mosquitoes	Worldwide - especially wet areas conducive to breeding	Refer to Section V: Diseases		Use topical ointment to relieve itching.	• Use insect repellant. • Don't leave standing pools of water. • Use bed nets.
Rodents	Worldwide		Do not touch a rodent, dead or alive.	Clean wounds thoroughly if bitten or scratched.	• Keep areas clean to avoid attracting rodents. • Store food in sealed containers.
Conenose "Kissing" Bugs	North and South America	May cause allergies in some people. In Latin America, they sometimes carry a protozoan, *Trypanosoma cruzi,* which causes Chagas' disease Refer to Section V: Diseases.		Use topical ointments to soothe itching. Seek medical attention immediately in case of anaphylactic shock.	• Use caution when working near nests and wood rat dens. • Use extra caution when working near rock shelters.
Sharks	Worldwide - Oceans: U.S., Africa, Central and South America, Australia, Pacific Islands	Great White, Bull, Tiger, Oceanic Whitetip	Call for help, swim towards safety, punch or kick the shark if necessary.	Seek medical attention for serious injuries or wounds.	• Never swim alone. • Don't wear sparkling jewelry. • Don't enter the water when bleeding.

Type	Location	Most Dangerous Species	What to do if encountered	First Aid	Prevention
Crocodiles and Alligators	Worldwide - Tropics and subtropics: North America, Australia, Africa, Eastern China	American Alligator in North America, Estuarine Crocodile in Australia, Nile Crocodile in Africa	Do not provoke an alligator or crocodile.	Seek medical attention for serious injuries or wounds.	• Avoid waters known to be home to crocodiles or alligators. • Keep at least 30 feet away from any crocodile or alligator.

Appendix F Animals and Pests - North America

Type	Location	Most Dangerous Species	What to do if encountered	First Aid	Prevention
Bears	North America	Black Bear in North America, Grizzly Bear in Alaska, Western Canada and Pacific Northwest, Polar Bear in the Arctic	• Do not run. • Move slowly and speak in a low soft voice. • If attacked, lay in the fetal position, and protect the head. • Play dead.	Seek medical attention immediately for serious injuries or wounds.	• Keep food out of sleeping areas. • Never approach a bear or bear cub. • Wear a bell or other noisemaker. • Stay away from the bear's food supply.
Mountain Lions	North, Central, and South America	All	• Do not run, back away slowly, do not corner it. • Do not play dead; look it in the eyes. • Make yourself look larger with arms overhead, do not bend down. • Use a loud voice. • Throw sticks or rocks. • Fight back, poke it in the eye with your thumb.	Seek medical attention immediately for serious injuries or wounds.	• Do not leave children or pets unattended. • Do not feed deer. • Avoid hiking, biking, jogging alone or other outdoor activities when mountain lions are most active, dawn, dusk and at night. • Avoid walking near dense growth, rock outcroppings, ledges. • Always look up and behind you. • Carry pepper spray.

Type	Location	Most Dangerous Species	What to do if encountered	First Aid	Prevention
			• Protect your neck and head.		
Snakes	North America, Mexico	Rattlesnakes, Cottonmouths, Coral Snakes, Moccasins, and Copperheads	• Do not pick up, disturb, or corner it. • Move away from the snake. • Avoid locations where snakes may be.	• Let the wound bleed freely for 30 seconds. • Apply a cold pack. • Keep area immobilized at heart level. • Seek medical attention immediately. Alert ahead if possible.	• Walk in open areas. • Wear heavy boots. • Use a stick to disturb the brush in front of you.
Spiders	North America	Black Widow and Brown Recluse	• Do not pick up or disturb a spider. • Avoid locations where spiders may be, such as dark places.	• Clean wound. • Apply a cold pack. • Keep area immobilized at heart level. • Seek medical attention immediately. Alert ahead if possible.	• Use care around rock piles, logs, bark, gardens, outdoor privies, old buildings. • Wear gloves when working outside. • Shake out clothing and bedding before use.
Scorpions	North America – especially Arizona, Southeast	All	• Do not pick up or disturb a scorpion.	• Clean wound. • Apply a cold pack.	• Shake out clothing and bedding before use.

