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EMERGENCY INFORMATION

Principal Investigator/Supervisor: ________________________________

Building Coordinator: ________________________________

Custodial or Environmental Services: __________________

University of Washington (UW) Police (On Campus) 911

Seattle Fire Department (On Campus) 911

Employee Health Center
  Seattle Campus, South Lake Union 206-685-1026
  Harborview 206-744-3081

Environmental Health and Safety (EH&S)
  EH&S Main Office (Seattle) 206-543-7262
  Research and Occupational Safety Section (Seattle) 206-221-7770
  Tacoma Campus, EH&S Manager 206-616-0595
  Bothell Campus, EH&S Liaison 206-543-0469

AFTER HOURS, WEEKENDS AND HOLIDAYS

UW Police (On Seattle Campus) 911

Seattle Fire (On Seattle Campus) 911

Environmental Health and Safety Staff-On-Call Page through 206.685.UWPD (8973)
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SECTION 1 – ROLES AND RESPONSIBILITIES

A. PURPOSE OF THE MANUAL

The University of Washington (UW) has committed to create, maintain, and enhance a safe and healthful environment for all individuals associated with the institution, including students, faculty, staff, hospital patients, and visitors. This commitment, including policies and responsibilities, is stated in UW Presidential Executive Order 55 (http://www.washington.edu/admin/rules/policies/PO/EO55.html). Part of demonstrating this commitment is providing guidelines and resources to lead safe, successful field courses and research trips.

The content in this manual focuses on risk management issues that are relevant for field courses and research, international trips, research expeditions, and other outdoor excursions. Links to other safety manuals published by Environmental Health & Safety (EH&S) are noted when applicable. Field sites may include field stations, natural reserves, public lands or parks, wilderness areas, coastline or waterways, or more controlled sites such as construction areas, excavations, or mines. This manual was developed to serve as a reference document and teaching tool, as well as to highlight applicable UW policies and state/federal laws.

B. SCOPE

The manual covers roles and responsibilities, planning, training, incident response, best practices, common field hazards, and campus resources. Document templates are included in the Appendices. Use the information in this manual to complete your Field Safety Plan for your work and activities.

Integration of field safety planning into routine instruction and training will meet key objectives and regulatory requirements of your department's Accident Prevention Plan (APP) (https://www.ehs.washington.edu/workplace/accident-prevention-plan). The Accident Prevention Plan is a written safety program to protect employees from illnesses and injuries per the Washington Administrative Code (https://app.leg.wa.gov/wac/default.aspx?cite=296-800-100) and Washington Industrial Safety and Health Act (WISHA) (https://app.leg.wa.gov/RCW/default.aspx?cite=49.17), by establishing a safety management framework for identifying and correcting workplace hazards, ensuring employee training and compliance, and communicating information related to safety and health issues. Department-specific and task-specific requirements for activities to be conducted in a safe and appropriate manner in addition to the requirements outlined in this manual are defined, managed, and approved by your department.

C. RESPONSIBLE PARTY AND SAFETY OFFICER

Each research or instructional group must have a single responsible party (RP), who is most often the principal investigator (PI), field instructor or director. The RP is an individual who is designated the authority by a University department, school or administrative unit to direct the research or teaching program or project. The PI has scientific and technical direction for the research or activities conducted. The PI has the responsibility and authority to enforce safety regulations and policies.
Based on state requirements, each research or teaching group must also have a designated safety officer who is knowledgeable about the procedures, is actively involved or observant of those procedures performed, and has the authority to enforce correct procedures.

The safety officer is often the RP. If the RP has other commitments that prevent knowledge of day-to-day activities and assigns another person to be the safety officer, the RP is still considered the responsible party for the group. The responsible party may assign a supervisor, manager, or other senior-level person with authority familiar with activities within the group to the safety officer. The safety officer must be identified by name in the Field Safety Plan, protocols, and any other field safety documents for the group.

The laboratory's RP must ensure the following is accomplished:

- Develop the Field Safety Plan and inform their department according to their protocols.
- Create a list of chemicals, equipment, and materials transported.
- Identify and assess hazards.
  - Recognizing risk and the possibility of loss or injury, is integral to experiential learning and is inherent in field environments where teaching and research are conducted. A field instructor or researcher must understand and anticipate risks and act appropriately to reduce the likelihood of negative consequences. Accidents often result from a combination of challenging conditions, inadequate preparation, and poor communication. For this reason, an effective trip leader must incorporate many attributes of leadership including preparation, competency, effective communication, appropriate judgment, self and group awareness, and tolerance for adversity and uncertainty (adapted from the National Outdoor Leadership School Educator Notebook).
- Document and enforce appropriate safety practices.
- Ensure signage/labels are in place.
  - Appropriate signage must be posted and hazardous material containers (including hazardous waste containers) must be labeled.
- Assess, provide and document training.
- Ensure staff have access to safety information.
- Perform accident follow-up.
  - All accidents and incidents must be investigated. Any accidents/incidents resulting in injury to personnel to the extent that they need medical attention, and accidents/incidents involving unplanned fires and explosions, must be reported to the RP and to EH&S. It is recommended that incidents that do not result in significant injury or damage, but do result in near misses, also be reported to the RP and to EH&S.

**D. DEAN, DEPARTMENT CHAIR AND DIRECTOR**

The dean, department chair and director are responsible for the following:

- Ensure safety of field members by providing a safe and healthy workplace free from recognized hazards (WAC 296-800-110, https://apps.leg.wa.gov/WAC/default.aspx?cite=296-800-110). This can be accomplished by being aware of the University's Accident Prevention
Program (www.ehs.washington.edu/workplace/accident-prevention-plan), being familiar with departmental health and safety plans and the activities generally being conducted, being aware of the general requirements in this manual and other safety and health requirements, and taking a reasonable approach in minimizing hazards and risks.

- Enforce hazard control methods.
- Ensure standard operating procedures (SOPs) concerning use of particularly hazardous substances identify authorization requirements.
- Ensure that safety records are maintained.
- Review accidents and have procedures in place to become aware of accidents affecting operations within your department. Ensure corrective actions are taken, if necessary, to prevent accident recurrence.
- Review and follow up on inspection findings for responsible parties involved.
- Ensure that corrective actions are completed for safety deficiencies.
- Assume responsible party (RP) duties or assure an RP is appointed for a research or teaching group when there is an extended absence of the PI or RP.

E. FIELD WORKERS, INCLUDING EMPLOYEES/STUDENTS

All field workers, including employees and students have a responsibility to:

- Comply with University guidelines and policies.
- Know and comply with safety guidelines and policies required for all assigned tasks.
- Obtain appropriate training for designated activities.
- Select, maintain and use PPE and safety equipment appropriately, consistent with your training. Departments should clarify who is responsible for providing the necessary PPE and safety equipment.
- Report unsafe conditions to your safety officer, PI/RP, a faculty member, your immediate supervisor, the departmental safety officer, or EH&S (206-543-7262).
  - If you identify a procedure or assigned task as being exceptionally risky, you can perform it only after you believe the risk has been reduced to an acceptable level.
- Report accidents and incidents to your supervisor, and to the University using the on-line accident reporting system (OARS). See more at www.ehs.washington.edu/workplace/accident-and-injury-reporting.
- Understand what to do in the event of an emergency.

F. ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT

EH&S is responsible for the following:

- Develop the UW Field Operations Safety Manual (and other safety manuals, such as the Laboratory Safety Manual and the Boating Safety Manual).
- Produce and update the UW Field Operations Safety Manual, which provides generic
information; make the manual available through the EH&S website; announce updates on the EH&S website, in the EH&S newsletters, and by email.

- Act as the liaison with regulatory agencies.
- Act as the liaison between the University and the regulatory agencies enforcing environmental, health and safety regulations.
- Advise concerning safety practices and compliance as it applies to field operations.
- Provide occupational health recommendations.
- Assist parties (as needed) with the development of the site-specific information required to complete their Field Safety Plan. Act as a resource regarding safety issues.
- Develop and provide general safety training courses to be completed online and/or in person.

G. CREATING SAFE LEARNING ENVIRONMENTS

The Responsible Party (RP) for field operations has enormous influence over how well and how safely the team will perform. Below are several key communication actions that can be employed to help more effectively steer the group in a safe and positive direction. See the Best Practices section in Appendix I for suggestions on how to engage certain types of discussion and topics to cover.

1. Set the Tone on Safety and Acceptable Behavior

The success and overall safety of a team is rooted in the quality of its leadership, teamwork, and communication more than it is in the overall skill level. Teams are consciously built by the actions of both leaders and participants. Before any risky situations arise, it's important to develop and practice good teamwork and communication within the RP/instructor/leader team and student/research groups. Studies have shown that participants are more likely to implement safety practices and engage in safety discussions when the RP/instructor/leader models those behaviors themselves and initiates safety discussions on a regular basis.

2. Establish and Maintain Reasonable Goals, Roles, Expectations and Behavioral Norms

As the RP, you have the most influence over creating a culture of safety within your group. By far, the most leverage you have is at the beginning of your class/trip. All of your group's future endeavors are made easier or more challenging by the effectiveness of these first interactions. Two important meetings should occur at this early stage:

- Meet with your leader/teaching team prior to the beginning of your class/trip to discuss your leadership roles as well as personal and course objectives.
- Facilitate a pre-trip orientation meeting with your whole group as early as possible to establish clear goals, roles, expectations, and behavioral norms.

3. Brief Your Team Often

Groups operate more safely when they are frequently briefed on what to expect. Brief at the start of the day or activity. Brief when conditions change. Brief when your plans change. Excellent leaders articulate and explain goals as often as necessary.
Strive to incorporate these core ingredients into your briefings:

- What are we doing? (What are the goals?)
- How are we doing it? (What's the plan?)
- When are we doing it? (What's the timetable?)
- Who is doing it? (What are our roles?)
- What hazards can we anticipate?
- How will we manage those hazards? (What are the contingency plans?)
- What gear do we need?
- How and when will we make decisions?
- How is everyone doing? What concerns do you have?
- What is our plan if someone becomes ill or injured or lost?
- Have I been understood? (If necessary, ask your group to repeat back the information you just gave them.)

4. Practice Active Listening

The practice of active listening can help you build a healthy group learning community but also can significantly reduce the likelihood of accidents. When you are actively listening to someone, you are supporting people to think out loud. This builds trust, group intelligence, and greater awareness of a situation or issue. It also helps leaders (and their groups) make safer decisions. More information on active listening practices can be found in Appendix I.

5. Resolve Conflict

The potential for conflict is natural among people and is an inherent part of any group's development into a safe, high functioning team. Rather than avoid conflict, effective teams manage conflict productively. While conflicts are okay, unresolved conflicts are not. They impede communication and cooperation, and they can lead to incidents. Conflict often arises when expectations, roles, and responsibilities are unclear. Participants may be missing information or lack a sense of the big picture. It's the leader's job to clarify this for your group. When conflict arises, you should see it as a sign that your team may be unraveling. As a leader, you may need to step in, acknowledge the issue, and set aside time to work through the conflict. Do this by listening to the different perspectives and opinions, restating or revising roles and expectations, and committing to moving forward productively. Additional approaches for conflict resolution are listed in Appendix I.

H. ADDRESSING STUDENT/PARTICIPANT BEHAVIOR IN THE FIELD

The board of regents of the University of Washington has established rules regarding student conduct that are set forth in WAC 478-121 (https://apps.leg.wa.gov/WAC/default.aspx?cite=478-121). This conduct code applies to all students from the time of admission through the actual conferral of a degree and covers all forms of conduct prohibited on any university premises or in connection with any university-sponsored program or activity, regardless of the location of the program or activity.
One of the most difficult challenges of a field instructor/leader is to address group dynamics and individual behavior that can undermine a positive learning environment for everyone. These challenges may manifest as homesickness/disengagement, alcohol or drug use, poor performance, sexist or racist behavior, or various behaviors that prevent inclusion of everyone.

Engaging participants to collaborate involves all of the following:

- Setting the tone for a safe positive learning environment.
- Using inclusive language. (e.g., use “family” instead of “parents”, give people the opportunity to share their preferred gender pronouns)
- Building rapport and developing positive professional relationships with all students/participants: Give regular positive and constructive feedback, spend time (structured and unstructured) with them, play games, have conversations, ask them questions, set and reinforce boundaries, and learn from your students/participants. Make the effort to individually check-in with each of your students/participants at some point during your course/project. Ask them how they're doing, ask them to give you feedback, and then listen.

Options to consider if challenges arise:

- Examine the individual’s behavior and their individual experience while revisiting the structure and boundaries you set for a safe and positive learning environment, your role as an instructor, and the culture created by your group.
- Are there social dynamics at play in your group that isolate, intimidate, or threaten this individual?
- What needs of this individual are not being met? What could you do to meet them?
- What is this individual getting from their disruptive behavior? Is there any other way this individual could meet their needs in a more productive way?
- Are the boundaries you have created thwarting this individual's ability to feel capable, connected, and that their presence matters?
- Make structural changes (such as giving more time for meals or breaks every once in a while) that you think might alleviate some of the stress on this individual and the group.
- Give verbal feedback and coaching first before written documentation.
- Keep a written behavior log of observations about the individual's behavior:
  - Be accurate - stick to observations and quotes; avoid speculation, interpretation, and evaluation.
  - Be specific, clear, and organized. Use dates, times of day, names, etc.
  - Use direct quotes from the individual and from their peers.
  - Be brief and avoid redundancy.

If a behavioral issue does not resolve itself after 1-2 days of trying all of the above, consider creating a performance agreement, which is a structured way to:

- Document behaviors that need to change
- Clarify behavioral expectations
- Outline consequences if change doesn’t occur

An effective agreement should target behavior that is specific, observable, and changeable. It needs to include a timeline for change and appropriate consequences.

Title IX, Washington state law, and UW policy prohibit discrimination based on sex, sexual orientation, gender, gender expression, pregnant or parenting status, and LGBTQ (lesbian, gay, bisexual, transgender, queer) identity. The Office of the Title IX Coordinator (https://www.washington.edu/titleix/) assists any member of the UW community with concerns or inquiries regarding Title IX-related sexual misconduct or gender discrimination. Contact them at 206.221.7932 | titleix@uw.edu

I. INSTITUTIONAL CHEMICAL AND PHYSICAL SAFETY COMMITTEE

The Institutional Chemical and Physical Safety (ICAPS) Committee (https://www.ehs.washington.edu/about/committees) is one of several University-wide committees charged with promoting a safe working environment at the University of Washington. The committee has specific oversight responsibilities for chemical and physical safety in all research and teaching activities conducted in University owned and operated laboratories, and in field research.

The committee has the authority to recommend modification, suspension, revocation and/or termination of any activities that are deemed to pose an unacceptable risk to life or safety. Recommendations will be made to the EH&S Senior Director, department leadership, and University leadership as needed.

Safety concerns and issues identified by EH&S may be escalated to the committee for resolution. For additional information on the committee and the escalation process, contact labcheck@uw.edu.
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SECTION 2 – PLANNING AND PREPARATION

A. INITIAL PREPARATIONS FOR A SUCCESSFUL TRIP

Planning and preparation for your trip is essential to a safe and successful venture for all participants. The responsible party or field instructor for a field operation or activity should consider these key steps of preparation in the early stages of planning the trip:

- Register your trip with the UW Office of Global Affairs for travel outside of the U.S.
- Schedule a pre-trip medical consultation
- Develop your emergency communication plan
- Take first aid training and procure a first aid kit
- Consider and discuss security risks and personal safety
- Start to draft a Field Work Risk Assessment

Depending on the location of your activities and the tasks involved, there is a variety of additional preparations to consider and complete. Use the following lists as a starting point for this.

B. PREPARING FOR POTENTIAL FIELD HAZARDS AND RISKS

Hazard and risk assessment for field activities may be triggered by various entities, such as EH&S, the Office of Animal Welfare, (https://oaw.uw.edu/) or your own department. The list below can be used in combination with EH&S’s Field Work Risk Assessment Tool (Field RAT) to provide an overview of resources and hazard mitigation plan for fieldwork activities.

All field work warrants a plan addressing foreseen hazards, appropriate precautions, communication options, and emergency procedures. Recommended actions are listed in the table below.

A more detailed list of potential hazards is found in Chapter 3 – Hazard Identification and Risk Mitigation.