Type	Location	Most Dangerous Species	What to do if encountered	First Aid	Prevention
	California, Utah, and Mexico		• Avoid locations where scorpions may be.	• Keep area immobilized at heart level. • If needed, use painkillers or antihistamine. • Seek medical attention if no signs of improvement.	• Avoid lumber piles and old tree stumps. • Wear gloves when working outside.
Bees, Wasps, etc.	North America	Bees, wasps, hornets and yellowjackets, Africanized Killer Bees in Southeast U.S.	• Avoid wearing bright colors, flower prints and perfume. • Move slowly or stand still. Don't swat at insects.	• Remove the stinger. • Apply a cold pack. • Keep area immobilized at heart level. • If needed use painkiller or antihistamine.	• Bring medication if you have an allergy, as the sting may be fatal. • Keep scented foods, drinks and meats covered. • Wear shoes outside.
Fleas and Ticks	North America	Refer to Section V: Diseases	• Avoid shrubbery. • Stay on widest part of path.	• Remove the flea or tick with tissue or tweezers. • Clean wound with antiseptic. • Pay attention for signs of illness. See Section V: Diseases and seek medical	• Wear long clothing with tightly woven material. • Wear insect repellent. • Tuck pants into boots. • Drag cloth across the campsite to check for fleas/ticks. • Protect pets.

Appendix G Animals and Pests - International

Type	Location	Most Dangerous Species	What to do if encountered	First Aid	Prevention
Bears	Worldwide: Arctic, South America, Asia	Polar Bears in Greenland and North Russia, Spectacled Bears in North and West South America, Asiatic Black Bears in South and East Asia	• Do not run. • Move slowly and speak in a low soft voice. • If attacked, lay in the fetal position, and protect the head. • Play dead.	Seek medical attention immediately for serious injuries or wounds	• Keep your camp area free of garbage and food waste. • Never feed or approach a bear, especially a cub. • Stay away from the bear's food.
Lions	Africa and Asia	All	• Do not startle. • Do not run. • Do not look it in the eye. • Make yourself look larger.	Seek medical attention immediately for serious injuries or wounds	• Stay inside the vehicle if traveling near lions. • Do not camp in areas frequented by lions. • Do not sleep outside. • Do not provoke.
Other Large Land Dwellers	Africa, Asia	Hippos, African Elephant, Rhinos, and Buffalo in Africa; Asian Elephants and Bengal Tigers in Southeast Asia; Siberian Tigers in North and East Asia	• Do not startle.	Seek medical attention immediately for serious injuries or wounds	• Stay inside the vehicle if traveling near large animals. • Do not camp near areas frequented by large animals. • Keep a lookout in open spaces. • Do not provoke.

Water Dwellers	Worldwide - especially in Australia	Blue Ringed Octopus, Box Jellyfish, and Irukandji Jellyfish in Australia; Stonefish located worldwide	Never touch an unidentified octopus or jellyfish	• Jellyfish/Octopus sting use vinegar on wound. • Stonefish sting rinse with warm water. • Seek medical attention.	• Avoid going in waters known to be inhabited by jellyfish and octopuses. • Wear sandals in the water to avoid stepping on a stonefish.
Snakes	Worldwide	Russel's Viper, Indian Cobra in India; Tiger, Black, Brown, Sea Snakes in Australia; Egyptian Cobra, Puff Adder, Saw Scaled Viper in Africa; Fer-de-lance in Central and South America	• Do not pick up, disturb or corner a snake. • Move away from the snake.	• Let the wound bleed freely for 30 seconds. • Apply a cold pack. • Keep area immobilized at heart level. • Bring victim to hospital and alert ahead if possible.	• Walk in open areas. • Wear heavy boots. • Use a stick to disturb the brush in front of you.
Spiders	Worldwide	Funnel Web and Redback Spiders in Australia; Brazilian Wandering Spider, Brown Recluse, and Tarantula in South America	• Do not pick up or disturb a spider. • Avoid locations where spiders might be, such as dark places.	• Clean wound. • Apply a cold pack. • Keep area immobilized at heart level. • Bring victim to hospital and alert ahead if possible. • Kill spider for a positive ID.	• Use care around rock piles, logs, bark, outdoor privies, and old buildings. • Shake out clothing and bedding before use. • Wear shoes outside. • Wear gloves when working outside.

Scorpions	Worldwide - especially North Africa, The Middle East, South America, and India	All	• Do not pick up or disturb a scorpion. • Avoid locations where scorpions may be.	• Clean wound. • Apply a cold pack. • Keep area immobilized at heart level. • Use painkillers or antihistamine if desired. • Seek medical attention if no improvement.	• Shake out clothing and bedding before use. • Avoid lumber piles and old tree stumps. • Wear gloves when working outside.