<table>
<thead>
<tr>
<th>DESTINATION</th>
<th>REQUIRED ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Will you be traveling more than 100 miles from your home campus/office?</td>
<td>• Register with your department and identify all participants</td>
</tr>
<tr>
<td>□ Does UW, the CDC, or state department recommend vaccinations or prophylaxis for your destination?</td>
<td>• Schedule a medical visit at least 6-8 weeks prior to your trip; contact EH&amp;S Employee Health Center (<a href="https://www.ehs.washington.edu/workplace/employee-health-center">https://www.ehs.washington.edu/workplace/employee-health-center</a>)</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>□ Will you be traveling internationally?</td>
<td>• Register with the <a href="https://www.washington.edu/globalaffairs/global-travelers/">UW Office of Global Affairs</a>&lt;br&gt;• Be familiar with <a href="https://www.washington.edu/globalaffairs">UW international travel policies</a> and potential travel restrictions&lt;br&gt;• Be familiar with <a href="https://www.washington.edu/globalaffairs/global-travelers/student-international-travel-policy/">UW Student International Travel policies</a>&lt;br&gt;• Check the <a href="https://travel.state.gov/content/travel/en/traveladvisories/traveladvisories.html/">U.S. State Department travel site</a> and <a href="https://wwwn.cdc.gov/travel/notices">CDC travel site</a> for current travel alerts, advisories and important safety and security information for your destination.</td>
</tr>
<tr>
<td>□ Will you be visiting sites with hazardous terrain, climate, wildlife, zoonotic risks, poor sanitation, other environmental hazards, or remote sites with limited services?</td>
<td>• Complete a Field Safety Plan and review with all participants&lt;br&gt;• Include contacts for the nearest emergency medical services in your Field Safety Plan&lt;br&gt;• At least one participant should have current first aid training and carry a first aid kit</td>
</tr>
<tr>
<td>□ Does your worksite lack reliable phone service?</td>
<td>• Include check-in procedures in your Field Safety Plan&lt;br&gt;• Avoid working alone, when possible&lt;br&gt;• Carry field radios or satellite communication device</td>
</tr>
<tr>
<td>□ Will you be visiting private property or entering private homes?</td>
<td>• Avoid working alone, when possible&lt;br&gt;• Ensure proper approvals/protocols are in place&lt;br&gt;• Carry UW identification (cont. on next page)</td>
</tr>
</tbody>
</table>
- Dress comfortably but professionally
- Carry a reliable means of communication and check in with your supervisor regularly

| □ Will you be visiting controlled sites such as construction sites or mines? | • Request PPE and site access requirements in advance
• Carry UW identification
• Check-in with site manager/supervisor to understand what other hazards are currently present on the job-site
• Avoid working alone, when possible
• Request an escort if possible |

| □ Will you be driving to your destination via UW, rental or personal vehicles? | • Review UW Fleet Services insurance policies (https://facilities.uw.edu/catalog/vehicle-rental/policies#insurance) for students, faculty and staff; complete relevant driver safety training as required by UW Fleet Services (https://facilities.uw.edu/catalog/vehicle-rental); consider additional trainings for specific vehicles, i.e., off road/4x4 if applicable
• Review insurance coverage and accident reporting procedures (https://finance.uw.edu/travel/GroundTransportation#AutoInsurance) for personal and rental vehicles
• If driving in remote locations, carry an emergency vehicle kit and be familiar with how to use its contents |

| □ Will anyone be chartering boats/planes or using other non-commercial means of transportation? | • Consult with Procurement (https://finance.uw.edu/ps/how-to-buy/transportation) regarding appropriate contract procedures and insurance |
## PARTICIPATION

<table>
<thead>
<tr>
<th>Question</th>
<th>Actions</th>
</tr>
</thead>
</table>
| □ Are you responsible for students registered in a field course?         | • Review Appendices on “Best Practices for Trip Leaders” and “Campus Resources”  
• Consider establishing a “Student Behavior Agreement” or reviewing a “Code of Conduct”  
• Set the tone for a safe trip by discussing expectations and rules before the trip  
• Carry a participant roster with emergency contact information at all times |
| □ Will participants be camping or sleeping in shared dorms, housing, etc.? | Items listed in the box above also apply here                           |
| □ Will volunteers be helping on your project?                            | • Register volunteers formally with UW [Office of Global Affairs](https://www.washington.edu/globalaffairs/global-travelers/travelregistry/facstaff/) if traveling outside of U.S.  
• Review Risk Services information regarding volunteers for all volunteers working in the field.  
• Fulfill any requirements per [UW Student International Travel policies](https://www.washington.edu/globalaffairs/global-travelers/student-international-travel-policy/) |
| □ Will family members, partners, or other companions be travelling with participants? | • Register companions via [UW Office of Global Affairs](https://www.washington.edu/globalaffairs/global-travelers/travelregistry/facstaff/) if traveling outside of U.S. |
| □ Will you be working alone?                                             | • Include this information in your Field Work Risk Assessment  
• Register with your department and notify them of your Field Safety Plan  
• Identify contacts for immediate or local assistance in the event of an emergency |
(cont. from previous page)

- Incorporate check-in times into your communication plan and Field Safety Plan
- Consider using emergency beacons or other satellite communication devices

**FIELD ACTIVITIES**

*Note: Include all hazards associated directly with field activities in your Field Work Risk Assessment ([https://ehs.washington.edu/resource/field-work-risk-assessment-tool-field-rat-guidelines-1106](https://ehs.washington.edu/resource/field-work-risk-assessment-tool-field-rat-guidelines-1106)) and address them in your Field Safety Plan (see Chapter 3)*

<p>| | |</p>
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</table>
| □ Working outdoors with temperatures over 80 degrees Fahrenheit? | • Conduct Heat Illness Prevention training for your group. See Appendix II for resources.  
  • Establish a plan for assessing heat exposure and responding to heat illness  
  • Carry sufficient water, take breaks in shade  
  • Carry shades or tarps if natural shade is unavailable  
  • Maintain means of communication, awareness of worksite location, and ability to obtain Emergency Medical Services |
| □ Working in dry vegetation/areas with high fire danger? | • Complete the online Fire Extinguisher training ([https://ehs.washington.edu/training/fire-extinguisher-training-online](https://ehs.washington.edu/training/fire-extinguisher-training-online)); someone who has completed the Hands-On training ([https://ehs.washington.edu/training/fire-extinguisher-training-hands](https://ehs.washington.edu/training/fire-extinguisher-training-hands)) must be present at the work site at all times  
  • Carry a fire extinguisher, shovel, and bucket of sand in your vehicle  
  • Check the Department of Natural Resources Burn Risk Map ([https://burnportal.dnr.wa.gov/](https://burnportal.dnr.wa.gov/)) and keep informed on active wildland fires  
### Working in cold, possibly wet conditions?

- Provide all participants with a recommended gear list including waterproof clothing, boots, layers for insulation, extra dry socks, tarp, etc.
- Carry extra blankets or sleeping bag in your vehicle for emergencies

### Does work involve:

- Excavating soil more than 4 feet deep?
- Working at heights over 6 feet?
- Entering caves, vaults, mines, or other potential confined spaces?
- Handling or transporting hazardous chemicals, materials or samples?
- Use of powered tools or equipment?
- Working around loud noise (>85 decibels)?
- Using All Terrain Vehicles?
- Using snowmobiles?
- Clinical work or handling of biological specimens?
- Handling/trapping wildlife?

- Contact EH&S for appropriate hazard assessment, training, and PPE selection (e.g. use of respirators, working in loud noise, handling wildlife).
- Include training requirements and precautions in your Field Safety Plan or refer to specific SOPs, job hazard analysis (JHAs), etc.
- Ensure you have completed applications for and received approvals required for handling certain hazardous materials or tools
- If medical clearance or vaccinations are required, schedule your appointment with EH&S Employee Health Center ([https://www.ehs.washington.edu/workplace/employee-health-center](https://www.ehs.washington.edu/workplace/employee-health-center)) at least 6-8 weeks prior to travel

### Will anyone be operating Unmanned Aircraft Systems (UAS) aka drones?

- All UAS flights require prior approval from your department and post-flight reporting; contact EH&S ([https://www.ehs.washington.edu/](https://www.ehs.washington.edu/)) for assistance
- Plan for proper storage, charging, and transportation of lithium batteries needed; review Lithium Battery Safety Practices ([https://www.ehs.washington.edu/system/files/resources/lithium-battery-safety.pdf](https://www.ehs.washington.edu/system/files/resources/lithium-battery-safety.pdf))
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Will anyone be boating (motorboats, kayaks, canoes, submersibles, or</td>
<td>• Ensure properly-fitted personal floatation devices (PFDs) are worn at all times&lt;br&gt;• Consult the UW <a href="https://www.ehs.washington.edu/research-lab/boating-safety">Boating Safety Program</a> and <a href="https://www.ehs.washington.edu/system/files/resources/boating-safety-manual.pdf">Boating Safety Manual</a> for training and guidance&lt;br&gt;• Complete a float plan for every trip</td>
</tr>
<tr>
<td>other paddle-craft)?</td>
<td></td>
</tr>
<tr>
<td>□ Will anyone be diving?</td>
<td>• Contact the UW <a href="https://www.ehs.washington.edu/research-lab/diving-safety-program">Dive Safety Program</a> and consult the <a href="https://www.ehs.washington.edu/system/files/resources/divingsafetymanualuw.pdf">Diving Safety Manual</a> for required training and approvals&lt;br&gt;• Complete a <a href="https://www.ehs.washington.edu/system/files/resources/diveplan.pdf">Dive Plan</a> for every trip</td>
</tr>
<tr>
<td>□ Will any waste be generated at the work site?</td>
<td>• Consult the <a href="https://www.ehs.washington.edu/resource/laboratory-safety-manual-510">Laboratory Safety Manual</a> for information on handling, transporting, and disposing of hazardous waste&lt;br&gt;• Plan for proper storage, labeling, and transportation of waste generated&lt;br&gt;• Include requirements and precautions in your Field Safety Plan or refer to specific SOPs, JHAs, etc.</td>
</tr>
</tbody>
</table>
C. RISK ASSESSMENTS AND FIELD SAFETY PLANS

Prevention of injuries and incidents in the field begins with identifying the hazards present. A risk assessment tool is one practical approach recommended to identify hazards and ways to reduce or eliminate hazards. It focuses on the relationship between the researcher, the work, the tools, and the work environment. Ideally, after you identify uncontrolled hazards, you will take steps to eliminate or reduce them to an acceptable risk level.

Conduct a risk assessment as part of the planning process for any field operations trip being conducted for the first time. Once you have conducted a risk assessment for a particular work site, individual trips there should be planned using a Field Safety Plan. The plan includes information on equipment needed, work protocols, and emergency procedures and contacts.

More information about these two tools is found in Chapter 3 – Hazard Identification and Risk Mitigation.

D. EMERGENCY COMMUNICATION PLAN

Knowing who to contact in an emergency is critical. As part of your preparations, identify the key emergency contacts for your work group and the site of your operation. Keep a written copy with you at all times and share it with other field work participants. Plan for events such as the loss of your phone or the contact list on your phone. A little pre-planning now can save valuable time in an emergency. Consider creating a shared document with critical contact information.

Consider the following when developing your emergency communication plan:

- Who do you need to communicate with? UW contacts, local contacts, UW resources, students, staff, faculty, department leadership?
- Who is responsible for communicating to each group? What is the chain of communication to follow in the event of an emergency?
- How will you communicate? E-mail? Phone? Text? Other emergency device?
- What do you need to say? What information do responders or emergency contacts need to know?
- How often will you communicate? What additional follow-up will be required after initial contact?
- Different types of emergencies may require different communication plans with respect to privacy considerations
- Consult with SafeCampus (https://www.washington.edu/safecampus/) before reaching out to an emergency contact listed in a student's records to determine if it is allowable under FERPA and is the right of action

E. REGISTERING YOUR FOREIGN TRIP

The University of Washington’s Office of Global Affairs facilitates safe and successful travel abroad for Huskies through the Global Travel Security Program.
Information regarding travel registration for faculty, staff, and students, current UW travel policies, insurance information, and connections to the Global Operations Support team can be found on their website here: https://www.washington.edu/globalaffairs/

Direct links for travel registration and insurance information are here:
https://www.washington.edu/globalaffairs/global-travelers/travelregistry/

Note that vessel fieldwork requires special considerations.

The Global Operations Support team provides the guidance, tools, and resources for staff and faculty who are planning and administering research, projects, or programs abroad. Contacts and more information about their programs can be found here: https://finance.uw.edu/globalsupport/

F. IDENTIFYING APPROPRIATE EQUIPMENT, GEAR, AND FIRST AID SUPPLIES

Field work often requires travel and work at sites that lack basic services such as plumbed water, reliable communications, or prompt emergency medical services. It's important during planning to budget for appropriate safety measures, including field safety supplies and training. It is appropriate for field safety supplies and training to be budgeted and reimbursable using University research and/or departmental operation funds.

G. FIRST AID KITS

First aid supplies must be readily available to all employees, and should be stored in clean, clearly marked, portable containers. The containers must not be locked. They must be made of material that protects them from damage, deterioration, or contamination in the work environment. Labor & Industries (L&I) provides a First Aid Kit Contents Guide:

http://wisha-training.lni.wa.gov/training/presentations/FirstAidKitContentsGuide.pdf

Units must assess their work environments to determine if, given the hazards in the environment, additional supplies are needed.

Any excursion into the field should include carrying some basic first aid supplies. There is no perfect first aid kit, but consider the following:

- First aid kits don't save lives, people do. Get trained and know how to use everything you put in your kit.
- Commercial first aid kits are good starting points, and options are available through UW e-procurement. Vendors such as REI and Adventure Medical Kits have options designed for outdoor excursions for various group sizes.
- Customize your kit for your destination, tasks, group size, and level of training.
- Pack extra gloves!
- Re-pack your first aid kit for each trip; replenish used or expired items.
- Check for expiration dates on medications and sterile items; replace items that may have been torn open or damaged. Many vendors sell refill kits.
Enclose an empty plastic bag in your kit for trash. Ensure that all users of the kit use the trash bag.

**H. SAFETY EQUIPMENT AND IMPORTANT DOCUMENTS**

Creating a list of the safety equipment you will need for all aspects of your trip is an important part of your preparation. See the checklists included at the end of the manual to assist you in documenting your supplies.

Important documents, such as permits, licenses, and identification documents should also be inventoried before your trip. See the checklist at the end of the manual for this.

If use of firearms is involved, the appropriate permits should be acquired in advance.

**I. TRANSPORTATION OPTIONS AND PRECAUTIONS**

Modes of travel, as well as vehicles or equipment used at your field site, should be included in your Field Safety Plan along with any prerequisite training or required work practices. Depending on your needs, UW Transportation Services, Fleet Services, EH&S, Office of Global Affairs, or Risk Services may be able to provide assistance. Consider contacting:

- **UW Fleet Services** (https://facilities.uw.edu/catalog/vehicle-rental) regarding auto-insurance policies
- **UW Transportation Services** (https://transportation.uw.edu/) for assistance with parking permits and transportation passes
- **Risk Services** (https://risk.uw.edu/) regarding insurance if chartering boats, planes, or using other non-commercial modes of transportation or personally owned vehicles.

**J. COMMUNICATING WITH PARTICIPANTS BEFORE YOUR TRIP**

Your students/field team members need to be physically, mentally, and logistically prepared for their field experience. Help prepare your participants to have a safe experience:

- Schedule a “pre-trip” orientation meeting before heading out in the field.
- Give your participants detailed information regarding your course or project. This can include a personal equipment list, a description of what to expect, a participant medical form, syllabus, waivers, and contact information of leaders and other participants.
- Review your Field Work Risk Assessment, Field Safety Plan, expected hazards and conditions, security concerns, code of conduct, and travel logistics.
- Encourage participants to get medical procedures (including dental procedures) taken care of before extended field excursions.
- Initiate direct communication with your participants. It may be necessary to talk directly with participants beforehand to determine whether a field class or research expedition is the right choice for them.

See Best Practices in Appendix I for more suggestions on setting the tone for a safe trip.
SECTION 3 – HAZARD IDENTIFICATION AND RISK MITIGATION

A. Hazard Identification

1. Physical and Environmental Hazards

2. Chemical Hazards

3. Diseases

4. Additional Diseases (General)

5. Animals and Pests

6. Worksite Hazards

B. Hazard Controls

C. Risk Assessment

1. Risk Assessment Tool

2. Evaluating the Accident Potential

D. Assembling a Field Safety Plan

E. Facilitating Safe Group Decision-Making

F. Preventing and Responding to Harassment and Violence
A. HAZARD IDENTIFICATION

Prevention of injuries and incidents begins with identifying hazards. Include all hazards you might potentially encounter in the Field Safety Plan for your work or activity. The following tables list common hazards, appropriate responses for them, and appropriate prevention measures. This information is based on materials published by Duke University.

1. Physical and Environmental Hazards

General physical and environmental hazards exist in every location worldwide. All field team members, regardless of the work location, should be familiar with this list of possibilities and information on how to respond to them.

Details about first aid practices and appropriate prevention measures for items on this list can be found in the tables listed in Chapter 6 – Emergency Response.

- Assault
- Carbon monoxide
- Dehydration
- Drowning
- Electrical shock
- Extreme weather
- Frostbite
- Hazardous terrain
- Heat exhaustion
- Heat stroke
- High-altitude sickness
- Hunting season
- Hypothermia
- Impure water
- Poisonous plants
- Sunburn
- Travel-related accidents
- Violence due to political/military unrest
2. Chemical Hazards

Field projects that involve the use of chemicals and hazardous materials must comply with requirements outlined in the UW Laboratory Safety Manual. Use the manual to determine suitable containment, labeling, transport, handling and waste management for all chemicals used in the field. Ensure that chemical-specific and process SOPs are developed. Safety Data Sheets (SDSs), SOPs, personal protective equipment (PPE), and spill kits required for all chemicals in use should be readily available for all participants. In addition, all field personnel should complete applicable EH&S training prior to commencement of field activity.

Include information in your Field Work Risk Assessment, Field Safety Plan, and SOPs about how to address chemical exposures in the field. Consider what types of and access to safety equipment will be available in your location.

Chemical hazards that may already be present in the area where field projects are being conducted should also be managed according to information in the UW Laboratory Safety Manual (https://www.ehs.washington.edu/resource/laboratory-safety-manual-510) and included in your Field Safety Plan.

3. Diseases

Viruses, bacteria, fungi, and parasites cause diseases in nearly every location worldwide. Diseases that are carried or transmitted by animals are known as zoonotic diseases. Diseases that are carried or transmitted by insects (arthropods) are called arthropod-borne diseases. Vector-borne diseases are human illnesses caused by parasites, viruses, and bacteria that are transmitted by vectors. The following tables list diseases with the scientific name of the disease organism and/or the vector in italics.

This manual is not intended to cover every health risk in every location, but it provides information about some common diseases. Always check with your health care provider before travelling out of the country to learn about specific health risks for the region in which you will conduct your research. All field researchers, regardless of the work location, should read through the following tables to learn more about some general diseases. The following tables summarize certain diseases that exist worldwide and in and outside of North America.
Table 1 - Diseases

<table>
<thead>
<tr>
<th>Location: Worldwide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Food-borne Diseases: <em>Campylobacter</em></td>
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<tr>
<td>Food-borne Diseases: Cholera (<em>Vibrio cholerae</em>)</td>
</tr>
<tr>
<td>Foodborne Diseases: <em>E. coli</em></td>
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<tr>
<td>Foodborne Diseases: Hepatitis A</td>
</tr>
<tr>
<td>Foodborne Diseases: <em>Salmonella</em></td>
</tr>
<tr>
<td>Location: Worldwide</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Foodborne Diseases:</strong> Typhoid Fever (<em>Salmonella Typhi</em>)</td>
</tr>
<tr>
<td><strong>Bacterial Diseases:</strong> Tetanus (<em>Clostridium tetani</em>)</td>
</tr>
<tr>
<td><strong>Fungal Diseases:</strong> Histoplasmosis (<em>Histoplasma capsulatum</em>)</td>
</tr>
<tr>
<td><strong>Arthropod-borne Diseases:</strong> Lyme Disease (<em>Borrelia burgdorferi</em>)</td>
</tr>
<tr>
<td><strong>Arthropod-borne Diseases:</strong> Typhus Fever (<em>Rickettsiae species</em>)</td>
</tr>
<tr>
<td>Location: Worldwide</td>
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<tr>
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<tr>
<td><strong>Arthropod-borne Diseases: Zika virus</strong></td>
</tr>
<tr>
<td><strong>Arthropod-borne Diseases: Chikungunya virus</strong></td>
</tr>
<tr>
<td>Location: Worldwide</td>
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<tr>
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</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Arthropod-borne Diseases:</strong> Leishmaniasis (<em>Leishmania</em>)</td>
</tr>
<tr>
<td><strong>Arthropod-borne Diseases:</strong> Lymphatic filariasis or Elephantitis (<em>Filariodidea</em>)</td>
</tr>
<tr>
<td>Zoonotic Diseases:</td>
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</tr>
<tr>
<td>Plague (Yersinia pestis)</td>
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<tr>
<td>Rabies (Rabies lyssavirus)</td>
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<tr>
<td>Leptospirosis (Leptospira)</td>
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<tr>
<td>Location: North, Central, and South America</td>
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<tr>
<td><strong>Fungal Disease:</strong></td>
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<tr>
<td><strong>Arthropod-borne Diseases:</strong></td>
</tr>
</tbody>
</table>
### Location: North, Central, and South America

<table>
<thead>
<tr>
<th>Type</th>
<th>Prevalent In</th>
<th>Exposure Route</th>
<th>Symptoms</th>
<th>First Aid</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arthropod-borne Diseases:</strong></td>
<td></td>
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</tr>
<tr>
<td>Rocky Mountain Spotted Fever</td>
<td>United States, southern Canada, Mexico, and Central America</td>
<td>Bite of an infected tick</td>
<td>Sudden onset of fever, headache, muscle pain, spotty rash</td>
<td>See a doctor if you suspect Rocky Mountain Spotted Fever.</td>
<td>Avoid tick-infested areas. Wear long pants and long sleeved shirts. Use a repellent. Check clothing and hair for ticks and remove any ticks.</td>
</tr>
<tr>
<td><em>Rickettsia rickettsia</em></td>
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<tr>
<td><strong>Zoonotic Diseases:</strong></td>
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</tr>
<tr>
<td>Hantavirus Pulmonary Syndrome (HPS)/“Sin Nombre Virus”</td>
<td>North and South America</td>
<td>Inhalation of dusts or aerosols from the infected rodent's feces, urine, or saliva Vector: Deer mouse (<em>Peromyscus maniculatus</em>)</td>
<td>Early (1 to 5 weeks): Fatigue, fever, muscle aches, and sometimes headaches, dizziness, chills, and abdominal problems Late (4 to 10 days after early symptoms): Coughing, shortness of breath</td>
<td>Seek medical attention IMMEDIATELY if you suspect HPS. The likelihood of survival is greatly increased with early diagnosis and treatment.</td>
<td>Avoid contact with rodents, especially their feces.</td>
</tr>
<tr>
<td><strong>Zoonotic Diseases:</strong></td>
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<tr>
<td>White Water Arroyo (WWA)</td>
<td>North America</td>
<td>Inhalation of dusts or aerosols from infected rodent's feces, urine, or saliva; carried by Woodrats (<em>Neotoma fuscipes</em>) and other <em>Neotoma</em> species</td>
<td>Fever, headache, muscle aches; occasionally, severe respiratory distress</td>
<td>Seek medical attention IMMEDIATELY if you suspect WWA. The likelihood of survival is greatly increased with early diagnosis and treatment.</td>
<td>Avoid contact with rodents, especially their feces.</td>
</tr>
<tr>
<td>Location: North, Central, and South America</td>
<td>Location: Outside of North America</td>
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<tr>
<td><strong>Type</strong></td>
<td><strong>Location</strong></td>
<td><strong>Exposure Route</strong></td>
<td><strong>Symptoms</strong></td>
<td><strong>First Aid</strong></td>
<td><strong>Prevention</strong></td>
</tr>
<tr>
<td><strong>Vector-born Diseases:</strong> Chagas Disease or American Trypanosomiasis (Trypanosoma cruzi)</td>
<td>Mexico, Central America and South America</td>
<td>Contact with the feces of an infected triatomine bug (“kissing bug” or conenose bug)</td>
<td>Acute phase: fever, fatigue, body aches, headache, rash, diarrhea, vomiting, eyelid swelling, enlargement of spleen or liver. Chronic phase: cardiac complications, gastrointestinal complications</td>
<td>See a doctor if you suspect Chagas disease.</td>
<td>Avoid contact with triatomine bugs, especially their feces.</td>
</tr>
<tr>
<td><strong>Diseases:</strong></td>
<td>Africa, Southeast Asia and China, India, the Middle East, South and Central America, Australia and the Pacific Islands</td>
<td>Bite of an infected mosquito</td>
<td>Flu-like symptoms, rash. Takes up to 1 month to recover.</td>
<td>See a doctor if you suspect dengue fever</td>
<td>Wear long sleeved shirts and long pants. Use repellents. Use a mosquito net.</td>
</tr>
<tr>
<td><strong>Arthropod-borne Diseases:</strong></td>
<td>South America and Africa</td>
<td>Bite of an infected mosquito</td>
<td>Flu-like symptoms, jaundice. Can be fatal.</td>
<td>See a doctor if you suspect Yellow Fever.</td>
<td>Visit doctor at least 10 days before travel for vaccine. Wear long pants and long sleeved shirts. Use repellents Use a mosquito net.</td>
</tr>
<tr>
<td>Type</td>
<td>Location</td>
<td>Exposure Route</td>
<td>Symptoms</td>
<td>First Aid</td>
<td>Prevention</td>
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<tr>
<td><strong>Arthropod-borne Diseases:</strong></td>
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</tr>
<tr>
<td>Malaria</td>
<td>Central and South America, Hispaniola, Africa,</td>
<td>Bite of an infected mosquito</td>
<td>Flu-like symptoms, anemia, jaundice. May take 10 to 30 days for symptoms</td>
<td>See a doctor if you suspect malaria.</td>
<td>Visit a doctor 4 to 6 weeks before travel for anti-malarial drugs. Wear long pants and long sleeved shirts. Use repellents. Use a mosquito net.</td>
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<tr>
<td></td>
<td>India, Southeast Asia, the Middle East, and</td>
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<tr>
<td></td>
<td>Oceania</td>
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<tr>
<td><strong>Schistosomiasis</strong></td>
<td>Brazil, Egypt, sub-Saharan Africa, southern</td>
<td>Swimming in contaminated fresh water</td>
<td>Can be asymptomatic. Acute: (2 to 3 weeks) Fever, lack of appetite,</td>
<td>See a doctor if you suspect schistosomiasis.</td>
<td>Avoid freshwater wading or swimming in endemic regions. Heat bath water over 50°C for at least 5 minutes before use.</td>
</tr>
<tr>
<td></td>
<td>China, the Philippines, and Southeast Asia</td>
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<td>weight loss, abdominal pain, weakness, headaches, joint and muscle pain</td>
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<tr>
<td></td>
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<td>diarrhea, nausea, and cough</td>
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<td></td>
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<td></td>
<td>Chronic: Disease in the lungs, liver, intestines, or bladder</td>
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</tr>
<tr>
<td>**Onchocerciasis or River</td>
<td>Africa, Yemen, Latin America</td>
<td>Bite of a blackfly (<em>Simulium</em> species)</td>
<td>Some people do not have symptoms. Many have itchy skin, rashes,</td>
<td>See a doctor if you suspect River Blindness</td>
<td>Wear long sleeved shirts and long pants. Use insect repellent.</td>
</tr>
<tr>
<td>Blindness</td>
<td></td>
<td>infected by the worm's larvae</td>
<td>nodules under the skin. Some have vision changes including blindness</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>and swollen glands.</td>
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</tbody>
</table>
### Location: Outside of North America

<table>
<thead>
<tr>
<th>Type</th>
<th>Location</th>
<th>Exposure Route</th>
<th>Symptoms</th>
<th>First Aid</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoonotic Diseases:</td>
<td>Central and South America and Asia</td>
<td>Inhalation of dusts or aerosols from the infected rodent's feces, urine, or saliva</td>
<td>Fever, headache, muscle aches; occasionally severe respiratory distress \</td>
<td>Seek medical attention IMMEDIATELY if you suspect hanta or arenavirus. Early treatment greatly increases the odds of survival.</td>
<td>Avoid contact with rodents, especially with their feces.</td>
</tr>
<tr>
<td>Hantavirus and</td>
<td></td>
<td>Vector: rodents, especially Neotoma and Peromyscus species</td>
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<tr>
<td>Arenavirus</td>
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<tr>
<td>Zoonotic Diseases:</td>
<td>Primarily Africa, but could spread to other areas.</td>
<td>Direct contact (via broken skin or mucous membranes) with blood or body fluids of a person who is sick with or has died from Ebola, objects contaminated with blood or body fluids from a sick person, or infected fruit bats or primates</td>
<td>Fever, severe headache, muscle pain, weakness, fatigue, diarrhea, vomiting, abdominal pain, unexplained bleeding or bruising. May occur 2 – 21 days after exposure; average is 8 – 10 days. Fatal in about 50% of cases.</td>
<td>Seek medical attention IMMEDIATELY. Early treatment greatly increases the odds of survival.</td>
<td>Avoid contact with persons sick with Ebola. Avoid travel to areas with outbreaks. Staff caring for Ebola patients must follow prevention advice from the WHO and CDC.</td>
</tr>
<tr>
<td>Ebola virus</td>
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<tr>
<td>Type</td>
<td>Location</td>
<td>Exposure Route</td>
<td>Symptoms</td>
<td>First Aid</td>
<td>Prevention</td>
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<tr>
<td><strong>Vector-borne Diseases:</strong></td>
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<tr>
<td>Japanese Encephalitis</td>
<td>Asia</td>
<td>Bite from an infected mosquito of the <em>Culex</em> species</td>
<td>Usually mild: fever, headache. Severe disease characterized by rapid onset of high fever, headache, neck stiffness, disorientation, coma, seizures, paralysis. Can be fatal.</td>
<td>See a doctor if you suspect Japanese encephalitis</td>
<td>Obtain a vaccine. Consult with your doctor at least 1 month prior to departure. Wear long sleeved shirts and long pants. Use repellents. Use a mosquito net.</td>
</tr>
<tr>
<td><strong>Vector-borne Diseases:</strong></td>
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</tr>
<tr>
<td>African Sleeping Sickness</td>
<td>Sub-Saharan Africa</td>
<td>Bite from an infected Tsetse fly</td>
<td>First stage: fever, headache, malaise, fatigue, itchiness, joint pain, swollen glands. Second stage: neuropsychiatric manifestations – sleep/wake cycle reversed, hallucinations, delirium, anxiety, emotional lability, motor weakness, gait disturbance, speech disturbance, tremor, sensory disturbances including visual problems, seizures, coma.</td>
<td>See a doctor if you suspect African Sleeping Sickness.</td>
<td>Wear long pants and long sleeved shirts of medium-weight material in neutral colors that blend into environment. Tsetse flies are attracted to bright or dark colors and can bite through lightweight clothing. Use insect repellent. Avoid bushes.</td>
</tr>
<tr>
<td>Location: Outside of North America</td>
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<tr>
<td><strong>Type</strong></td>
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<td><strong>Exposure Route</strong></td>
<td><strong>Symptoms</strong></td>
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</tr>
<tr>
<td>Vector-borne Diseases: Tick-Borne Encephalitis</td>
<td>Russia, as well as additional areas of Europe and Asia</td>
<td>Transmitted from tick eggs, larvae, and adults</td>
<td>7-14 day incubation period. Common symptoms include fever, malaise, anorexia, muscle aches, headache, nausea, and/or vomiting. After 8 days of remission, may experience onset of central nervous system symptoms of meningitis (e.g., fever, headache, and a stiff neck), encephalitis (e.g., drowsiness, confusion, sensory disturbances, and/or motor abnormalities such as paralysis), or meningoencephalitis.</td>
<td>See a doctor if you suspect tick-borne encephalitis.</td>
<td>Use insect repellents and protective clothing to prevent tick bites. A vaccine is available in some disease endemic areas (though not currently in the United States).</td>
</tr>
</tbody>
</table>
4. Additional Diseases (General)

There are other diseases to be aware of when travelling outside the United States. While risk of infection is generally low, it is important to be aware of them and take appropriate precautions to guard against diseases such as tuberculosis, HIV/AIDS, SARS, and viral hemorrhagic fevers. Always check with your health care provider to learn more about specific diseases that exist in the region where you will be conducting your research.

5. Animals and Pests

Dangerous animals and other pests are present worldwide and may be encountered during field work. General safety rules can help protect you from these hazards. Keep in mind that animals encountered during field work may expose you to some of the diseases mentioned in the previous parts of this chapter. All field researchers, regardless of the work location, should read through the following tables for some general guidelines to avoid unwanted animals and pests.

Follow these general guidelines to prevent close encounters of the painful kind:

- Keep garbage in rodent-proof containers and stored away from your campsite or work area. Food crumbs and debris may attract insects and animals.
- Thoroughly shake all clothing and bedding before use.
- Do not camp or sleep near obvious animal nests or burrows.
- Carefully look for pests before placing your hands, feet, or body in areas where pests live or hide (e.g., woodpiles or crevices).
- Avoid contact with sick or dead animals.
- Wear clothes made of tightly woven materials and tuck pants into boots.
- Wear insect repellent.
- Minimize the amount of time you use lights after dark in your camp or work site because they may attract pests and animals.
- Use netting to keep pests away from food and people.
- Carry a first aid manual and kit with you on any excursion so you can treat bites or stings. If the pest is poisonous or if the bite does not appear to heal properly, seek medical attention immediately.
- Be aware of the appearance and habitat of likely pests, such as those described in the following pages.
# Table 2 – Animals and Pests

<table>
<thead>
<tr>
<th>Type</th>
<th>Prevalent In</th>
<th>Most Dangerous Species</th>
<th>Defensive Action</th>
<th>First Aid</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cats and dogs (feral and domesticated)</td>
<td>Worldwide</td>
<td>All</td>
<td>Avoid or move away from any animal displaying aggressive behavior.</td>
<td>Seek medical attention for serious injuries or wounds.</td>
<td>Keep food stored in sealed containers. Do not handle, provoke or scare animals that are or may be feral.</td>
</tr>
<tr>
<td>Conenose Bugs (kissing or vampire bugs)</td>
<td>North and South America</td>
<td>May cause allergies in some people. Refer to Section: Diseases</td>
<td>Use topical ointments to soothe itching. Take victim to the hospital in case of anaphylactic shock.</td>
<td>Use caution when working near nests and wood rat dens. Use extra caution when working near rock shelters.</td>
<td></td>
</tr>
<tr>
<td>Crocodiles and Alligators</td>
<td>Tropics and subtropics of North America, Australia, Eastern China, and Africa</td>
<td>American alligator (North America), Estuarine crocodile (Australia), Nile crocodile (Africa)</td>
<td>Do not provoke an alligator or crocodile.</td>
<td>Seek medical attention for serious injuries or wounds.</td>
<td>Avoid waters known to be home to crocodiles or alligators. Keep at least 30 feet away from any crocodile or alligator.</td>
</tr>
<tr>
<td>Mosquitoes</td>
<td>Wet areas conducive to breeding</td>
<td>Refer to Section: Diseases</td>
<td>Use topical ointment to relieve itching.</td>
<td>Use insect repellent to deter mosquitoes. Avoid creating or being near standing pools of water if possible.</td>
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</tr>
<tr>
<td>Type</td>
<td>Prevalent In</td>
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<tr>
<td>Rodents</td>
<td>Worldwide</td>
<td>May carry disease. Refer to Section: Diseases</td>
<td>Wear appropriate personal protective equipment (gloves) if you must touch a rodent.</td>
<td>Clean wounds thoroughly if bitten or scratched.</td>
<td>Keep areas clean to avoid attracting rodents. Keep food stored in sealed containers.</td>
</tr>
<tr>
<td>Sharks</td>
<td>Shores of oceans, including the U.S., Africa, Central and South America, Australia, and the Pacific Islands</td>
<td>Great white, bull, Tiger, Oceanic Whitetip</td>
<td>Call for help; swim towards safety. Punch or kick the shark if necessary.</td>
<td>Seek medical attention for serious injuries or wounds.</td>
<td>Never swim alone. Avoid areas where sharks are known to feed. Be aware of your surroundings. Don't carry dead fish on you or attempt to feed sharks. Don't enter the water when bleeding.</td>
</tr>
<tr>
<td>Venomous fish and invertebrates</td>
<td>Australia, also in other tropical and subtropical areas</td>
<td>Blue Ringed Octopus, Box Jellyfish, Portuguese Man of War, and Irukandji Jellyfish (Australia); Stonefish - worldwide</td>
<td>Never touch an unidentified octopus or jellyfish. Avoid stepping on stingrays.</td>
<td>Jellyfish/ Octopus sting: Use seawater to remove nematocysts. Pour vinegar on the wound to deactivate nematocysts. Physically remove deactivated tentacles that remain on skin. Seek medical attention immediately. Treat coral and hydroid stings similarly.</td>
<td>If entering waters known to be inhabited by jellyfish, wear appropriate skin protection to prevent stings. Avoid known jellyfish blooms. Do not handle or touch unidentified octopus. Wear sandals in the water to avoid stepping on a stonefish.</td>
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</tbody>
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<thead>
<tr>
<th>Type</th>
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<tbody>
<tr>
<td>Stonefish sting:</td>
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<td><strong>Defensive Action</strong>&lt;br&gt;Stonefish sting: Rinse/soak in hot water (45° C or 113° F) and seek medical attention.</td>
<td>Avoid contacting sea floor while diving to avoid stonefish.</td>
</tr>
<tr>
<td>Blue-ringed octopus sting:</td>
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<td></td>
<td><strong>Defensive Action</strong>&lt;br&gt;Stonefish sting: Rinse/soak in hot water (45° C or 113° F) and seek medical attention.</td>
<td>Shuffle in the water or throw stones in before wading to avoid stepping on a stingray.</td>
</tr>
<tr>
<td>Stingray sting:</td>
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<td></td>
<td></td>
<td><strong>Defensive Action</strong>&lt;br&gt;Stonefish sting: Rinse/soak in hot water (45° C or 113° F) and seek medical attention.</td>
<td>Avoid contacting sea floor while diving to avoid stonefish.</td>
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<td><strong>First Aid</strong>&lt;br&gt;Blue-ringed octopus sting: Provide basic life support and first aid. Use the Pressure Immobilization Technique if trained.</td>
<td>Shuffle in the water or throw stones in before wading to avoid stepping on a stingray.</td>
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<td><strong>First Aid</strong>&lt;br&gt;Stingray sting: If spine breaks off in wound, leave it in, treat bleeding and pain. Seek emergency medical attention immediately.</td>
<td>Shuffle in the water or throw stones in before wading to avoid stepping on a stingray.</td>
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<td><strong>First Aid</strong>&lt;br&gt;Stingray sting: If spine breaks off in wound, leave it in, treat bleeding and pain. Seek emergency medical attention immediately.</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td><strong>First Aid</strong>&lt;br&gt;Stingray sting: If spine breaks off in wound, leave it in, treat bleeding and pain. Seek emergency medical attention immediately.</td>
<td>Shuffle in the water or throw stones in before wading to avoid stepping on a stingray.</td>
</tr>
<tr>
<td>Type</td>
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<td>Most Dangerous Species</td>
<td>Defensive Action</td>
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</tr>
<tr>
<td>Bears</td>
<td>All North America</td>
<td>Black bear (North America), grizzly bear (Alaska, Western Canada, Pacific Northwest), polar bear (Arctic)</td>
<td>Never run. Move slowly and speak in a low soft voice. If attacked by a grizzly bear, lay in the fetal position and protect head. Play dead. Punch a black bear in the face if it attacks you.</td>
<td>Seek medical attention for serious injuries or wounds.</td>
<td>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.</td>
</tr>
<tr>
<td>Bees, Wasps</td>
<td>All North America</td>
<td>Bees, wasps, hornets, and yellow jackets, Africanized killer bees (southeastern U.S.)</td>
<td>Avoid contact with these insects whenever possible.</td>
<td>Remove the stinger quickly. Place an ice pack and elevate to heart level. Use an antihistamine if needed.</td>
<td>Bring medication if you have an allergy (the sting may be fatal). Keep scented foods and meats covered.</td>
</tr>
<tr>
<td>Elk, Moose, Mountain goats</td>
<td>All North America</td>
<td>Do not disturb, corner, or provoke them.</td>
<td>Seek medical attention for serious injuries or wounds.</td>
<td></td>
<td>Keep your camp area free of garbage and food waste. Never feed or approach them, especially calves. Stay away from their food.</td>
</tr>
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</table>
### Found in North America