Appendix H Diseases - General

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Campylo-bacteriosis	Worldwide	Foodborne - poultry products, unpasteurized milk or water contaminated with *Campylobacter*.	• Diarrhea. • Gastrointestinal symptoms. • Fever.	• Drink plenty of fluids. • Seek medical attention if symptoms persist.	• Always cook food thoroughly. • Never drink water from an impure source. • Do not drink unpasteurized milk. • Wash hands with soap and water frequently.
Cholera	Africa, Asia, Latin America	Foodborne - food and water contaminated with *Vibrio cholerae*.	• Diarrhea. • Gastrointestinal symptoms.	• Drink plenty of fluids. • Seek medical attention if symptoms persist.	• Always cook food thoroughly. • Never drink water from an impure source. • Wash hands with soap and water frequently.
E. coli O157:H7 and Shiga toxin-producing *E. coli* Gastroenteritis	Worldwide	Foodborne - beef, unpasteurized milk, unwashed raw vegetables, water contaminated with *Escherichia coli*.	• Diarrhea. • Gastrointestinal symptoms.	• Drink plenty of fluids. • Seek medical attention if symptoms persist.	• Always cook food thoroughly. • Wash vegetables before consuming. • Never drink water from an impure source. • Wash hands with soap and water frequently.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Hepatitis A - Vaccine available	Worldwide in under-developed countries	Foodborne - water, shellfish, unwashed raw vegetables contaminated with Hepatitis A virus	• Diarrhea. • Gastrointestinal symptoms.	• Drink plenty of fluids from bottled or purified water - not local water. • Seek medical attention if symptoms persist.	• Obtain a vaccine. • Always cook food thoroughly. • Wash vegetables before consuming. • Never drink water from an impure source. • Wash hands with soap and water frequently.
Histoplasmosis	Worldwide - especially Mississippi and Ohio River Valleys	Inhalation of fungus *Histoplasma capsulatum* from soil contaminated with bat or bird droppings.	• Mild, flu-like. • Rarely can be acute pulmonary histoplasmosis.	• See a doctor if you suspect. histoplasmosis • Typically clears up in three weeks.	• Use caution when disturbing dry soils or working near bat or bird droppings. • Personal protective equipment may be needed.
Human Immuno-deficiency virus/ Acquired Immune Deficiency Syndrome - HIV/AIDS	Worldwide	• Being exposed to blood or body fluids infected with HIV. • Having sex or sharing needles with someone infected with HIV.	• May have flu-like symptoms 14-60 days post-infection. • Attacks the immune system, may eventually result in opportunistic infections or cancers.	• None. • Blood test for diagnosis. • Treatment with antiretroviral drugs for long-term maintenance.	• Follow Bloodborne Pathogen training when handling any unfixed human blood or tissue. • Do not engage in risky activities.
Influenza - seasonal	Worldwide	• Inhalation of influenza virus.	• Fever. • Headache.	• Flu antiviral drugs can treat the flu	• Annual flu vaccination.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
	Note: As of 2008, pandemic strains of non-seasonal influenza have been reported in Africa, Asia, Europe, Near East and occur primarily in birds	• Contact with birds infected with influenza.	• Extreme tiredness. • Dry cough. • Sore throat. • Runny or stuffy nose. • Muscle aches. • Stomach symptoms like nausea, vomiting and diarrhea are more common in children.	or prevent infection. • Your health care professional will decide whether you should take antiviral drugs. • Antiviral drugs should be started within 48 hours of getting sick. • Antiviral drugs are 70-90% effective in preventing infection.	• Cover your nose and mouth with a tissue or elbow when you cough or sneeze. • Wash hands with soap and water frequently. • If you are not near water, use an alcohol-based hand cleaner. • Try not to touch your eyes, nose or mouth. • Stay away from people who are sick. • If you get the flu, stay home from work or school.