<table>
<thead>
<tr>
<th>Type</th>
<th>Prevalent In</th>
<th>Most Dangerous Species</th>
<th>Defensive Action</th>
<th>First Aid</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleas and Ticks</td>
<td>All North America</td>
<td>Refer to Section: Diseases</td>
<td>Avoid contact with animals or areas where fleas and ticks might be found.</td>
<td>Remove the flea or tick with tissue or tweezers and clean wound with antiseptic.</td>
<td>Wear clothing of tightly woven material. Wear insect repellant. Tuck pants into boots. Stay on widest part of path. Drag cloth across campsite to check for fleas or ticks.</td>
</tr>
<tr>
<td>Scorpions</td>
<td>All North America, especially Mexico, Arizona, southeastern California, and Utah</td>
<td>All</td>
<td>Avoid contact with scorpions whenever possible.</td>
<td>Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Use painkiller or antihistamine if desired. Take victim to hospital if he or she shows no signs of improvement.</td>
<td>Always shake out clothing and bedding before use. Avoid lumber piles and old tree stumps.</td>
</tr>
</tbody>
</table>
### Found in North America

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<tr>
<th>Type</th>
<th>Prevalent In</th>
<th>Most Dangerous Species</th>
<th>Defensive Action</th>
<th>First Aid</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snakes</td>
<td>All North America</td>
<td>Rattlesnakes, cottonmouths, coral snakes, moccasins, and copperheads</td>
<td>Do not pick up, disturb, or corner a snake. Move away from the snake.</td>
<td>Let the wound bleed freely for 30 seconds. Apply a cold pack. Keep area immobilized at heart level. Take victim to hospital (alert ahead if possible).</td>
<td>Walk in open areas. Wear heavy boots. Use a stick to disturb the brush in front of you.</td>
</tr>
<tr>
<td>Spiders</td>
<td>All North America</td>
<td>Black widow and brown recluse</td>
<td>Do not pick up or disturb a spider.</td>
<td>Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Take victim to hospital (alert ahead if possible).</td>
<td>Use care around rock piles, logs, bark, outdoor privies, and old buildings. Shake out clothing and bedding before use.</td>
</tr>
</tbody>
</table>

### Found Outside of North America

<table>
<thead>
<tr>
<th>Type</th>
<th>Prevalent In</th>
<th>Most Dangerous Species</th>
<th>Defensive Action</th>
<th>First Aid</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bears</td>
<td>Arctic, South America, Asia</td>
<td>Polar bears (Greenland and N. Russia), spectacled bears (N. and W. South America), Asiatic black bears (S. and E. Asia)</td>
<td>Never run. Move slowly and speak in a low soft voice. If attacked, lay in the fetal position and protect head. Play dead.</td>
<td>Seek medical attention for serious injuries or wounds.</td>
<td>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.</td>
</tr>
<tr>
<td>Large Cats</td>
<td>Africa and Asia</td>
<td>Lions, Bengal and Siberian tigers, leopards, jaguars</td>
<td>Do not provoke any large cats.</td>
<td>Seek medical attention for serious injuries or wounds.</td>
<td>Stay inside the vehicle if travelling near large cats. Do not camp near areas frequented by large cats.</td>
</tr>
<tr>
<td>Other Large Land Dwellers</td>
<td>Africa, Asia</td>
<td>Hippos, African elephant, rhinos, and buffalo (Africa); Asian elephants</td>
<td>Do not provoke these large animals.</td>
<td>Seek medical attention for serious injuries or wounds.</td>
<td>Stay inside the vehicle if travelling near large animals. Do not camp near areas frequented by large animals. Keep a lookout in open spaces.</td>
</tr>
<tr>
<td>Scorpions</td>
<td>Worldwide, especially North Africa, the Middle East, South America, and India</td>
<td>All</td>
<td>Avoid contact with scorpions whenever possible.</td>
<td>Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Use painkiller or antihistamine if desired. Take victim to hospital if he or she shows no signs of improvement.</td>
<td>Always shake out clothing and bedding before us. Avoid lumber piles and old tree stumps.</td>
</tr>
<tr>
<td>Snakes</td>
<td>Worldwide</td>
<td>Russel's viper and Indian cobra (India); tiger, black, brown and sea snakes (Australia); Egyptian cobra, puff adder, and saw scaled viper (Africa); Ferdelance (Central and South America), sea snakes (tropical oceans)</td>
<td>Do not pick up, disturb, or corner a snake. Move away from the snake.</td>
<td>Let the wound bleed freely for 30 seconds. Apply a cold pack sparingly. Do NOT tourniquet. Keep area immobilized at heart level. Take victim to hospital (alert ahead if possible).</td>
<td>Walk in open areas. Wear heavy boots. Use a stick to disturb the brush in front of you.</td>
</tr>
<tr>
<td>Spiders</td>
<td>Worldwide</td>
<td>Funnel web and redback spiders (Australia); Brazilian wandering spider, brown recluse, and tarantula (South America)</td>
<td>Do not pick up or disturb a spider.</td>
<td>Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Take victim to hospital (alert them first). Kill spider for positive ID (if possible).</td>
<td>Use care around rock piles, logs, bark, outdoor privies, and old buildings. Shake out clothing and bedding before use.</td>
</tr>
</tbody>
</table>
6. Worksite Hazards

Many of these common worksite hazards are covered in other EH&S safety manuals and on the EH&S website. Here is a list that includes links to relevant manuals and webpages for additional guidance and information:

- **Biohazardous materials**
- **Chemicals (including explosives)**
- **Confined spaces**
  https://www.ehs.washington.edu/workplace/confined-space-entry-program
- **Electrical**
  https://www.ehs.washington.edu/fire-life/basic-electrical-safety
- **Fire hazards**
- **Firearms** – consult with your department about acquiring necessary permissions for the inclusion of firearms in your work
- **Noise**
  https://www.ehs.washington.edu/workplace/hearing-loss-prevention-program
- **Radioactive materials**
- **Shop equipment**
- **Working at heights**
  https://www.ehs.washington.edu/workplace/fall-protection
- **SCUBA diving**
- **Boating**

**B. HAZARD CONTROLS**

Document how the hazards you plan to encounter will be controlled using engineering controls, administrative controls, and personal protective equipment. Tools to help with documentation include your Field Work Risk Assessment, research protocols, and Field Safety Plan documents.

In your planning and assessments, it is important to consider and include information relevant to personnel or agencies that are not part of UW but are involved in your field work or project.
C. RISK ASSESSMENT

1. Risk Assessment Tool

A risk assessment tool can provide essential information for enhancing safety practices, establishing proper procedures, and ensuring all field operation participants are properly trained. You may need to get assistance from experts about certain hazards involved in your work or worksite. EH&S’s Field Work Risk Assessment Tool (Field RAT) (https://ehs.washington.edu/resource/field-work-risk-assessment-tool-field-rat-1107) provides a framework for risk assessment complimenting the process researchers already use to answer scientific questions. This tool provides a format for individuals to systematically identify and control hazards to reduce risk of injuries and incidents.

Conduct a risk assessment as part of the planning process for any field operations trip being conducted for the first time. Review the Field RAT Guidelines (https://ehs.washington.edu/resource/field-work-risk-assessment-tool-field-rat-guidelines-1106) for additional details on how to complete the document.

2. Evaluating the Accident Potential

This is an important step in risk assessment. Always ask yourself: If we get into an accident right here, could I justify my actions and decision-making when I describe this back home? Two forces overlap when most accidents occur:

Objective factors: These are environmental hazards presented by the natural world, such as weather, darkness, falling rocks, moving water, lightning, snow, exposure, avalanche, cold, hot, deep water, etc.

Subjective factors: These are human characteristics that often play a role when accidents occur. They include complacency, overconfidence, distraction, differing perception of risk, expectations and peer pressure, fatigue, stress, haste, and lack of competence.
Use the Equation: Risk = Likelihood*Consequences of an Accident Occurring

<table>
<thead>
<tr>
<th>Likelihood of Incident Occurrence</th>
<th>Severity of Consequences – Personnel Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No injuries</td>
</tr>
<tr>
<td>Very Likely</td>
<td>Low</td>
</tr>
<tr>
<td>Likely</td>
<td>Low</td>
</tr>
<tr>
<td>Possible</td>
<td>Low</td>
</tr>
<tr>
<td>Rare</td>
<td>Low</td>
</tr>
</tbody>
</table>

Are these risks acceptable? Use this table to determine the action to take based on the risk rating. What are the highest risk steps? What more can you do to control the risks? Return to planning and use the hierarchy of controls to design a safer trip.

D. ASSEMBLING A FIELD SAFETY PLAN

Once you have conducted a risk assessment for a particular work site, document plans for individual trips in a Field Safety Plan with site information and emergency procedures included. Taking the time to compile a thorough safety plan and discussing it with your team will prepare you to more effectively manage risks that arise in the field. It can be used to brief your field team or course participants on trip logistics and precautions. Developing and using a Field Safety Plan is appropriate for the following activities:

- Conducting field research or teaching field courses off campus
- Work performed at field stations, nature reserves, or controlled sites

Established site procedures may be available, but should be supplemented with a safety plan for hazards specific to your research or tasks.

Field Safety Plan templates (see Appendix III) and assistance are available via EH&S. For scientific diving or boating, a dive or float plan serves a similar purpose. Links to these resources are available on the EH&S website.

Information that should be included in your plan include:

- Site location and description
- Participants and contact information
- Modes of travel and site access
• Equipment needed, including personal protective equipment (PPE)
• Work practices for tasks being conducted
• First aid considerations
• Emergency services at the site
• Emergency contact information

E. FACILITATING SAFE GROUP DECISION-MAKING

As a field leader you have to accurately assess risks, mitigate hazards and carry out safe actions. You also have to facilitate your group making safe decisions together. This can be challenging and requires both competency in risk analysis as well as solid communication and leadership skills. With this in mind, consider the following four ways that groups make decisions:

**Directive:** The leader decides and informs the group.

**Consultative:** The leader decides after consultation with the group. This can happen two different ways: the leader might first solicit input from the group and then decide, or the leader might tentatively decide and get input and reaction from the group before making the final decision.

**Group decides:** All group members (including the leader) contribute equally to the decision-making process. This could happen through a vote or through consensus.

**Delegation:** Leader delegates the decision-making to the group after defining the appropriate boundaries and conditions. Before delegating, the leader must feel comfortable with any decision made.

Many experienced leaders employ all of these decision-making styles depending on the situation and the expertise of their groups. By doing so, leaders help maintain a safe learning environment while at the same time helping groups take ownership and responsibility for their collective experience.

F. PREVENTING AND RESPONDING TO HARASSMENT AND VIOLENCE

Standards for behavior and practices in the field should match those for activities on campus. This includes preventing harassment and discrimination based on culture, gender, race, sexual orientation, immigration status, and ability. Field leaders should ensure that all participants in their group are aware of this and have access to support and guidance in the field.

When traveling to areas off campus, be mindful of discriminatory behaviors and practices that may be encountered. Know who to contact to report harassment or discrimination in the field, and include that information in your Field Safety Plan.

**If you are aware of misconduct:** If you become aware of a situation that involves sexual assault, relationship violence, domestic violence, stalking, sexual harassment, related retaliation, or other forms of sexual misconduct, you are strongly encouraged to follow the UW Title IX Response and Support Protocol (https://www.washington.edu/safecampus/uws-title-ix-protocol/). The protocol encourages you to call SafeCampus to consult about the situation. You can call SafeCampus anonymously and choose not to share your name or the name of the person you are calling about.

By following the UW Title IX response and support protocol, you are not making a formal complaint to the University — rather, you are ensuring that someone who has been harmed has professional support and the information they need to make decisions that are right for them.
**Title IX Official Required to Report:** If you have been notified that you are a Title IX Official Required to Report, you must contact SafeCampus when you become aware of sexual misconduct or potential sexual misconduct. You can learn more about this designation on the Title IX FAQ page (https://www.washington.edu/titleix/faqs-about-title-ix/#:~:text=The%202020%20Department%20of%20Education,IX%20Officials%20Required%20to%20Report)

**SafeCampus:** SafeCampus (https://www.washington.edu/safecampus/) is the University of Washington's violence-prevention and response program. They support students, staff and faculty. Individuals can reach out when they have safety or well-being concerns for themselves or others. An incident does not need to occur on a campus location for SafeCampus to provide support.

When you call SafeCampus, a trained response specialist will listen to your concerns in a nonjudgmental, empathetic way and develop a tailored response. When requested they can connect you to additional relevant resources. 206.685.7233

Additional Reasons to reach out to SafeCampus:

Experiences (yours or someone else’s) including:
- Inappropriate behavior from a student, staff or faculty member
- Verbal or online threats
- Neglect or abuse of a minor

Concerning behaviors in another person, including:
- Dramatic changes in personality, mood or behavior
- Withdrawing from friends, field work or academics
- Unusual irritability, outbursts of anger or violence
- Making comments about harming themselves or others
- Crossing boundaries (for instance, excessive visits or repeatedly asking someone out)
- Inappropriate, confusing or disjointed conversations
- Making references to school shootings and/or identifying with mass shooters
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SECTION 4 - TRAINING

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SECTION 4 - TRAINING

A. TRAINING DOCUMENTATION

Mentoring is essential for transferring knowledge and practical skills from experienced faculty, staff, and researchers to new researchers and students, and is often provided informally. However, documented training is a critical part of University safety programs in order to comply with regulatory requirements, accrediting agencies, and in many situations, funding organizations. Commercial trainers typically provide documentation via certification that an individual should maintain and be able to provide upon request, (e.g., a first aid card). EH&S safety training is documented through the MyTrainings system (https://www.ehs.washington.edu/training/change-or-cancel-registration), but University trainings outside of that system are not centralized. Departments, research groups or field course instructors can integrate training on safe practices into lab meetings, hands-on demonstrations, or field lectures, and document completion in paper or electronic format. It is appropriate to list required training as a prerequisite in a Field Safety Plan that is reviewed and signed by all participants. Field-related training typically falls into two categories:

- Preparation for working at specific remote sites
- Specialized task-based training directly relevant to specific field activities

A template for documenting trainings is provided in the Checklists and Templates section of this manual. Training documentation can also be incorporated directly into Field Safety Plan documents.

B. FIRST AID SKILLS

First aid training is appropriate for working off campus and at remote field sites because emergency medical services may be limited or delayed. Compliance with WISHA under WAC 296-800-150, "First Aid," (https://app.leg.wa.gov/wac/default.aspx?cite=296-800-150) requires the University to ensure that first aid trained personnel are available to provide quick and effective first aid. The University's Administrative Policy Statement 10.3 (https://www.washington.edu/admin/rules/policies/APS/10.03.html) also states the requirement to ensure that employees have access to first aid. CPR/AED training is also recommended.

The First Aid Plan Guidelines (https://www.ehs.washington.edu/system/files/resources/firstaidplan.pdf) published by EH&S contains instructions for creating a first aid plan for UW employees on UW campuses, UW-owned sites, UW-leased space, temporary field locations, and field trips that are under the control of University operations and staff.

The Washington Red Cross provides a number of first aid trainings. More information on the courses they offer are found here: https://www.redcross.org/local/washington/take-a-class.

Wilderness first aid training is appropriate for outdoor fieldwork or visiting remote sites because it covers more first responder information and relevant scenarios than a typical four-hour community first aid classes. The National Outdoors Leadership School (NOLS) offers training courses in coordination with REI: https://www.rei.com/events/a/wilderness-medicine.

Additional options for wilderness first aid and wilderness first responder training are provided by The Mountaineers: https://www.mountaineers.org/courses.

For trip leaders, field scientists, or students who plan to pursue a career doing outdoor work, wilderness first aid training is highly-regarded professionally and will prepare individuals to manage a broad-range of emergency situations, illnesses, and injuries.
C. LEADERSHIP SKILLS

Facilitating field research or teaching field classes can require leadership skills that go beyond the expectations of a lab instructor or classroom teacher. This manual attempts to provide a comprehensive resource for helping instructors learn more of these skills. Many other organizations offer much more in-depth training. An excellent written resource is the NOLS Leadership Educator Notebook, which can be ordered from the NOLS (www.nols.edu). Field Safety in Uncontrolled Environments (https://store.aapg.org/detail.aspx?id=811) (published by the American Association of Petroleum Geologists) provides excellent guidance on planning and leading field excursions, and UC's Fields Research Safety Center of Excellence (https://www.ucop.edu/safety-and-loss-prevention/environmental/program-resources/field-research-safety/index.html) has published field safety guidance documents and templates that were used to develop this manual.

D. BASIC OUTDOOR SKILLS

Working in the field can require knowledge of many outdoor skills, such as map-reading, compass use, cross-country navigation, camping, cooking over a fire or with a camp stove, field sanitation practices, and treating drinking water. Campus outdoor recreation programs may be able to help provide additional training in these skills or provide referrals. Outdoor skills workshops are offered on many campuses. Some examples of noteworthy training models include the University of Alaska Fairbanks Field Safety 101 (https://www.uaf.edu/recreation/outdoor-adventures/classes-and-safety.php) and NSF's Arctic Field Training (https://www.polarfield.com/blog/arctic-field-training-success).

E. SITE AND TASK-SPECIFIC SKILLS

In order to make accurate risk assessments in the field, you need knowledge about specific hazards. For instance, if you don't understand what causes an avalanche, you can't possibly accurately decide when, where, and how to safely travel on steep snow. Get the training you need in the specific skill areas you plan to use, as listed in your Risk Assessment. Even a little training can go a long way towards making more accurate assessments and performing safer actions in the field. Mentoring is critical to transfer knowledge and practical skills from experienced faculty and researchers to new researchers and students. Brief your team often - at the beginning of an activity and as conditions change.

Consult with EH&S for guidance and to establish safe work practices that include these activities.

1. Climbing or Work at Heights

Falls from height are consistently among the top causes of work-related fatalities in the U.S. Climbing trees, towers, or other structures; using ladders or lifts like “cherry pickers”; or other work at height or near edges or cliffs all warrant careful review of equipment and safe practices. Consult with EH&S to select appropriate fall protection equipment. EH&S provides fall protection, ladder safety, and equipment training. Review the UW Fall Protection Program Manual (https://www.ehs.washington.edu/system/files/resources/fall-protection-program-manual.pdf).

Full-body harnesses, helmets, and other safety gear must also be properly fitted, diligently inspected, and properly used to avoid injuries and ensure compliance with state regulations. Please note: seat harnesses commonly used for sport rock-climbing with dynamic (elastic) rope are not acceptable for working at heights because of the potential to be suspended upside down and because they are not designed to absorb shock after a fall, as full-body harnesses used in conjunction with shock absorbing fall arrest systems are designed to do. Compliant full body harnesses have a dorsal D-ring to attach fall arrest systems and/or to be used during rescue.
2. Clinical Work or Handling Human Biological Specimens

Clinical work or collecting/handling human biological specimens should be covered under a Bloodborne Pathogens (BBP) Exposure Control Plan (https://www.ehs.washington.edu/resource/site-specific-bloodborne-pathogen-bbp-exposure-control-plan-template-70) that includes careful consideration of vaccinations, safe work practices, appropriate PPE, post-exposure prophylaxis, and incident reporting. Washington state requires that any employees who may be exposed to human blood, bodily fluids, or cells be provided BBP Training and offered hepatitis B vaccination at no cost. Consult with EH&S Occupational Health Nurse for guidance at 206.221.7770 / ohnurse@uw.edu

3. Entering Confined Spaces such as Caves, Vaults, or Mines

Hazards related to entering confined spaces include:

- Physical hazards from unstable structural integrity, low overhead clearance, sloping floors
- Engulfment from rapid rainfall or water source filling the confined space
- Internal configurations that may result in being trapped or asphyxiated
- Changes in thermal environment
- Atmospheric hazards from unsafe environmental conditions, such as hydrogen sulfide gas or lack of oxygen
- Increased risk due to access limitations, unreliable communications, and isolated, often dark and rugged/uneven conditions

Some spaces that present these hazards may only be entered through a specific permitting system and with specialized training, equipment, and a rescue plan. Consult with EH&S for confined space entry training and to establish safe work practices (see the Confined Space Entry Program, https://www.ehs.washington.edu/workplace/confined-space-entry-program).

4. Excavating or Trenching

Hazards related to excavating or trenching include:

- Physical hazards from use of digging equipment or being trapped/buried by collapsing soil
- Respiratory hazards caused by disturbing soil that contains Coccidioides fungi (which causes Valley Fever) or other environmental contaminants
- Trips/falls if the edge is not clearly flagged or protected. Excavations greater than 4 feet deep have regulatory requirements for evaluation and shoring

5. Firearms

Firearms include, but are not limited to, air guns or rifles, BB guns, and pellet guns, as well as any instrument used in the propulsion of shot, shell, bullets, or other harmful objects by the action of gunpowder or other explosives, compressed air, or power of springs or other forms of propulsion. WAC 478-121-143 (https://apps.leg.wa.gov/WAC/default.aspx?cite=478-121-143) states that possession or use of firearms, explosives, or other dangerous weapons is prohibited on university premises, unless specifically authorized by the university president or delegate.

If your field operations require you to carry or use firearms, ensure that the proper permits, authorizations, and trainings have been acquired in advance.
6. Handling Wildlife / Animal Work

Wildlife biologists face environmental hazards in the field, as well as risk of zoonotic and vector-borne diseases and the physical threat of a wildlife attack or bite. During required institutional review of animal protocols best practices for trapping or darting of wildlife should be adopted, but broader field hazards should not be ignored. As with all field work, working alone, extreme weather conditions, unreliable communications, and limited or delayed emergency medical services may exacerbate any research-related incidents.

It is standard precaution for gloves to be worn when handling any wildlife, and additional controls are warranted for species that transmit life-threatening diseases, e.g., wearing a respirator for handling deer mice (hantavirus), or getting a rabies vaccination for handling bats or other carriers. Animal procedures require hands-on demonstration and training; consult with the Office of Animal Welfare (https://oaw.uw.edu/) for guidance and never perform work that is not specifically approved in your Animal Use Protocol by the Institutional Animal Care and Use Committee (IACUC) (https://www.washington.edu/research/myresearch-lifecycle/setup/compliance-requirements-non-financial/animal-use/). Note that work with some invertebrates is exempt from the IACUC process; contact the Office of Animal Welfare to determine if this applies to your research.

7. Operating Powered Tools or Equipment

In general, consult with EH&S prior to using powered tools or equipment. This includes handheld items such as drills and saws, as well as large equipment, such as all-terrain vehicles (ATVs) and snowmobiles. Follow manufacturer's instructions and keep a manual accessible. Prerequisites and safe work practices for use of powered tools or equipment should be documented in your Field Safety Plan; in some situations referring to specific manuals or JHAs. A Job Hazard Analysis (sometimes referred to as a JSA or Job Safety Analysis) is the breaking down of a job into its component steps and the evaluation of each step for hazards. Each hazard is corrected or a method of worker protection (safe practice or PPE) is identified. Additional requirements for worker training, certification, authorization, etc., may be identified for the process or job. The final product is a short written document, a standard of safe operation for a particular job. More information is available at https://www.ehs.washington.edu/workplace/job-hazard-analysis.

8. Use of Chemicals

All faculty, staff, and students handling or working with chemicals for research purposes should complete EH&S's online Managing Lab Chemicals training (https://www.ehs.washington.edu/training/managing-laboratory-chemicals-online). This course covers chemical hazards, protective measures, chemical storage, safety data sheets, hazardous waste disposal and chemical spill prevention, and response in laboratories, including the unique hazards and specific emergency response procedures for working with hydrofluoric acid. The class partially fulfills federal and state chemical safety and hazardous waste training requirements and must be supplemented with task-specific training on chemical hazards and waste management.


9. Use of Drones (Unmanned Aircraft Systems)

The University is currently reviewing our unmanned aircraft systems (UAS) policy. Certified UAS pilots should adhere to all Federal Aviation Administration (FAA) regulations while on UW property: https://www.faa.gov/uas/.
Non-commercial pilots are expected to adhere to the FAA's Small UAS Rule (14 CFR part 107): https://www.faa.gov/uas/commercial_operators/.


10. Use of Radioactive Materials

Faculty, and students handling or working with radioactive materials should complete EH&S's Radiation Safety Training, (https://www.ehs.washington.edu/training/radiation-safety-training-%E2%80%93-%E2%80%80%93-online). Radiation Safety Training consists of several online modules and an instructor-led online training course with final exam to satisfy the basic training requirement for radiation workers as set forth in the UW Radioactive Materials License.


F. WATER-BASED ACTIVITIES TRAINING

1. Scientific Diving

UW scientific divers come from various backgrounds and engage in many types of scientific activities underwater. UW divers can be staff, faculty, students or volunteers affiliated with the University. Because they are diving as part of their employment, all divers must meet the requirements of the OSHA Scientific Diving Exemption (https://www.osha.gov/laws-regts/regulations/standardnumber/1910/1910SubpartTAppB) and follow the UW's Scientific Diving Safety Manual (https://www.ehs.washington.edu/system/files/resources/divingsafetymanualuw.pdf).

See the requirements and steps to become a UW scientific diver in the Requirements for Scientific Diver Certification, https://www.ehs.washington.edu/system/files/resources/uw-diver-qualifications.pdf. This document includes links to the diver registration form, medical evaluation form, and other required forms needed for diver certification.

2. Boating (including Occupied Submersibles)

There are federal, state, local, and University requirements for safely operating boats that apply to both motorized and non-motorized vessels. The requirements are included in the UW Boating Safety Manual (https://www.ehs.washington.edu/system/files/resources/boating-safety-manual.pdf). The UW Boating Safety Program is administered by the EH&S boating safety program manager and all vessels owned and operated by the UW fall under the program's purview. University boats included in the University National Oceanographic Laboratory System (UNOLS) (https://www.unols.org/) must adhere to any additional UNOLS requirements.
G. TRANSPORTING CHEMICALS, HAZARDOUS MATERIALS, HAZARDOUS WASTE, OR BIOLOGICAL SPECIMENS

Chemicals, biological specimens, and hazardous materials (including waste) should be transported in a container that prevents leakage. The container should be closed. Avoid transporting containers which may have contamination on the outside (i.e., avoid the need to wear gloves or other PPE). If the container is breakable it should be placed in a secondary container.


Regulated hazardous materials include:

- Infectious and biological substances
- Genetically modified organisms or microorganisms
- Chemicals
- Radioactive materials
- Compressed cylinders (whether filled or empty)
- Dry ice
- Liquid nitrogen
- Certain batteries
- Equipment containing batteries (including but not limited to PCs, tablets, cell phones and eVapor cigarettes
- Gasoline
- Ethanol

Anyone shipping hazardous materials should complete EH&S’s required Shipping Hazardous Materials training (https://www.ehs.washington.edu/training/shipping-hazardous-materials) and comply with labeling practices. Also, please note, to move research materials between a UW campus and outside institutions, there must be a Material Transfer Agreement (https://www.ucop.edu/research-policy-analysis-coordination/resources-tools/contract-and-grant-manual/chapter19/chapter-19-400.html) in place. Contact your department office for more information. Prior to shipping research equipment or materials out of the country, work with your department and EH&S to determine whether an export license is required.


Information on transportation practices for biological specimens is in the UW Biosafety Manual (https://www.ehs.washington.edu/system/files/resources/uw-biosafety-manual.pdf)

Additional information resources:
- Radiation Safety Manual
- UNOLS
  https://www.unols.org/
SECTION 5 – ENVIRONMENTAL PROTECTION

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SECTION 5 – ENVIRONMENTAL PROTECTION

A. WASTE MANAGEMENT

As part of your Field Safety Plan, identify the types of and determine the appropriate disposal method for all wastes generated on your trip, including hazardous and non-hazardous wastes. Types of hazardous waste may include chemical waste, biological waste, sharps, and universal waste (e.g., CFLs, batteries, ballasts, electronic waste). Types of non-hazardous waste may include uncontaminated waste and broken glass, regular trash, and recyclables.

Items commonly used for field work that are classified as hazardous waste include, but are not limited to, paints, fuels, lubricants, gas, oil, propane, aerosols, large batteries, hand warmers, and Sterno products.

Consult the EH&S website for additional information on how to dispose of specific types of waste:

- Chemical waste
  https://www.ehs.washington.edu/chemical/hazardous-chemical-waste-disposal
- Biohazardous waste and sharps waste
  https://www.ehs.washington.edu/biological/biohazardous-waste
- Radioactive waste
  https://www.ehs.washington.edu/radiation/radioactive-waste-management
- Sewer disposal
  https://www.ehs.washington.edu/environmental/wastewater

All hazardous material containers (including hazardous waste containers) must be labeled appropriately with the content names and words signifying their hazards.

Hazardous chemicals, materials, and samples brought to the work site or collected during field operations should be transported back to UW campus in the manufacturer's original containers, UN-rated containers, or other approved transportation vessels. Consult the Laboratory Safety Manual (https://www.ehs.washington.edu/resource/laboratory-safety-manual-510) for additional information on transportation practices and requirements.

Hazardous waste generated during field work operations should be appropriately packaged and returned to UW campus for disposal. Requirements for transportation are the same as for unused materials. Consult with your department and EH&S’s Environmental Programs section (206.616.5835 / chmwaste@uw.edu) to develop a plan for appropriate disposal of items once they have been returned to campus. Options vary depending on the exact location of campus.

Include practices for waste in the Field Safety Plan for your work or activity.

B. LEAVE NO TRACE AND OUTDOOR ETHICS

Many field sites are fragile and can easily be damaged by even light use. It's important, whenever possible, to adopt field practices that minimize lasting negative impacts. The national educational program called Leave No Trace (LNT) has developed a set of principles that can be generally applied when working in wilderness conditions. More guidelines are available for specific habitats (e.g., river, deserts) and areas outside the United States on the LNT website (www.lnt.org) and describe how to...
adhere to the following seven LNT principles:

- Plan ahead and prepare
- Travel and camp on durable surfaces
- Dispose of waste properly
- Leave what you find
- Minimize campfire impacts
- Respect wildlife
- Be considerate of other visitors

C. WILDFIRES

Please check burn restrictions before lighting any fire by consulting the Department of Natural Resources Burn Risk Map. The Department of Natural Resources (DNR) (https://www.dnr.wa.gov/programs-and-services/wildfire-resources) regulates outdoor burning on all forestlands where DNR provides wildfire protection. DNR works to prevent wildfires through education and the use of burn restrictions, Industrial Fire Precaution Levels and burn permits, which help people to modify their activities in accordance with the risk.

Items to include in your trip preparation if relevant:

- Burn Restrictions (https://www.dnr.wa.gov/burn_restrictions)
- Burn Permits (https://www.dnr.wa.gov/programs-and-services/wildfire/outdoor-burning/burn_permits)

1. Safety Tips for Preventing Wildfires

- Be sure vehicles have operating spark arrestors
- Do not park vehicles in dry, grassy areas as residual heat from exhaust systems can ignite the dry grass
- Know the current wildfire risk in your county, destination, or area you may be working in

Note: It’s always illegal to light fireworks or use incendiary ammunition or exploding targets on DNR-protected lands

2. Take Responsibility When Choosing To Have a Campfire

If your fire escapes, you will be responsible for paying for fire suppression personnel and equipment, as required by state law.

- Campfires are allowed only when a campfire burn restriction is not in place
- Campfires are permitted on DNR-managed lands only in approved fire pits
- Never walk away from a smoldering campfire. Put the fire out cold before leaving - if it’s too hot to touch, it’s too hot to leave
- Ensure there is a shovel and buckets of water close by

Protect forestlands by reporting illegal or unsupervised campfires to 911 or the DNR region office.
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SECTION 6 - EMERGENCY RESPONSE

A. Incident Response and Reporting

B. First Aid and Initial Response
   1. Life-Threatening Injuries or Illness
   2. Basic First Aid
   3. Common First Aid Practices
   4. Anaphylaxis

C. First Aid and Prevention Measures for Common Physical and Environmental Hazards

D. Automatic External Defibrillators (Aeds)

E. Psychological First Aid

F. Seeking Medical Care or Other Support
   1. Campus Services
   2. During Travel

G. Incident Reporting to Campus

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SECTION 6 – EMERGENCY RESPONSE

A. INCIDENT RESPONSE AND REPORTING

It’s impossible to foresee all injuries or incidents that may occur when working in uncontrolled environments, but first aid skills and having emergency plans in place will help manage situations effectively and potentially mitigate negative consequences. Once a situation is stable and urgent medical care needs are met, report incidents to campus via the UW's Online Accident Reporting System (OARS) to trigger University support and evaluation. Reporting procedures, as well as mechanisms to debrief and review lessons learned, are outlined below. As a University, we must also comply with a variety of reporting regulations, including but not limited to, reporting of injuries and fatalities Washington's Department of Labor and Industries, Title IX reporting of sexual harassment and criminal behavior, environmental releases or spills, and loss/theft/misuse of research materials or funds. Related campus-specific policies and resources are listed in Appendix II.

B. FIRST AID AND INITIAL RESPONSE

This chapter outlines established protocols for first aid reference, but in no way is a replacement for maintaining current first aid certification. First aid training includes valuable hands-on practice that cannot be replicated in any other way. It is essential to keep certifications current. Refresher training and practice is vital to maintain competency in first aid. In Washington, it is the intent of the Good Samaritan Law to encourage individuals to volunteer to assist others in need during an emergency, but only provide treatment within the scope of your training level and never abandon a patient.

1. Life-Threatening Injuries or Illness

Call 911 or seek medical care immediately. Always know your physical location; everyone in your group should be able to provide Emergency Medical Services (EMS) accurate directions to the field site.

2. Basic First Aid

By administering immediate care during an emergency, you can help an ill or injured person before EMS arrive. A variety of useful references can also be downloaded to your smartphone (and are then accessible without cell or Wi-Fi service) such as the Emergency Medical Response Guide or “EMR Guide” from the National Safety Council and “First Aid” from the American Red Cross. Both apps are available for free.

First Aid Steps


Scene Size Up

Before administering care to an ill or injured person, check the scene and the person. Size up the scene and form an initial impression. Pause and look at the scene and the person before responding. Answer the following questions:

- Is the scene safe to enter?
- What happened?
- How many people are involved? - What is my initial impression about the nature of the person’s illness or injury?
- Does the person have any life-threatening conditions, such as severe, life-threatening bleeding?
- Is anyone else available to help?

Awake and Responsive

If the Person is Awake and Responsive and there is no severe life-threatening bleeding:

- Obtain consent: Tell the person your name, type and level of training, what you think is wrong and what you plan to do, and ask permission to provide care.
- Use appropriate PPE: Put on gloves.
- Interview the person: Use SAMPLE (Signs/symptoms, Allergies, Medications, Pertinent medical history, Last ins/outs, Events) questions to gather more information about signs and symptoms, allergies, medications, pertinent medical history, last food or drink and events leading up to the incident.
- Conduct a head-to-toe check: Check head and neck, shoulders, chest and abdomen, hips, legs and feet, arms and hands for signs of injury.
- Provide care consistent with knowledge and training according to the conditions you find.

If the Person Appears Unresponsive

Shout to get the person’s attention, using the person’s name if it is known. If there is no response, tap the person’s shoulder (if the person is an adult or child) or the bottom of the person’s foot (if the person is an infant) and shout again, while checking for normal breathing. Check for responsiveness and breathing for no more than 5-10 seconds.

If the Person is Breathing

Send someone to call 911 or the designated emergency number and obtain an AED and first aid kit.

- Proceed with gathering information from bystanders using the SAMPLE\textsuperscript{2} questions
- Conduct a head-to-toe check.
- Roll the person onto his or her side into a recovery position if there are no obvious signs of injury.

If the Person is NOT Breathing

- Send someone to call 911 or the designated emergency number and obtain an AED and first aid kit.
- Ensure that the person is face-up on a firm, flat surface such as the floor or ground.
- Begin CPR (starting with compressions) or use an AED if one is immediately available
- Continue administering CPR until the person exhibits signs of life, such as breathing, an AED becomes available, or EMS or trained medical responders arrive on scene.

Note: End CPR if the scene becomes unsafe or you cannot continue due to exhaustion.

CPR/AED Instructions
The 2017 American Heart Association Guideline Updates continue to recommend that lay rescuers trained in CPR give chest compressions (100-120 compressions per minute) and rescue breaths at a ratio of 30:2 for adults in cardiac arrest. The same 30:2 ratio is advised for pediatric cardiac arrest; but if a second rescuer can assist, a 15:2 ratio should be followed.

3. Common First Aid Practices

Signs, symptoms and treatment for environmental injuries such as altitude sickness, lightning, stings and bites, and cold water immersion are described thoroughly in the reference NOLS Wilderness Medicine 6th edition by Tod Schimelpfenig (2016). As these types of injuries occur infrequently, it is important to carry a wilderness medicine reference with you; a condensed field version is typically provided during wilderness first aid training.