Leptospirosis	Worldwide	Ingestion, swimming, or other activities in water contaminated with *Leptospira.*	• Flu-like. • Occasionally more serious symptoms.	• See a doctor if you suspect leptospirosis.	• Use care when working in the water, especially after a flooding event. • Avoid entering the water with open wounds.
Norovirus "Norwalk-like viruses" Gastroenteritis	Worldwide	• Foodborne - food, water, surfaces or objects contaminated with Norovirus.	Nausea, vomiting, diarrhea, stomach cramping. Some people also have a low-grade fever, chills,	Stay hydrated	• Wash hands with soap and water frequently. • Wash fruits/vegetables and steam oysters.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
		• Direct contact with another person who is infected.	headache, muscle aches, malaise.		• Clean and disinfect contaminated surfaces immediately after illness using a bleach-based cleaner. • Remove and wash contaminated clothing or linens.
Plague	Worldwide	• Flea-borne - from rodents infected with *Yersinia pestis* to humans. • Direct contact with infected tissues or fluids from sick or dead animals.	• Flu-like. • Non-specific. • Swollen and painful lymph nodes - bubonic.	See a doctor if you suspect plague.	• Use care when working in areas where plague is found. • Use caution when working with wild rodents.
Rabies - Vaccine available	Worldwide	• Infection from the bite of an animal, like raccoons, skunks, bats, foxes, coyotes, dogs, cats infected with *Lyssavirus.* • Bat bites are difficult to see and may not be felt. Exposure is also possible when a bat is found in	• Fatal within days of the onset of symptoms without immediate treatment. • Early symptoms: fever, headache, malaise. • Later symptoms: insomnia, anxiety, confusion, paralysis, hallucinations,	Disinfect and wash the wound. See a doctor **immediately** if potentially exposed to a rabies-carrying species like a bat or carnivore.	• Obtain a vaccine if you will be working with bats or carnivores. • Use extreme caution when handling these animals. • Vaccinate pets.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
		living or sleeping quarters.	hypersalivation, difficulty swallowing, fear of water.		
Salmonellosis	Worldwide	Foodborne: beef, poultry, milk, eggs, unwashed raw vegetables contaminated with salmonella bacteria	• Diarrhea. • Gastrointestinal symptoms.	• Drink plenty of fluids. • Seek medical attention if symptoms persist.	• Always cook food thoroughly. • Wash vegetables before consuming. • Wash hands with soap and water frequently.
Typhoid Fever - Vaccine available	Worldwide	Foodborne: food and water contaminated with *Salmonella typhi.*	• Diarrhea. • Gastrointestinal symptoms.	• Drink plenty of fluids. • Seek medical attention if symptoms persist.	• Obtain a vaccine. • Always cook food thoroughly. • Never drink water from an impure source. • Wash hands with soap and water frequently.
Tetanus - Vaccine available	Worldwide	A wound that is infected with *Clostridium tetani*; tetanus toxin is produced by the bacteria and attacks nerves.	• Early symptoms: lockjaw, stiffness in the neck and abdomen, difficulty swallowing. • Later symptoms: muscle spasms, seizures, nervous system disorders.	• See a doctor for any wound contaminated with dirt, feces, soil, or saliva; for puncture wounds; and for wounds resulting from crushing, burns, and frostbite.	• Obtain a vaccine for tetanus every 10 years or immediately following a suspect wound or injury. • Once the disease starts, it must run its course.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Typhus Fever	Worldwide	Infection from the bite of lice, fleas, ticks, or mites infected with *Rickettsiae* species.	• Headache. • Fever. • Rash.	• See a doctor if you suspect Typhus Fever. • Treatable with antibiotics.	• Use insect repellant. • Wear long-sleeve shirts. • Tuck pants into boots.