A summary of common first aid practices for certain types of injuries are listed in the following table. Tables summarizing first aid and prevention practices for a variety of physical and environmental hazards are found later in this chapter.

Additional first aid References:

- [https://cpr.heart.org/en/resuscitation-science](https://cpr.heart.org/en/resuscitation-science)
- [https://www.ready.gov/safety-skills](https://www.ready.gov/safety-skills)
- [NIOSH Cold Stress First Aid](https://www.cdc.gov/niosh/topics/coldstress/coldrelatedillnesses.html) accessed at https://www.cdc.gov/niosh/topics/coldstress/coldrelatedillnesses.html
# Table 3 - Common First Aid Practices

<table>
<thead>
<tr>
<th>TYPE OF INJURY</th>
<th>FIRST AID PRACTICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergic reaction</td>
<td>See next section on Anaphylaxis</td>
</tr>
<tr>
<td>Bleeding</td>
<td>Put on gloves. Cover the wound with a dressing, and press firmly against the</td>
</tr>
<tr>
<td></td>
<td>wound (direct pressure). Elevate the injured area above the level of the heart if</td>
</tr>
<tr>
<td></td>
<td>you do not suspect that the victim has a broken bone. Cover the dressing with</td>
</tr>
<tr>
<td></td>
<td>a bandage. If the bleeding does not stop, apply additional dressings and</td>
</tr>
<tr>
<td></td>
<td>bandages, and use a pressure point to squeeze the artery against the bone.</td>
</tr>
<tr>
<td></td>
<td>Provide care for shock.</td>
</tr>
<tr>
<td>Burn</td>
<td>Reduce pain by pouring large amounts of water over the burned area to gently</td>
</tr>
<tr>
<td></td>
<td>cool the burn. Cover the burn with dry, clean dressings or cloth.</td>
</tr>
<tr>
<td>Frostbite</td>
<td>Get into a warm room or shelter as soon as possible. Unless absolutely</td>
</tr>
<tr>
<td></td>
<td>necessary, do not walk on frostbitten feet or toes—this increases the damage.</td>
</tr>
<tr>
<td></td>
<td>Immerse the affected area in warm (not hot) water. The temperature should</td>
</tr>
<tr>
<td></td>
<td>be comfortable to the touch for unaffected parts of the body. Warm the</td>
</tr>
<tr>
<td></td>
<td>affected area using body heat; for example, the heat of an armpit can be used</td>
</tr>
<tr>
<td></td>
<td>to warm frostbitten fingers. Do not rub or massage the frostbitten area; doing</td>
</tr>
<tr>
<td></td>
<td>so may cause more damage. Do not use a heating pad, heat lamp, or the heat</td>
</tr>
<tr>
<td></td>
<td>of a stove, fireplace, or radiator for warming. Affected areas are numb and can</td>
</tr>
<tr>
<td></td>
<td>be easily burned.</td>
</tr>
<tr>
<td>Heat illness</td>
<td>Heat exhaustion is the most common type of heat illness. Move to a cool, shaded</td>
</tr>
<tr>
<td></td>
<td>place; hydrate with cool water. If no improvement, call 911 and seek medical</td>
</tr>
<tr>
<td></td>
<td>help. Do not return to work in the sun. Heat exhaustion can progress</td>
</tr>
<tr>
<td></td>
<td>to life-threatening heat stroke.</td>
</tr>
<tr>
<td>Hypothermia</td>
<td>Move the victim into a warm room or shelter and remove wet clothing. Warm</td>
</tr>
<tr>
<td></td>
<td>the center of their body first—chest, neck, head, and groin—under loose, dry</td>
</tr>
<tr>
<td></td>
<td>layers of blankets, clothing, towels, or sheets. Warm beverages may help</td>
</tr>
<tr>
<td></td>
<td>increase the body temperature, but do not give alcoholic beverages. Do not try</td>
</tr>
<tr>
<td></td>
<td>to give beverages to an unconscious person. After their body temperature has</td>
</tr>
<tr>
<td></td>
<td>increased, keep the victim dry and wrapped in a warm blanket, including the head</td>
</tr>
<tr>
<td></td>
<td>and neck. If victim has no pulse, begin cardiopulmonary resuscitation (CPR).</td>
</tr>
<tr>
<td>Injuries to muscles,</td>
<td>Rest the injured part. Apply ice or a cold pack to control swelling and reduce</td>
</tr>
<tr>
<td>bones, or joints</td>
<td>pain. Avoid any movement or activity that causes pain. If you must move the</td>
</tr>
<tr>
<td></td>
<td>victim because the scene is becoming unsafe, try to immobilize the injured</td>
</tr>
<tr>
<td></td>
<td>part to keep it from shifting.</td>
</tr>
<tr>
<td>Poisoning</td>
<td>Call the Poison Control Center (1-800-222-1222) and communicate what was</td>
</tr>
<tr>
<td></td>
<td>swallowed and how much. Follow the directions given exactly.</td>
</tr>
<tr>
<td>Shock</td>
<td>Keep the victim from getting chilled or overheated. Elevate the legs about 12</td>
</tr>
<tr>
<td></td>
<td>inches (if broken bones are not suspected). Do not give food or drink to the</td>
</tr>
<tr>
<td></td>
<td>victim.</td>
</tr>
</tbody>
</table>
4. Anaphylaxis

Allergic reactions range from mild (e.g. hay fever) to severe (e.g. anaphylaxis). Anaphylaxis is a serious, life-threatening allergic reaction. The most common anaphylactic reactions are to foods, insect stings, or medications. Symptoms may develop immediately, rapidly progress over minutes, or develop slowly over hours. Anaphylaxis requires immediate medical treatment, including a prompt injection of epinephrine and a trip to a hospital emergency room. If it isn't treated properly, anaphylaxis can be fatal.

Note: Epinephrine requires a medical prescription. Individuals with known allergy may carry their own epinephrine auto-injector, typically in a two-pack. Washington state law (https://app.leg.wa.gov/RCW/default.aspx?cite=70.54.440) does allow individuals to administer an epinephrine auto-injector to anyone who they believe is experiencing anaphylaxis, regardless of whether the individual has a prescription for an epinephrine auto-injector or has previously been diagnosed with an allergy. The person administering the auto-injector must complete an anaphylaxis training program prior to providing or administering an epinephrine auto-injector made available by an authorized entity. The training must be conducted by a nationally recognized organization experienced in training laypersons in emergency health treatment or an entity or individual approved by the department of health. In all situations when an epinephrine auto-injector is administered, the patient must immediately be taken to an emergency room for medical evaluation.

Signs and Symptoms of Anaphylaxis may include:

- Red rash, with hives/welts, that is usually itchy*
- Swollen throat or swollen areas of the body
- Wheezing
- Passing out
- Chest tightness
- Difficulty breathing, cough
- Hoarse voice
- Difficulty swallowing
- Vomiting
- Diarrhea
- Stomach cramping
- Pale or red color to the face and body
- Feeling of impending doom

*It is possible to have a severe allergic reaction without skin symptoms

First Aid Response to Treat Anaphylaxis

1. Contact EMS by calling 911
2. If possible, separate the patient from the allergen
3. If the patient can speak and swallow, give oral antihistamines (adult dose = 25mg - 50mg of diphenhydramine hydrochloride every 4-6 hours) and continue until EMS takes responsibility for care.
4. Inject epinephrine via auto-injector (adult dose = 0.3mg intramuscular into the upper thigh) for:
   - any airway swelling (lips, tongue, uvula, voice changes)
   - large areas of swelling
   - respiratory compromise or shock
5. If severe allergic reaction continues, administer a second dose of epinephrine via auto-injector.
6. Evacuate to seek emergency medical care for the patient immediately.

Directions for Use of Auto-injectors
1. Never put thumbs, fingers, or hands over the tip of the auto-injector.
2. Wear gloves.
3. Inform the patient of your actions and obtain consent from the patient before administering epinephrine. If unresponsive, implied consent is acceptable in a life-threatening situation.
4. Form a fist around the auto-injector.
5. With your other hand, remove the safety-caps.
6. Jab the auto-injector firmly into patient's outer thigh so that the auto-injector is perpendicular to the thigh.
7. Hold the auto-injector firmly in the thigh for 10 seconds to allow time for the medication to disperse.
8. Remove the auto-injector, and then massage the injection area for several seconds.
9. Store used auto-injectors in their carrying case, inserting them carefully and needle-first into the labeled side.
10. Continuously monitor the patient and immediately seek emergency medical care.
11. As needed, a second dose of epinephrine may be administered 15 minutes after the initial dose.

Additional Guidelines for Auto-injectors
- Become familiar with the auto-injector before the need to use it arises; know where it is physically located.
- Epinephrine should be administered at the first sign of anaphylaxis.
- If a participant or coworker is experiencing signs/symptoms of anaphylaxis, and does not have a prescription for epinephrine, only trained staff with an Epinephrine Certificate Card may administer auto-injector(s) as described in their emergency action plan.
- ANY administration of epinephrine, intentional or accidental, initiates an evacuation to emergency medical care.
- Protect auto-injectors from heat/light and do not refrigerate.
- Replace and do not use auto-injectors if solution is discolored, cloudy, or contains particles.
C. FIRST AID AND PREVENTION MEASURES FOR COMMON PHYSICAL AND ENVIRONMENTAL HAZARDS

All field team members, regardless of the work location, should be familiar with this list of possibilities and information on how to respond to them. Read through table 1 to learn more about some general and physical and environmental hazards. If your work is in North America, please read table 2. If your work will take you out of North America, please read table 3 about international hazards.

Table 4 – Common Physical and Environmental Hazards

<table>
<thead>
<tr>
<th>Location: Worldwide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hazard</strong></td>
</tr>
<tr>
<td>Assault</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
</tr>
<tr>
<td>Dehydration</td>
</tr>
</tbody>
</table>
| **Drowning** | Inhalation of water leading to respiratory impairment | Apnea (suspension of breathing)  
Death | Take victim out of water. Turn head to side to allow water to drain out. Perform CPR if needed. Seek medical attention as soon as possible. | Know how to swim before performing field activities in water or on boats. Be aware of water safety recommendations for swimming in strong currents if necessary. Have life preservers and rescue equipment available. |
| **Extreme Weather** | Snow squalls, blizzards, lightning, tornadoes, hurricanes, monsoon rains, floods | 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. |
| **Hazardous Terrain** | Walking or hiking in steep or rocky areas | Physical injury or death | Perform CPR and/or seek medical attention if needed. | Wear appropriate shoes. Carry needed items in a well-balanced pack. Use rappelling equipment for climbing. Use hiking poles if needed. |
| **Hunting Season** | 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. |
| **Impure Water** | Harmful organisms and pathogens living in “natural” water sources | Gastrointestinal illness  
Flu-like symptoms | Drink clear liquids. Slowly introduce mild foods, such as 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 more than 3 minutes. |
### Poisonous Plants

**Common to 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. Wash clothes and skin with soap and water after exposure. If sensitive, use Tecnu or similar product to help remove rash-causing oil if exposure occurs.

---

### Sexual Assault

Inappropriate conduct; any conduct without consent; criminal activity

Any conduct without physical consent. May include physical injuries.

Remove victim to safe location if possible; seek medical attention if needed. Contact SafeCampus to access a confidential advocate and determine how to proceed.

Be aware of your surroundings. When possible, avoid being alone after dark, especially in high-crime areas. Know your rights and what is considered appropriate conduct.

---

### Sunburn

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 sun protection factor (SPF) of 30.

---

### Travel-related Accidents

Injury associated with vehicle, boat, aircraft, or other means of travel

Physical injury and/or death

Perform CPR if needed. Seek medical attention as soon as possible.

Be familiar with safe operation of the vehicle or craft you will operate; use licensed pilots or drivers.

---

### Violence

Caused by political unrest or military conflict

Physical injury, threats

Leave the area as soon as it is safe to do so.

Be aware of current travel Advisories.

---

### Location: Worldwide: hot climates

**Heat Exhaustion**

Prolonged physical exertion in a hot environment

- Fatigue
- Excessive thirst
- Heavy sweating
- Cool and 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.
<table>
<thead>
<tr>
<th>Heat Stroke</th>
<th>Prolonged physical exertion in a hot environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Exhaustion</td>
<td></td>
</tr>
<tr>
<td>- Light-headedness</td>
<td></td>
</tr>
<tr>
<td>- Bright red skin which is warm to the touch</td>
<td></td>
</tr>
<tr>
<td>Cool the victim at once, replenish fluids, and seek medical attention immediately.</td>
<td></td>
</tr>
<tr>
<td>Acclimate to heat gradually. Drink plenty of liquids. Take frequent rest breaks.</td>
<td></td>
</tr>
</tbody>
</table>

**Location: Worldwide: cold climates**

<table>
<thead>
<tr>
<th>Frostbite</th>
<th>Exposure to cold temperatures</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Waxy, whitish numb skin</td>
<td></td>
</tr>
<tr>
<td>- Swelling</td>
<td></td>
</tr>
<tr>
<td>- Itching</td>
<td></td>
</tr>
<tr>
<td>- Burning</td>
<td></td>
</tr>
<tr>
<td>- Deep pain as the skin warms</td>
<td></td>
</tr>
<tr>
<td>Slowly warm the affected areas (do NOT rub area) and seek medical attention as soon as possible.</td>
<td></td>
</tr>
<tr>
<td>Dress in layers. Cover your extremities with warm hats, face covering, gloves, socks, and shoes.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hypothermia</th>
<th>Prolonged exposure to cold temperatures</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Shivering</td>
<td></td>
</tr>
<tr>
<td>- Numbness</td>
<td></td>
</tr>
<tr>
<td>- Slurred speech</td>
<td></td>
</tr>
<tr>
<td>- Excessive fatigue</td>
<td></td>
</tr>
<tr>
<td>Remove cold, wet clothes. Put on dry clothes or use a blanket or skin-to-skin contact to warm up. Drink warm liquids and seek medical attention as soon as possible.</td>
<td></td>
</tr>
<tr>
<td>Dress in layers. Wear activity-appropriate clothing. Cover your extremities with warm hats, face covering, gloves, socks, and shoes. Avoid getting damp from perspiration.</td>
<td></td>
</tr>
</tbody>
</table>

**Location: Worldwide: high altitudes**

<table>
<thead>
<tr>
<th>High Altitude Illness</th>
<th>Decreased oxygen and increased breathing rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Headache</td>
<td></td>
</tr>
<tr>
<td>- Nausea</td>
<td></td>
</tr>
<tr>
<td>- Weakness</td>
<td></td>
</tr>
<tr>
<td>- Cough</td>
<td></td>
</tr>
<tr>
<td>- Shortness of breath</td>
<td></td>
</tr>
<tr>
<td>- Pulmonary edema (HAPE)</td>
<td></td>
</tr>
<tr>
<td>- Disorientation</td>
<td></td>
</tr>
<tr>
<td>- Cerebral swelling (HACE)</td>
<td></td>
</tr>
<tr>
<td>Use supplemental oxygen and decrease altitude.</td>
<td></td>
</tr>
<tr>
<td>Allow your body to acclimatize by gaining elevation slowly. Keep hydrated. Eat high calorie/sugar snacks frequently. Consult a doctor about taking Diamox to help you acclimatize.</td>
<td></td>
</tr>
</tbody>
</table>
### Location: Worldwide: temporary structures, areas without building codes

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Cause</th>
<th>Symptoms</th>
<th>First Aid</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>Damaged electrical cords, improper electrical wiring, improper grounding, differences in voltage across countries</td>
<td>Cardiac arrest, Muscle contraction, Shaking, Numbness, Paralysis, or other neurological symptoms, Burns, Other physical injuries</td>
<td>Provide burn first aid as needed. Go to the nearest emergency room for physical injuries, severe burns, or cardiac arrest.</td>
<td>Inspect cords for damage and replace damaged cords or have them repaired by a qualified person. Read equipment labels and manufacturer’s instructions; use voltage convertors when applicable.</td>
</tr>
</tbody>
</table>

### Location: Worldwide: working in hot locations or when using thermal equipment

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Cause</th>
<th>Symptoms</th>
<th>First Aid</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burns</td>
<td>Touching a hot surface of equipment or sun-warmed surface, especially metal; contact with flames.</td>
<td>Pain, Redness, Swelling, Tissue damage, Blisters (2&lt;sup&gt;nd&lt;/sup&gt; degree), Charring (3&lt;sup&gt;rd&lt;/sup&gt; degree)</td>
<td>Cool the burn with cool water (not ice); cover with sterile bandage, take pain-reliever. For large 2&lt;sup&gt;nd&lt;/sup&gt; or 3&lt;sup&gt;rd&lt;/sup&gt; degree burns, seek emergency medical treatment. Don’t immerse burned areas in water. When possible, elevate the burned body part. Cover the area with a cool moist sterile bandage or cloth. Get a tetanus shot if your last shot was &gt; 5 years ago.</td>
<td>Use gloves when handling hot objects.</td>
</tr>
</tbody>
</table>
D. AUTOMATIC EXTERNAL DEFIBRILLATORS (AEDS)

AEDs are considered medical equipment and must meet certain minimum requirements. These requirements vary by state and region, but most include registering with the local public health agency and/or emergency response personnel. This is primarily so that others in the area can be directed to the AED in case of an emergency. While this may be an unlikely scenario during field research operations, it is a legal requirement nonetheless. However, registering an AED for short term interval poses a hazard if the owner then forgets to let local agencies know when the unit leaves the area. For this reason, we recommend registering with local authorities if the unit will be in their area for a period of 90 days, and providing an estimated time when the unit will be withdrawn.

If an AED is applied to a patient, even if a shock is not delivered, the use must be reported to the local public health agency. In Seattle, call the King County Community AED Program Manager at 206.296.4693. Contact EH&S at 206.685-0341 once the medical emergency is over to make sure all notifications have been made.

E. PSYCHOLOGICAL FIRST AID

Psychological First Aid is basic, pragmatic support for victims, survivors, and responders who exhibit acute stress response following trauma, violence, or disasters. The intent is to recreate a sense of safety, ensure basic physical needs are met, and protect the patient from additional harm:

- Help people meet basic needs for food, shelter, and first aid
- Offer accurate information about the situation and rescue efforts
- Give practical suggestions that steer people toward helping themselves
- Help people contact friends and loved ones
- Direct people to support services.

F. SEEKING MEDICAL CARE OR OTHER SUPPORT

1. Campus Services

UW's main campus offers urgent care, emergency services, occupational health and travel clinics, confidential care advocates, counseling, and after hours advice nurse consultations or referrals. Note these numbers and resources in advance in a written Field Safety Plan carried in the field (see Appendix III for campus-specific contact numbers).

2. During Travel

Directions and contact information for nearby medical services should be identified in advance and included in your Field Safety Plan. For international travel, the US State Department and embassy websites provide guidance on finding a doctor or hospital while abroad.

For emergency assistance while travelling, contact the UW Global Emergency line (https://www.washington.edu/globalaffairs/global-travelers/emergency/) at 001.206.632.0153 for assistance. This line is answered 24 hours a day, seven days a week by the UW Police Department. The operator will collect information about the emergency along with your contact information and forward the information to the Global Travel Security Manager, who will assist you. Be prepared to provide the following information if possible:
Environmental Health & Safety Department

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- Your name
- Return contact information
- Country and program of study
- Name(s) of persons involved
- Description of emergency
- Actions taken
- Assistance needed

G. INCIDENT REPORTING TO CAMPUS

Work-related incidents are tracked and investigated so that preventative measures can be implemented. The information contained in the reports is essential to maintain successful safety programs. It is important for work-related incidents to be reported so that they can be tracked and investigated. Once investigated, preventative measures can be implemented. The information contained in the reports is essential to maintain successful safety programs.

Report any work-related injury or illness to your supervisor as soon as possible. After reporting the incident to your supervisor, submit a report of the incident within 24 hours to EH&S via the UW's Online Accident Reporting System (OARS). Immediately report all work-related fatalities, catastrophes, serious injuries or illnesses to your supervisor and campus department. Supervisors/departments are responsible for promptly reporting incidents to EH&S or Risk Services and completing incident report forms. Ideally, specific emergency contact numbers and incident reporting procedures are clearly outlined in written Field Safety Plans carried in the field. Consider carrying appropriate incident report forms and a copy of your Field Safety Plan in your first aid kit.

UW Administrative Policy Statement (APS) 16.1 requires the reporting of all fires, explosions, and hazardous materials leaks. In addition to University policies, the Campus Fire Safety Right to Know Act requires the reporting of certain unintended fires when student housing is involved. Hefty fines are levied to institutions that do not comply with these requirements.

For this purpose, a fire is defined as “any instance of open flame or other burning in a place not intended to contain the burning, and/or any instance of open flame or other burning in an uncontrolled manner.” This would not include instances that only generate smoke but do not exhibit an open flame, such as overcooked food in a microwave. It also does not include campfires within an approved pit or bonfires meeting code requirements. Student “housing” can include tents, yurts, etc. Determining which incidents meet the federal reporting criteria can be complicated. EH&S will work closely with onsite personnel to make that determination.

Report all unintended fires to EH&S by email at uwfire@uw.edu or by phone at 206.616.5530.

If you become aware of possible sexual assault, sexual harassment or other forms of sexual misconduct, please contact SafeCampus at 206.685.7233. They will do the following: assess for and safety plan around any immediate safety concerns; connect the person who has experienced the harm with a confidential advocate who can explain resources, supportive measures, and options (including the option to make a formal complaint); provide a Know Your Rights and Resources Guide; and inform the Office of the Title IX Coordinator who will follow up if/as appropriate. SafeCampus will also provide support and coaching.
H. LESSONS LEARNED

By reporting and reviewing incidents among field teams, departments, and with campus staff, lessons learned can benefit a broader group and help improve our operations. We all recognize that injuries happen when working outdoors in uncontrolled environments but want to strive toward being prepared, making safe decisions in the field, and minimizing the negative consequences when incidents occur.

Your department safety committee/coordinator, EH&S staff, research oversight committees, or other personnel on campus may be involved in accident investigation and review of lessons learned.

I. NEAR-MISSES AND IMPROVEMENTS

Ideally, all field projects and courses include an opportunity for debrief, even when no unintended incidents occur. Discussion of project goals, challenges, and logistics can often identify clear improvements and planning needs for subsequent field work.

Any university employee, student, or volunteer has the right and responsibility to inform the RP/leader/instructor and/or EH&S immediately upon learning of an unsafe condition or practice. In accordance with the University’s policies, no retaliation may be taken against an employee or student for reporting such unsafe conditions or practices. Depending on the nature of the hazard and applying its technical expertise, EH&S will review the practices and/or work site and make preliminary determinations and recommendations, if necessary, to effectively mitigate the hazard. Such reviews also occur as part of a regularly scheduled safety program.
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APPENDIX I - BEST PRACTICES FOR TRIP LEADERS

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B. Building Safe Work Environments................................................................. 84
C. Active Listening................................................................................................... 87
D. Conflict Resolution ........................................................................................... 87
A. DEVELOPING CONSERVATIVE JUDGEMENT

Judgment is the logical reasoning we use to help us decide what to do in a new situation. It's based on our past experience and personal reflection that leads to an insight or changed behavior that you carry forward with you. A few important points to remember about developing conservative judgment:

- Experience alone does not develop conservative judgment! Plenty of people take the same extreme risks over and over again. Reflection from one's experience that leads to a modified future action is just as important as experience.
- We are going to make mistakes – the key is to learn from them.
- There are better and worse times to make mistakes – you don't want to push your limits when you're leading a group. Do this on your own time.
- It's good for beginners to have simple clear “unbreakable” rules, such as: never climb a peak after noon in the mountains (because of lightning strike potential). Over time, your judgment will help you develop more nuanced rules.
- Often you must follow policies set forth by your organization that may conflict with what your judgment tells you to do. Follow your protocols.
- Sometimes you don't have the experience to use good judgment – it is okay to stop a task and ask for assistance or guidance.
- Supervisors don't typically get upset if you're “too safe”, but people will get upset (and potentially hurt) if you get in over your head.

B. BUILDING SAFE WORK ENVIRONMENTS

The following is a suggested format you could use for a discussion about creating a safe learning environment. It can easily be modified or shortened for less-involved field experiences or different participants, but it is recommended that it happen as early on in the trip as possible.

- Introduction: Living and studying outside can pose significant challenges for all involved. A big part of this challenge is working together as a group - how do we communicate, cooperate, problem-solve and support one another.

- Explicitly State Leader Expectations: specify and build consensus around what it takes to maintain a safe positive learning environment. Spend time as a group discussing this and getting everyone's input.

Consider the following potential aspects of the conversation:

You can expect us to
• respect you for who you are
• support you both physically and emotionally
• give and receive constructive feedback
• provide a safe learning environment for you and the group as a whole

We will expect all of you to
• respect one another
• practice proactive self-care; check in about medical or other concerns you may have
• follow our lead & follow the rules
• assist in providing a safe learning environment for everyone

➢ Get input from your group. Take some time to discuss in smaller groups anything else the student group thinks is important to maintaining a safe learning environment. Then discuss as a whole group, letting as many participants share what they talked about. Acknowledge everyone for listening and sharing.

➢ Explicitly go over the important rules. Here are some common rules/issues that you might consider specifically addressing:

  • Personal physical safety - no hiking alone, no rock climbing, swimming guidelines, etc. You must wear your seatbelt in the van whenever we're driving. You likely don't have time to discuss all of these right at the beginning, but introducing them lets your group know that you think they're important. You can say that you will come to these in more detail once out in the field.

  • Sexual harassment: Can include unwelcome sexual advances, requests for sexual favors and other verbal or physical harassment of a sexual nature. Harassment does not have to be of a sexual nature, however, and can include offensive remarks about a person's sex. University policy prohibits harassment and discrimination. Even when unwelcome behaviors do not violate policy, they can be addressed. When you become aware of possible sexual or gender based harassment, contact SafeCampus, who will ensure that the person impacted by the harmful behavior receives resources and support (including the option to make a formal complaint).

  • Emotional safety
    o Avoid jokes, sarcasm or insulting remarks: about individuals or groups of people, whether or not they are represented on this course.
    o Aggression: Avoid either verbal threats or motion to harm others in the present or future.
    o Language: Keep the course relatively free of bad language.

  • Alcohol and other drugs: This can clearly be a difficult “rule” to establish. Consider bringing up four things with the students: safety, legality, learning and group cohesion.
    o Safety: Clearly drugs and alcohol can compromise safety, which is especially concerning in remote field contexts.
Legality: Most drugs are illegal and using alcohol or marijuana if you're under 21 is illegal. Getting caught condoning illegal activities in a university-sponsored field class could cost any leader their job as well as jeopardize the future of the course. UC has a clear policy prohibiting use of marijuana on UC property and during UC-sponsored activities.

Learning: Drugs and alcohol can interfere with your ability to learn the material we cover in this course.

Group cohesion: The use of drugs and alcohol can often undermine community building within a group. Often, a smaller subset of a group is most comfortable drinking (or perhaps sneaking off and using drugs) and this leads to cliques and dis-unity.

After going over these concerns, you might consider two different rules to establish and maintain:
- No use of drugs or alcohol.
- Moderate consumption of alcohol only by those of age and only “outside of class time”.

Consequences: What if they break the rules? Consider saying something like this: “I am ultimately responsible for maintaining a safe learning environment for everyone out here. If your actions aren't supporting that ultimate goal, I will request that you change your behavior. I can also separate you from this course.”

Final advice: If you set and maintain clear expectations, constantly build rapport and connection with your students, facilitate awesome experiences (without drugs/alcohol), and set a good example yourself, you won’t have trouble with this issue.

Smoking: Follow the law/rules (UW has a smoke/tobacco-free policy). In a place where smoking is permissible, smoke outside away from others and throw your butts away (they are not biodegradable). Consider quitting now.

Exclusive relationships (including romantic ones): You might say “Get out of your bubble and be inclusive of everyone.” It takes an explicit, deliberate action to be inclusive of everyone - make it a goal to sit some place different tomorrow and strike up a conversation with someone else. The whole experience will be much more meaningful if we come together as a whole group.

Cell phones: “Either put your cell phone in airplane mode or turn it off completely during the day. If there are some apps you're using for class, that's fine. If you want to make brief phone calls outside of our class time (like after dinner), that's fine. What we want to avoid is checking out of the present moment and not interacting with the people who are physically present.”

Music: “No speakers in the field; music in the van is at the driver’s discretion. Beware listening too much to music using earbuds: it can lead to checking out too much from the group.”

Address the possibility of having to remove someone from the course. You might want to give an example of the rare occurrence where someone might separate from the course. Consider saying:

- If something inappropriate comes up, we will first and foremost talk with that person or people involved.
- Our goal would be to build understanding, provide additional support and clarification to everyone involved.
- However, if the inappropriate behavior continues, we could decide to separate a person from the course.
Finally, explicitly ask for everyone to follow these guidelines in order to create a safe learning environment: You might say, “Does all this sound good? Can I get a yes or a nod from everyone? If any of this concerns you, please feel free to come to talk with one or all of us after this meeting.”

C. ACTIVE LISTENING

Active listening requires that you:

- be present with your speaker
- do more listening than speaking
- make eye contact and use positive body language
- focus on understanding what someone is saying, not on mentally preparing a response
- avoid interrupting, debating, and quick, preconceived responses

The two cornerstone skills of active listening are Paraphrasing and Drawing People Out:

Paraphrasing

When you paraphrase someone, you say back to the speaker what you think the speaker said in your own words. This is the most straightforward way to demonstrate to a speaker that his or her thoughts were heard and understood. Though simple, paraphrasing is powerful! When done well, it is non-judgmental and enables people to feel that their ideas are respected.

Drawing People Out

When drawing someone out, ask open-ended non-directive questions. This helps the speaker clarify and refine their thoughts. Setting a tone that invites good listening reduces the probability of accidents.

A good leader sets a tone in which participants and co-leaders feel they can speak up, question and share observations without fear of reprisal. Do this by frequently checking in with your instructor team and student group. Strive to follow these guidelines:

- Give adequate time for discussions to avoid giving the impression that your group has nothing to contribute.
- Make eye contact.
- Listen to your team member’s responses without interrupting or talking over them.
- Ask: “Are you getting enough direction from me about what you need to be doing?”
- Be aware giving the impression that you’re really not looking for input.
- Instead of saying, “Okay - you’ve all done this before. Ready to go?,” ask “Hey is anyone not ready?”
- Be aware that silence can be mistaken for agreement. Take the time and create the space for everyone to express their concerns.

D. CONFLICT RESOLUTION

Some strategies to consider:

- Approach the student, co-instructor or team member with respect (think connection before correction).
• “I have been noticing_____and I was hoping to talk to you about it.”
• “I wanted to bring ‘this’ up to make sure you are getting what you need to feel good about this class” or that you, the other students, and the purpose of this course are all supported.”
• Clarify your expectations and/or goals for the course. If they are not meeting your expectations or hindering your goals, specify which one(s) they aren't meeting.
• Suggest ways they could meet expectations the next time this situation arises. Don’t be afraid to say: “We need everyone to follow these expectations in order to create a safe learning environment for everyone.”
• Educate your students about the ramifications of their actions, etc.
• Engage in collaborative problem solving with your student(s).
• Make a plan for checking in again.
APPENDIX II: ONLINE RESOURCES

A. General Information
B. Safety Resources for Specific Areas of Study
C. Common Field Hazards
APPENDIX II: ONLINE RESOURCES

A. GENERAL INFORMATION

First Aid Training
Local Red Cross - https://www.redcross.org/local/washington/take-a-class
NOLS training courses in coordination with REI - https://www.nols.edu/en/coursefinder/session_search/wilderness-medicine/
The Mountaineers - https://www.mountaineers.org/courses

General Medical information
Mayo Clinic - https://www.mayoclinic.org/

Leave No Trace & Outdoor Ethics

Travel - domestic and international
Infectious Diseases and Travelers’ Health - Search by Destination (Centers for Disease Control and Prevention) - https://wwwnc.cdc.gov/travel
Travel Advisories by Location (US Department of State) - https://travel.state.gov/content/travel.html

U.S. Forest Service
http://www.fs.fed.us/

Weather
http://weather.gov/safety.html

B. SAFETY RESOURCES FOR SPECIFIC AREAS OF STUDY

Agriculture/Rural Studies
Washington State Department of Agriculture - https://agr.wa.gov/washington-agriculture
Bureau of Indian Affairs - https://www.bia.gov/
Tribal Leaders Directory - https://www.bia.gov/tribal-leaders-directory

Archeology, Paleontology, Anthropology

Boating
Scientific Boating Safety Association - http://scientificboating.org/

UW Online Accident Reporting System (OARS) - https://oars.ews.washington.edu/


Geology/Earth Sciences

Field Safety in Uncontrolled Environments (Aapg) - https://store.aapg.org/detail.aspx?id=811


Guidelines for Social Worker Safety

National Association of Social Workers (NASW) – https://www.socialworkers.org/Practice/Social-Work-Safety

Machinery / Tools


Polar Sciences


Safety of Journalists


BBC - http://www.bbc.co.uk/academy/journalism/safety

Scientific Diving

American Academy of Underwater Sciences - https://www.aaus.org/

Wildlife Studies


Guidelines to the Use of Wild Birds in Research (Ornithological Council) - http://www.americanornithology.org/content/ornithological-council


Resources, Collection & Curation Practices (American Society of Ichthyologists & Herpetologists) - http://asih.org/other-resources


Fish & wildlife training modules (Canadian Council on Animal Care) - https://www.cccac.ca/en/training/modules/

C. COMMON FIELD HAZARDS

Environmental Hazards

Department of Natural Resources – Wildfire Prevention  - https://www.dnr.wa.gov/programs-and-services/wildfire-resources


Wildland fires incident map  - https://inciweb.nwcg.gov/


Poisonous Plants (NIOSH)  - https://www.cdc.gov/niosh/topics/plants/

Poison Ivy, Oak, & Sumac Information Center  - http://poisonivy.aesir.com/

Guide to Drinking Water Treatment in the Backcountry (CDC)  - http://www.cdc.gov/healthywater/disease/

Hygiene in the Field (UCSC)  - https://norriscenter.ucsc.edu/natural-history-resources/Field%20Safety%20Resources/images/Managing_Personal_Hygiene_in_the_Field.pdf


Extreme Conditions & Weather

Weather Forecasts (NOAA)  - http://www.fs.fed.us/

Cold Stress – Preventing Hypothermia and Frostbite (NIOSH)  - https://www.cdc.gov/niosh/topics/coldstress/

Extreme Cold Weather Clothing (US Antarctic Program)  - https://www.usap.gov/travelAndDeployment/contentHandler.cfm?id=1860


Lightning Safety (eLCOSH)  - http://www.elcosh.org/document/2250/d000149/Lightning%2BSafety.html

Winter Storm and Other Emergency Preparedness (American Red Cross)  - http://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/winter-storm


Heat Illness Training Resources

DEOHS  - https://deohs.washington.edu/pnash/heat_illness
Infectious organisms/diseases


Valley fever (California Department of Public Health) - https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Coccidioidomycosis.aspx

Lyme disease (California Department of Public Health) - https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/LymeDisease.aspx

American Lyme Disease Foundation - http://www.aldf.com/

Hantavirus Pulmonary Syndrome (California Department of Public Health) - https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/HantavirusPulmonarySyndrome.aspx


Giardiasis (California Department of Public Health) - https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Giardiasis.aspx

Tick Removal Video (NY Department of Health) - https://www.youtube.com/watch?v=z18GV9L1b9w

Zika Virus Updates (California Department of Public Health) - https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Zika.aspx

West Nile Virus Fact Sheet (California Department of Public Health) - http://www.westnile.ca.gov/

Other Vector-borne Diseases (California Department Public Health) - https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/VBDS.aspx

Wildlife


Common spiders of California (Essig Museum, UC Berkeley) - https://essig.berkeley.edu/identifications/spiders/

Pests that injure - http://ipm.ucanr.edu/PMG/menu.house.html#STING

Bear safety - https://www.fs.usda.gov/detail/sierra/home/?cid=stelprdb5324172

Mountain Lions in California (CDFW) - https://www.wildlife.ca.gov/Conservation/Mammals/Mountain-Lion

Rattlesnakes in California (CDFW) - https://www.wildlife.ca.gov/News/Snake
APPENDIX III: CAMPUS SUPPORT RESOURCES & POLICIES

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APPENDIX III: CAMPUS SUPPORT RESOURCES & POLICIES

A. UW POLICIES

Administrative Policy Statement 10.3 - https://www.washington.edu/admin/rules/policies/APS/10.03.html
Title IX-related Sexual Misconduct policies - https://www.washington.edu/titleix/policies/
UW international travel policies - https://www.washington.edu/globalaffairs/
UW Fleet Services insurance policies - https://facilities.uw.edu/catalog/vehicle-rental/policies#insurance

B. EH&S RESOURCES

Contact EH&S - https://www.ehs.washington.edu/
Accident Prevention Plan (APP) - https://www.ehs.washington.edu/workplace/accident-prevention-plan
Confined spaces - https://www.ehs.washington.edu/workplace/confined-space-entry-program
Electrical - https://www.ehs.washington.edu/fire-life/basic-electrical-safety
Job Hazard Analysis - https://www.ehs.washington.edu/workplace/job-hazard-analysis
Lithium Battery Safety - https://www.ehs.washington.edu/resource/lithium-battery-safety-732
MyTrainings system - https://www.ehs.washington.edu/training/my-training-records-and-course-registrations
Working at heights - https://www.ehs.washington.edu/workplace/fall-protection
C. UW SAFETY MANUALS