Appendix I Diseases - North America

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Coccidiodo-mycosis - Valley Fever	North and South America semiarid regions	*Coccidioides* species fungus is inhaled when soil is disturbed.	• None in most people ~60%. • Flu-like: fever, cough, rash, headache, muscle aches. • Occasionally, chronic pulmonary infection or widespread disseminated infection like skin lesions, central nervous system infection, and bone and joint infection.	See a doctor if you suspect Valley Fever.	• Wet soil before digging. • If you are immuno-compromised, wear a mask when digging. • Stay inside during dust storms in areas where *Coccidioides* fungus is present. • Keep doors and windows tightly closed.
St. Louis Encephalitis	North and South America	• Mosquito-borne: infection from the bite of a mosquito infected with St. Louis Encephalitis virus.	• Mild: fever and headache. • Severe: headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and rarely death.	Seek medical attention immediately if you suspect encephalitis.	• Use insect repellent. • Many mosquitoes are most active at dusk and dawn; consider staying indoors during these hours. • Wear long sleeves and pants. • Avoid areas of standing water

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
					where mosquitoes breed.
Lyme Disease	U.S., Europe, and Asia	Infection through the bite of a tick infected with: • *Borrelia burgdorferi* - U.S. • *Borrelia afzelii* or *Borrelia garinii* - Europe.	• Spreading rash, or "bullseye." • Early symptoms: flu-like. • Later symptoms: arthritis and neurologic problems.	See a doctor if you suspect Lyme Disease.	• Avoid tick-infested areas. • Wear long sleeves and pants. • Use insect repellant. • Check clothing and hair for ticks and remove any ticks.
Rocky Mountain Spotted Fever	U.S., southern Canada, Mexico, and Central America	Infection through the bite of an infected tick - *Rickettsia rickettsii*	• Sudden onset of fever. • Headache. • Muscle pain. • Spotty rash.	See a doctor if you suspect Rocky Mountain Spotted Fever.	• Avoid tick-infested areas. • Wear long pants, shirts. • Use a repellant. • Check clothing and hair for ticks and remove any ticks.
Hantavirus Pulmonary Syndrome - Sin Nombre Virus	North America	Inhalation of dusts or aerosols from the infected rodent's feces, urine, or saliva. Vector: Deer mouse - *peromyscus maniculatus.*	• Early – 1-5 weeks: fatigue, fever, muscle aches, chills, headaches, dizziness, sometimes abdominal problems. • Late – 4-10 days after early	Seek medical attention **immediately** if you suspect HPS. The likelihood of survival is greatly increased with early diagnosis and treatment.	• Avoid contact with rodents, especially their feces. • See section on dealing with rodent-infested areas.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
			symptoms: coughing, shortness of breath.		
Arenavirus - White Water Arroyo	North America	Inhalation of dusts or aerosols from the infected rodent's feces, urine, or saliva. • Vector: Woodrats - *Neotoma fuscipe* - and other *Neotoma* species.	• Fever. • Headache. • Muscle aches. • Severe respiratory. distress - occasionally.	Seek medical attention **immediately** if you suspect WWA. The likelihood of survival is greatly increased with early diagnosis and treatment.	• Avoid contact with rodents, especially their feces. • See section on dealing with rodent-infested areas.
West Nile Virus	North America	• Mosquito-borne Infection from the bite of a mosquito infected with West Nile Virus. • Handling infected birds.	• None in most people ~80% • Mild: fever, headache, body aches, nausea, vomiting, and sometimes swollen glands or a rash on the chest, stomach and back. • Severe: high fever, neck stiffness, stupor, muscle weakness, disorientation, coma, tremors,	See a doctor if you suspect that severe symptoms are due to West Nile Virus.	• Use insect repellent. • Many mosquitoes are most active at dusk and dawn; consider staying indoors during these hours. • Wear long sleeves and pants. • Avoid areas of standing water where mosquitoes breed. • Don't handle dead birds with your bare hands.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
			convulsions, vision loss, numbness, paralysis.		

Appendix J Diseases - International

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Dengue Fever	Africa, Southeast Asia, China, India, Middle East, South and Central America, Australia, and the Pacific Islands	Mosquito-borne infection from the bite of a mosquito infected with one of four dengue viruses.	• Flu-like. • Sudden high fever. • Severe headache. • Pain behind eyes. • Nausea and vomiting. • Rash.	• See a healthcare provider if you suspect Dengue Fever. • Takes up to one month to recover.	• Wear long sleeves and pants. • Use insect repellent. • Use a mosquito net.

Chikungunya virus	Africa, Asia, Europe, and the Indian and Pacific Oceans, Caribbean	Mosquito-borne infection from the bite of a mosquito infected Chikungunya virus.	• Fever.
			• Joint pain.
			• Rash.
			• Headache.
			• Muscle pain.
			• Joint swelling.
				• See a healthcare provider.
				• Treat symptoms:
				  ○ Rest.
				  ○ Hydrate.
				  ○ Take acetaminophen or paracetamol to reduce fever and pain.
					• Wear long sleeves and pants.
					• Use insect repellent.
					• Use a mosquito net.

Lyme Disease	U.S., Europe, and Asia	Infection through the bite of a tick-infected with	• Spreading rash or “bullseye.”	See a doctor if you suspect Lyme Disease	• Avoid tick-infested areas. • Wear long sleeves and pants.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
		• *Borrelia burgdorferi* - U.S. • *Borrelia afzelii* or *Borrelia garinii* - Europe.	• Early symptoms: flu-like. • Later symptoms: arthritis and neurologic problems.		• Use insect repellant. • Check clothing and hair for ticks and remove any ticks.
Ebola	Outbreaks occur primarily on the African continent.	Direct contact with an infected animal, like a bat or nonhuman primate, or a sick or dead person infected with Ebola virus.	• Fever. • Aches and pains. • Severe headache. • Muscle pain. • Joint pain. • Weakness and fatigue. • Sore throat. • Loss of appetite. • Gastro-intestinal symptoms, including abdominal pain, diarrhea and vomiting. • Unexplained hemorrhaging, bleeding or bruising.	See a doctor **immediately** if you have traveled in an Ebola-risk area and suspect Ebola.	• FDA-approved vaccine available. • Avoid contact with blood and body fluids of people who are sick. • Avoid contact with items that may have come in contact with an infected person's blood or body fluids. • Avoid funeral or burial practices that involve touching the body of someone who died from Ebola virus disease or suspected Ebola virus disease. • Avoid contact with bats, forest antelopes, and

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
			• Red eyes. • Skin rash. • Hiccups.		nonhuman primate blood, fluids or raw meat prepared from these or unknown animals, called bushmeat. • Avoid contact with semen from a man who has recovered from Ebola virus disease until testing shows that the virus is gone from his semen.
Marburg virus disease	Africa	• Infected bat feces or aerosols. • Person-to-person contact with those who are infected. • Direct contact with blood or body fluids. • Objects with body fluids from a sick person with/or has died from	• Incubation: 2-21 days. • Sudden onset of symptoms. • Fever. • Chills. • Headache. • Myalgia. • Rash on the trunk. • Nausea. • Vomiting. • Chest pain. • Sore throat. • Abdominal pain. • Diarrhea.	See a doctor **immediately** if you have traveled in a Marburg-risk area and suspect Marburg.	• Avoid fruit bats and sick non-human primates. • Prevent direct physical contact with someone suspected or confirmed to have Marburg virus disease by using protective gowns, gloves, masks.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
		Marburg virus disease • Semen from a man who recovered from Marburg virus disease • Contact with infected non-human primates or their body fluids.	• Jaundice. • Inflammation of the pancreas. • Severe weight loss. • Delirium. • Shock. • Liver failure. • Massive hemorrhaging. • Multi-organ dysfunction.		
Malaria - Preventable with drugs	Central and South America, Hispaniola, Africa, India, South Asia, Southeast Asia, the Middle East, and Oceania	• Mosquito- borne infection from the bite of an infective female *Anopheles* mosquito. • Blood transfusion. • Contaminated needles and syringes.	• May take 10 days to one year for symptoms to appear. • Flu-like, fever, sweats, chills, headache, malaise, muscle aches, nausea, vomiting, jaundice.	See a doctor **immediately** if you have traveled in a malaria-risk area and suspect malaria.	• Use a mosquito net and insect repellent. • Take antimalarial drugs; visit your health care provider 4-6 weeks before travel. • Wear long sleeves and pants.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
			• Untreated may cause severe complications, including death.		
Severe Acute Respiratory Syndrome — SARS	Occurred in 2003 in North America, South America, Europe, and Asia	• Close person-to-person contact. • Inhalation of respiratory droplets produced when an infected person coughs or sneezes. • Touching surface or object contaminated with infectious droplets and then touching mouth, nose or eyes.	• Begins with a high fever >100.4°F or 38.0°C. • Headache. • Malaise. • Some have mild respiratory symptoms at the outset. • 10-20% have diarrhea. • After two-to-seven days, may develop a dry cough. • Most develop pneumonia.		• Wash your hands with soap and water frequently or an alcohol-based hand rub. • Travelers to China should avoid live food markets and contact with civets and other wildlife - no evidence that direct contact with civets has led to cases of SARS; similar viruses have been found in these animals.
Yellow Fever - Vaccine Available	South America and Africa	Mosquito-borne infection from the bite of a mosquito infected with Yellow fever virus.	• Flu-like. • Jaundice. • Can be fatal.	See a doctor if you suspect Yellow Fever.	• Visit doctor at least 10 days before travel for the vaccine. • Wear long-sleeve shirts and pants.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
					• Use insect repellant. • Use a mosquito net.
Zika virus	South America, Central America, North America, Africa, Asia, Oceania	• Mosquito-borne infection from the bite of a mosquito infected with Zika virus. • Sexually transmitted from an infected person. • From a pregnant woman to her fetus.	• Fever. • Rash. • Headache. • Joint pain. • Red eyes. • Muscle pain.	See a healthcare provider if you suspect Zika virus infection: • Rest. • Hydrate. • Take medicines like acetaminophen to reduce fever and pain. • Do not take aspirin or other non-steroidal anti-inflammatory drugs.	• Wear long-sleeve shirts and pants. • Use insect repellant. • Use a mosquito net. • Prevent sexual transmission of Zika by using condoms or not having sex.
Hantavirus - Sin Nombre Virus and Arenavirus - White Water Arroyo	Central and South America and Asia	• Inhalation of dusts or aerosols from the infected rodent's feces, urine or saliva. • Vector: Rodents, especially *Neotoma* and	• Fever. • Headache. • Muscle aches. • Severe respiratory distress, occasionally.	Seek medical attention **immediately** if you suspect hantavirus or arenavirus. The likelihood of survival is greatly increased with early diagnosis and treatment.	• Avoid contact with rodents, especially their feces. • See section on proper rodent handling for cleaning a rodent-infested area.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
		Peromyscus species.			
Schistoso-miasis, or bilharzias	Brazil, Egypt, sub-Saharan Africa, southern China, the Philippines, and Southeast Asia	Transmitted by swimming in contaminated freshwater.	• Can be asymptomatic. • Acute: 2-3 weeks - fever, weight loss, weakness, cough, headaches, abdominal, joint and muscle pain, diarrhea, nausea. • Chronic disease in lungs, liver, intestines, bladder.	See a doctor if you suspect schistomiasis.	• Avoid freshwater wading or swimming in endemic regions. • Heat bathwater over 50°C for at least five minutes before use.

- Other vector-borne diseases: Many other diseases may pose a problem when traveling out of the country. Always check with a physician to learn the specific threats to your location of study. Some other vector-borne diseases include:
  - African Sleeping Sickness: Carried by the tsetse fly in Africa.
  - Chagas Disease: Transmitted by the triatomine bugs; a.k.a., conenose or "kissing" bug in Mexico and Central and South America.
  - Encephalitis: Carried by mosquitoes in Asia and Eastern Russia.
  - Leishmaniasis: Transmitted by sand flies in the tropics and subtropics.
  - Filariasis: Carried by mosquitoes in the tropics.
  - Onchocerciasis: Causes 'river blindness' and is carried by black flies in Africa, Arabia, and Central and South America

- Other diseases. There are other diseases to be aware of when traveling outside of the U.S. While the risk of infection is generally low, it is important to be aware of and take appropriate precautions to guard against diseases such as Tuberculosis, Viral Hemorrhagic Fevers, etc. Always check with your health care provider to learn more about specific diseases in the region you will be conducting your research.

Appendix K Field Research Kit Items

Basic items	Remote items
First aid kit	Painkillers/antihistamines
Cold/heat packs	Epi-pen; prescription needed
Nitrile or other protective gloves	Antiviral drugs; prescription needed
Soap	Seasickness tablets
Masks	Antibiotic cream
Sunscreen, hats, sunglasses	Antiseptic
Bandages	Hydrogen peroxide
Tweezers	Lip balm
Thermometer	Antifungal cream
Flashlight	Rubbing alcohol
Batteries	Eye/ear/nose drops
Insect repellant	Antacids
Flares	Anti-diarrhea medication
Fluorescent Distress flag	Laxatives
Super glue	Bed nets
Lightweight emergency blanket	Sealed container for food storage
UNC Charlotte Contact info (translated into local languages)	Whistle/noisemaker
Map, compass, GPS	Pepper spray
Cell phone and charger	Knife or multitool
Food, snacks	Tools - shovel/axe/saw
Extra water	2-way radio/battery operated radio
	Satellite phone
	Waterproof matches
	Tarps, hammer, duct tape, nails
	Signal mirror
	Jumper cables, tire gauge, spare tire, jack, tow rope, air pump
	Inflatable raft
	Foreign travel insurance card

Appendix L Field Safety Research Risk Matrix

Field Safety Research: Risk Matrix					
Risk level	**PPE recommendations based on activity and level of risk — lowest = 1; highest = 12**				
	Activity	**Condition**	**PPE**	**Safe work practice**	**Route(s) of exposure**
1	Handling seemingly healthy live animals.	No substantial local zoonotic disease concerns or vectors; risk from casual contact is minimal.	• Disposable and/or leather gloves. • Clothing appropriate to the nature of the operation.	Does not apply	Contact, vector
2	Handling biological samples from apparently healthy live animals.	No substantial local zoonotic disease concerns or vectors.	• Disposable and/or leather gloves. • Clothing appropriate to the nature of the operation. • Eye protection.	Does not apply	Contact with body fluids or biological samples may increase risk. Contact, vector

3	Collection of biological samples like feces, urine and fetuses from the environment for management or research where no known zoonotic enzootic disease occurs.	Risk exists from contact with body fluids and tissues, but no known disease risk is present.	• Disposable and/or leather gloves. • Coveralls, lab coat or dedicated clothing. • Eye protection if splashes may occur.	Store Samples in approved and dedicated specimen storage locations according to protocols.	Contact, vector
4	Handling for disposal or submission of single animal found dead in an area with no substantial local zoonotic disease or vectors.	Risk is minimal if a barrier is used. Risk may increase with the size of the animal handled because of increased chance of contamination.	<u>Small animal</u>: • Gloves or inverted bag. <u>Large animal</u>: • Disposable and/or leather gloves. • Coveralls, lab coat or dedicated clothing.	• Use appropriate precautions for transmission routes of diseases of concern. • Transport outside passenger area of vehicle; truck bed or trunk. • Bag carcasses tightly if it must be placed in passenger compartment or to avoid leakage of body fluids into the environment. • Cover all carcasses.	Contact, vector

5	Handling multiple animals found dead for disposal or submission in an area without substantial zoonotic disease risk or handling single animal or multiple animals in an area with substantial zoonotic disease risk.	Risk may differ if the mortality event is recurring. For example, juvenile birds washed ashore as opposed to unexpected.	<u>Small animal:</u> • Gloves or inverted bag. <u>Large animal:</u> • Disposable or leather gloves. • Coveralls, lab coat or dedicated clothing. • Eye protection. • As appropriate to disease: respiratory protection as appropriate to the level of risk.	Follow work practices in number 4. In addition: • Inform colleagues and consult with wildlife disease professionals for potential causes of illness. • In an unexpected mortality event: submit 1-5 animals for diagnostic evaluation and dispose of remaining carcasses in landfill or other approved means. • Store samples in approved locations. • Become familiar with human disease symptoms and seek medical attention if symptoms occur. Inform health care provider of occupation and potential exposure.	Contact, vector Aerosol, in rare circumstances
6	Briefly handling or contacting live or dead animals incidental to other work assignments.	Incidental exposure as a result of other indoor or outdoor duties.	<u>Small animal:</u> • Gloves or inverted bag. <u>Large animal:</u> • Disposable or leather gloves. • Coveralls, lab coat, or dedicated clothing.	• Inform colleagues as appropriate. • Transport outside passenger area of vehicle; truck bed or trunk). • Bag carcasses tightly if it must be placed in passenger compartment to avoid leakage of body fluids into the environment. • Cover all carcasses.	Contact, vector

7	Handling seemingly healthy live animals, or samples, from areas with known zoonotic disease risks.	Disease exists in, or spills into, handled species or associated vectors. For example, plague, rabies, brucellosis.	• Disposable or leather gloves. • Coveralls, lab coat or dedicated clothing. • Eye protection. • As appropriate to disease: respiratory protection as appropriate to the level of risk.	• Use appropriate precautions for transmission routes of diseases of concern. • Become familiar with symptoms of the disease in humans and seek medical attention if symptoms occur. Inform health care provider of occupation and potential exposure.	Contact, vector Aerosol
8	Handling sick or injured live animals for euthanasia, sampling, or transportation.	Risk increases because animal movement may increase contact; illness may be zoonotic and increase sources of contaminants. For example, diarrhea.	• Disposable or leather gloves. • Coveralls, lab coat or dedicated clothing. • Shoe covers or boots that can be disinfected. • Eye protection. • As appropriate to disease: respiratory protection as appropriate to the level of risk.	• Use appropriate precautions for transmission routes of diseases of concern. • Submit diagnostic samples from sick animals.	Contact, vector Aerosol

9	Handling healthy-appearing animals collected for management or research or found dead with no known zoonotic disease risk for necropsy, dissection or food processing.	Risk is increased because of closer contact with body fluids and tissues, but no reason to suspect high-risk zoonotic pathogens.	• Disposable or leather gloves. • Coveralls, lab coat or dedicated clothing. • Shoe covers or boots that can be disinfected. • If performing necropsy, dissection, or food processing: Eye protection. • As appropriate to disease: respiratory protection as appropriate to the level of risk.	If an animal has received any drugs (anesthetics, euthanasia agent), it is unfit for human consumption and must be removed or withheld from the human food chain.	Contact, vector Aerosol

10	Collection of biological samples - feces, urine, fetuses from the environment for management or research where zoonotic disease vectors occur.	Risk from contact with body fluids and tissues from potentially infected animals or their parasites.	• Disposable or leather gloves. • Coveralls, lab coat or dedicated clothing. • Eye protection. • Shoe covers or boots that can be disinfected. • As appropriate to disease: respiratory protection as appropriate to the level of risk.	• Use appropriate precautions for transmission routes of diseases of concern. In addition: • Inform colleagues and consult with a wildlife disease professional for potential causes of illness. • Become familiar with disease symptoms in humans and seek medical attention if symptoms occur. Inform health care provider of occupation and potential exposure.	Contact, vector Aerosol
11	Handling dead animals that were observed ill or a species with known zoonotic disease risk. For example, prairie dog, ground squirrel for necropsy or dissection.	Risk is increased because of closer contact with body fluids and tissues and unknown cause of death.	• Disposable or leather gloves. • Coveralls, lab coat or dedicated clothing. • Eye protection. • Shoe covers or boots that can be disinfected. • Respiratory protection as appropriate to the level of risk.	• Inform colleagues and consult with wildlife health disease professionals for potential causes of illness. • Become familiar with disease symptoms in humans and seek medical attention if symptoms happen. Inform your health care provider of occupation and potential exposure. • Become familiar with warning signs for unusual mortality events; multiple dead animals, blood coming from orifices; nose, rectum; without signs of trauma, animals displaying neurologic signs before death.	Contact, vector Aerosol

12	Cleaning areas of animal excreta and handling rodents in traps in indoor or field locations with significant accumulation of organic matter.	Large quantities of mouse excreta and bird or bat guano are of considerable concern, especially in indoor settings.	• Disposable or leather gloves. • Coveralls, lab coat or dedicated clothing. • Eye protection. • Shoe covers or boots that can be disinfected. • Respiratory protection as appropriate to the level of risk.	See precautions for workers frequently exposed to rodents in "Hantavirus Pulmonary Syndrome - U.S. - Updated Recommendations for Risk Reduction." Available at: cdc.gov/mmwr/preview/mmwrhtml/rr5109a1.htm	Contact, vector Aerosol

Modified from U.S. Geological Survey manual "Safe Work Practices for Working with Wildlife." Contact EHS Biosafety with questions regarding risk levels and for up-to-date information about known zoonotic risks where research will be performed.