D. CAMPUS RESOURCES

- ICAPS Committee - https://www.ehs.washington.edu/about-ehs/committees
- Office for Youth Programs Development and Support - https://www.washington.edu/youth/
- Risk Services - https://risk.uw.edu/
- SafeCampus - https://www.washington.edu/safecampus/
- Title IX Know Your Rights and Resources Guide - https://www.washington.edu/titleix/resources/
- UW Fleet Services - https://facilities.uw.edu/catalog/vehicle-rental
- UW Global Operations Support - https://finance.uw.edu/globalsupport/
- UW Human Subjects Division - https://www.washington.edu/research/hsd/
- UW Office of Animal Welfare - https://oaw.uw.edu/
- UW Transportation Services - https://facilities.uw.edu/catalog/vehicle-rental
- UW Sexual Assault Resources - https://www.washington.edu/sexualassault/

E. STATE POLICIES

- Epinephrine auto-injectors - https://app.leg.wa.gov/RCW/default.aspx?cite=70.54.440
F. ADDITIONAL TRAINING AND INFORMATION RESOURCES


# G. CONTACT LIST

<table>
<thead>
<tr>
<th>Program / Department</th>
<th>E-mail Address</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boating Safety</td>
<td><a href="mailto:wlove@uw.edu">wlove@uw.edu</a></td>
<td>206-616-3776</td>
</tr>
<tr>
<td>Diving Safety</td>
<td><a href="mailto:wlove@uw.edu">wlove@uw.edu</a></td>
<td>206-616-3776</td>
</tr>
<tr>
<td>Environmental Health &amp; Safety Department</td>
<td><a href="mailto:ehsdept@uw.edu">ehsdept@uw.edu</a></td>
<td>206-543-7262</td>
</tr>
<tr>
<td>ICAPS</td>
<td><a href="mailto:labcheck@uw.edu">labcheck@uw.edu</a></td>
<td>206-685-3993</td>
</tr>
<tr>
<td>Laboratory Safety Program / Chemical Hygiene Officer</td>
<td><a href="mailto:labcheck@uw.edu">labcheck@uw.edu</a></td>
<td>206-685-3993</td>
</tr>
<tr>
<td>Occupational health nurse</td>
<td><a href="mailto:ohnurse@uw.edu">ohnurse@uw.edu</a></td>
<td>206-221-7770</td>
</tr>
<tr>
<td>Office of Animal Welfare</td>
<td><a href="mailto:oawrss@uw.edu">oawrss@uw.edu</a></td>
<td>206-685-7363</td>
</tr>
<tr>
<td>Office of Global Affairs</td>
<td><a href="mailto:travelemergency@uw.edu">travelemergency@uw.edu</a></td>
<td>Emergency: 206-632-0153 / Non-emergency: 206-616-7927</td>
</tr>
<tr>
<td>Office of the Title IX Coordinator</td>
<td><a href="mailto:titleix@uw.edu">titleix@uw.edu</a></td>
<td>2-06-221-7932</td>
</tr>
<tr>
<td>Risk Services</td>
<td><a href="mailto:bbullock@uw.edu">bbullock@uw.edu</a></td>
<td>206-543-2033</td>
</tr>
<tr>
<td>SafeCampus</td>
<td><a href="mailto:safecampus@uw.edu">safecampus@uw.edu</a> (monitored M-F 8am-5pm)</td>
<td>206.685.7233 (24 hrs / 7 days a week)</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Washington State Department of Labor &amp; Industries</th>
<th><a href="http://www.lni.wa.gov/safety-health">www.lni.wa.gov/safety-health</a></th>
<th>1-800-833-6388</th>
</tr>
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<tbody>
<tr>
<td>Washington State Department of Natural Resources</td>
<td><a href="http://www.dnr.wa.gov">www.dnr.wa.gov</a></td>
<td>360-902-1000</td>
</tr>
<tr>
<td>National Suicide Prevention Lifeline</td>
<td><a href="https://suicidepreventionlifeline.org/">https://suicidepreventionlifeline.org/</a></td>
<td>1.800.273.TALK (8255)</td>
</tr>
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</table>
APPENDIX IV - CHECKLISTS AND TEMPLATES

Important Safety Equipment To Bring In The Field ................................................................. 100
Important Safety Equipment To Bring In Your Vehicle .......................................................... 100
Important Forms/Documentation To Bring Along ................................................................. 101
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Field Safety Training Log ...................................................................................................... 112
APPENDIX IV - CHECKLISTS AND TEMPLATES

IMPORTANT SAFETY EQUIPMENT TO BRING IN THE FIELD

List required PPE, equipment and recommended clothing/gear in your Field Safety Plan. For remote, outdoor work don’t forget “outdoor essentials”:

- First aid kit
- Map, compass, GPS
- Charged cell phone, field radios, satellite phone/device or personal locator beacon; extra battery or charger
- Extra water and/or water purification methods
- Extra food/snacks
- Hats, sunscreen, sunglasses
- Emergency shelter, e.g. shade canopy or lightweight tarp, bivvy sack or emergency space blanket
- Appropriate footwear and clothing, layers
- Flashlight or headlamp
- Matches or fire starter
- Signal/mirror, whistle
- Knife or multi-tool; duct tape for basic repairs
- Your Field Safety Plan with emergency procedures, other protocols if applicable
- Other equipment specific to your class or project

IMPORTANT SAFETY EQUIPMENT TO BRING IN YOUR VEHICLE

Adapted from “Field Safety in Uncontrolled Environments”:

- Jumper cables, tire gauge, spare tire, jack, tow rope
- Printed map, directions
- Charged cell phone, charger
- Flashlight or headlamp
- Tools: pliers, screw driver, hex wrenches, shovel
- Useful supplies: duct tape, super glue, bungee cords, large plastic bag
- PPE: nitrile gloves, grip gloves, safety glasses, reflective vests
- Fire extinguisher, shovel, bucket of sand (for work in dry vegetation with any type of ignition source/spark)
- Space blanket, sleeping bag, and/or extra dry clothing (for cold or wet field sites)
- Extra first aid kit, water, snacks
IMPORTANT FORMS/DOCUMENTATION TO BRING ALONG

- Relevant permits (such as scientific collecting permits, animal use protocols)
- Participant medical forms, if applicable (consult with your campus medical director for guidance)
- Liability waivers, if applicable (consult with Risk Services)
- Copies of drivers’ licenses, driver authorization forms (if applicable)
- Copies of passports for all participants on international courses/trips
- Copies of medical prescriptions (if applicable)
- Include a participant list with emergency contacts as part of your Field Safety Plan, Dive Plan, or Float Plan
## FIELDWORK SAFETY PLAN – TEMPLATE #1

This form may be used by the principal investigator (PI), responsible party (RP), field instructor, or safety officer to develop a Safety Plan. **The completed Safety Plan must be shared with all the members of the fieldwork team and kept with your safety document records.** Multiple trips to the same location can be covered by a single Safety Plan. The Safety Plan must be revised whenever a significant change to the location or scope of field work occurs. Contact EH&S for recommendations or review of the Safety Plan.

### PI / RP / Safety Officer Contact Information:
- **Name:**
- **Department:**
- **Phone Number:**
- **Email Address:**

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

### Location of Field work:
- **Country:**
- **Geographical Site:**
- **Nearest City:**
  - *Name, distance from site*
- **Nearest Hospital:**
  - *Name, distance from site, phone number*

### Type of field work: Please include a brief description of the type of work to be performed.

### UW Contact:
- **Name and Phone Number:**

### Local (Field) Contact:
- **Name and Phone Number:**
**Communication Plan:** Describe planned communication, including frequency of contact with UW and local contacts.

---

**Emergency Procedures:** Please include detailed plans for field location, including evacuation plans and emergency communication. Emergency contact information must be included for each participant in the participant list of this document.

---

**First Aid Training:** Please list the names of participants who are trained in first aid and the type of training received.

---

**Physical Demands:** Please list any physical demands required for this field operation; e.g., diving, climbing, high altitude.

---

**Chemicals and Hazardous Materials:** Please list any chemicals and/or hazardous materials required for this field operation; e.g., preservatives, reagents, etc. Ensure proper containers and labeling are used, SDSs and spill kit(s) are available, and any applicable legal transportation requirements are met.

<table>
<thead>
<tr>
<th>Chemical / Material</th>
<th>Hazards (i.e., flammable, toxic)</th>
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**Risk Mitigation:** Please ensure a Risk Assessment has been completed prior to writing your Field Safety Plan, including noting all hazards expected to be encountered (see UW Field Operations Safety Manual for guidance). List appropriate measures put in place to mitigate risks involved in this operation.

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<thead>
<tr>
<th>Identified Risks</th>
<th>Controls</th>
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**Travel Immunizations:** Please list required immunizations/prophylaxis. Contact UW Employee Health Center for additional information (206)685-1026

**Field Team Membership:** Please list the names, title (e.g., undergraduate, staff), and emergency contact information for all members of the field team, and identify the Field Team Leader.

<table>
<thead>
<tr>
<th>Participant name</th>
<th>Title</th>
<th>Emergency Contact Name</th>
<th>Emergency Contact Phone number</th>
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<tbody>
<tr>
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**Responsible Party:**

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**Team Members:**

<p>| | |</p>
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### Training Certification:

By signing below the Principal Investigator (PI), responsible party (RP), field instructor, or safety officer verifies that he or she has shared the contents of this safety plan with all team members and that they are familiar with the risks, prevention measures, and emergency plans.

<table>
<thead>
<tr>
<th>Signature</th>
<th>Printed Name</th>
<th>Date</th>
</tr>
</thead>
</table>
## FIELDWORK SAFETY PLAN – TEMPLATE #2

<table>
<thead>
<tr>
<th>Field Site Location:</th>
<th>Descriptive name of research location (e.g. Carrizo Plain, CA; Tortuguero, Costa Rica)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Description:</td>
<td>Type, length, and purpose of activity (e.g. hiking 3-4 miles, collecting specimens, etc.)</td>
</tr>
<tr>
<td>Plan Created for:</td>
<td>Name of Research Group / Course / Trip Leader</td>
</tr>
<tr>
<td>Date(s) of Travel:</td>
<td>Start date, duration, expected return to campus</td>
</tr>
</tbody>
</table>

### Site Information

<table>
<thead>
<tr>
<th>Location</th>
<th>Latitude: <strong>XX.XX</strong> (from GPS/Map)</th>
<th>Longitude: <strong>XX.XX</strong> (from GPS/Map)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Information</td>
<td><strong>Elevation, terrain, environment.</strong></td>
<td></td>
</tr>
<tr>
<td>Travel to Site</td>
<td><strong>How will participants get to the field site? Note any dangerous roads, conditions.</strong></td>
<td></td>
</tr>
<tr>
<td>Site Access</td>
<td><strong>Are there any particular restrictions or challenges to accessing site? Note any alternate routes or suggested parking areas; gate access codes, etc. Make special note if isolated or remote.</strong></td>
<td></td>
</tr>
<tr>
<td>Environmental Hazards</td>
<td><strong>Describe any dangerous wildlife, insects, endemic diseases, poisonous plants, etc. that participants may encounter. Note intended mitigation measures; discuss prior to trip.</strong></td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td><strong>High risk for harassment or violence? Note intended mitigation measures; discuss prior to trip. For international travel, check the U.S. State Department travel site for current travel alerts</strong></td>
<td></td>
</tr>
<tr>
<td>No Go Criteria</td>
<td><strong>What are the conditions under which approach to - or activities at - the site should be stopped or canceled? e.g. heavy rains, electrical storms, snow, temperatures &gt; 100 degrees, within 2 hours of high tide, wave heights over 1 meter, etc.</strong></td>
<td></td>
</tr>
<tr>
<td>Expected Weather</td>
<td><strong>Note extreme conditions that could impact the trip or require additional planning, (e.g. high heat, wind, rain, snow, approaching storm).</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Drinking Water Availability
- ☐ Plumbed water available
- ☐ Water cooler with ice provided
- ☐ Bottled water provided
- ☐ Natural source and treatment methods (e.g. filtration, boiling, chemical disinfection):

### Access to Shade/Shelter
If forecast exceeds 80°, shade must be provided by natural or artificial means for rest breaks.
- ☐ Building structures
- ☐ Trees
- ☐ Temporary Canopy/Tarp
- ☐ Vehicle with A/C
- ☐ Other:

### High Heat Procedures
Required when temperatures are expected to exceed 95° F: If possible, limit strenuous tasks to morning or late afternoon hours. Rest breaks in shade must be provided at least 10 minutes every 2 hours (or more if needed). Effective means of communication, observation and monitoring for signs of heat illness are required at all times. Pre-work safety discussion required.
- ☐ Direct supervision
- ☐ Buddy system
- ☐ Reliable cell or radio contact
- ☐ Other:

### Emergency Services and Contact Information

#### Local Contact
- Name, address & phone #, may be a local colleague/institution, reserve manager, etc.
- Lodging location: name, address, phone #

#### University Contact
- Not on trip.
- Provide a copy of this plan.

#### Emergency Medical Services (EMS)
- Procedures for contacting emergency medical services.

#### Nearest Emergency Department (ED)
- Evacuation plan and transportation options to the nearest Emergency Department; include estimated transport time, contact information and driving directions from the site to the nearest provider of emergency medical care. Attach map with specific directions.

#### Cell Phone Coverage
- Primary Number:
  - Coverage: good, spotty, none
- Nearest location with coverage:
- Satellite phone/device
- Device carried? ☐ yes ☐ no
- Type/number:
**Nearby Facilities**  
*What facilities are available at or near the site: restrooms, water, gas, public phone, store? If not, where are the nearest services along the route?*

**Side Trips**  
*Are side trips planned or allowed during free time? Before or after the planned activities? Are there restrictions, specific rules, or expected code of conduct?*

## Participant Information

### Field Team/Participants
- Is anyone working alone? □ Yes □ No  
  - If yes, develop a communications plan with strict check-in procedures; if cell coverage is unreliable, carry a satellite communication device or personal locator beacon.  
  - Primary Field Team Leader: *Name, phone number*  
  - Secondary Field Team Leader: *Name, phone number*  
- □ Field Team/Participant list is attached as training documentation  
- □ Other attachment: e.g. course roster

### Physical Demands
- List any physical demands required for this trip and training/certification provided. e.g. diving, swimming, hiking, climbing, high altitudes, respirators, heights, confined or restricted spaces, etc. (consult with EH&S regarding appropriate training & documentation).

### Mental Demands
- List any unique mental demands required for this trip, e.g. long travel days, high stress environments, different cultural norms, etc.

### First Aid Training & Supplies
- Requires at least one trained person (with current certification) for work at remote sites. CPR also recommended.  
  - List team members trained in first aid and the type of training received.  
  - Location and description of group medical/first aid kit: *Who is carrying it, where is it stored. Brief description of contents.*

### Immunizations or Medical Evaluation
- List required immunizations/prophylaxis or required medical evaluation, if applicable.

### Equipment and Activities – Consult with EH&S for specific training and requirements.

#### Research Activities
- Briefly describe the goal of your field operations, e.g. collection of samples, observation of animals/environment, interviews with human subjects, etc....

#### Field Transportation
- What vehicles will be used during field operations? e.g. chartered boat, paddle craft, car, ATV, truck with trailer, snowmobile, chartered plane or helicopter, etc.
### Research Tools

Briefly describe tools or equipment that will be used to access the research site or during research activities. Indicate specific training required before use, e.g. sharps (knives, razors, needles), hand tools, chainsaws, power tools, heavy machinery, tractors, specialty equipment, firearms; lasers, portable welding/soldering devices; other hazardous equipment or tools.

### Chemicals and Hazardous Materials

Identify and describe use of chemicals and hazardous materials that will be used during research activities. Indicate specific training required before use and hazards, e.g. flammables, corrosives, procedures, etc.

Ensure proper containers and labeling are used, and spill kit(s) are available.  
Attach any required documentation for transport, all associated SOPs and SDSs.

### Other Research Hazards

Describe other potential research-associated hazards e.g. handling or shipping hazardous materials (chemical, biological, radiation, and explosives), handling animals, climbing or working at heights, rigging; shoring/trenching, digging/entering excavations, caves, other confined spaces; drone use.

### Personal Protective Equipment

**Required**—e.g. boots, safety glasses, PFDs, hardhats, etc.

**Recommended**—e.g. walking sticks, gloves, long pants, hats, insect repellant, sunscreen

### Additional Considerations

#### Insurance

#### International Activities

Check with the [UW Office of Global Affairs](https://globalaffairs.washington.edu) regarding required approvals. Visas, permits, finances, import/export controls, transportation of specialized equipment, and data security must be considered. Contact [Global Operations Support](https://globaloperations.washington.edu) for guidance.

#### Personal Safety & Security

Personal safety risks during free time should be considered and discussed in advance, e.g., alcohol or drug use, leaving the group, situational awareness, sexual harassment, or local crime/security concerns. Review expectations and set the tone for a safe, successful trip.

**High Risk Travel:** Check the [U.S. State Department](https://travel.state.gov) travel site for current travel alerts.
### First Aid Reference – Signs & Symptoms of Illness (examples for heat illnesses included)

<table>
<thead>
<tr>
<th>Signs &amp; Symptoms</th>
<th>Treatment</th>
<th>Response Action:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HEAT EXHAUSTION</strong></td>
<td>1. Stop all exertion. 2. Move to a cool shaded place. 3. Hydrate with cool water.</td>
<td>Heat exhaustion is the most common type of heat illness. Initiate treatment. If no improvement, call 911 and seek medical help. Do not return to work in the sun. Heat exhaustion can progress to heat stroke.</td>
</tr>
<tr>
<td>- Dizziness, headache  - Rapid heart rate  - Pale, cool, clammy or flushed skin  - Nausea and/or vomiting  - Fatigue, thirst, muscle cramps</td>
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<tr>
<td><strong>HEAT STROKE</strong></td>
<td>1. Move (gently) to a cooler spot in shade. 2. Loosen clothing and spray clothes and exposed skin with water and fan. 3. Cool by placing ice or cold packs along neck, chest, armpits and groin (Do not place ice directly on skin)</td>
<td>Call 911 or seek medical help immediately. Heat stroke is a life threatening medical emergency. A victim can die within minutes if not properly treated. Efforts to reduce body temperature must begin immediately!</td>
</tr>
<tr>
<td>- Disoriented, irritable, combative, unconscious  - Hallucinations, seizures, poor balance  - Rapid heart rate  - Hot, dry and red skin  - Fever, body temperature above 104°F</td>
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</tbody>
</table>
Include any additional resources: route/location maps, photos of general terrain and areas requiring extra caution, etc.

**Signature of PI/Supervisor:**

I acknowledge this safety plan has been prepared for field work under my supervision.

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
<th>Phone Number</th>
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</table>

**Field Team/Participant Roster - Training Documentation**

I verify that I have read this Field Safety Plan, understand its contents, and agree to comply with its requirements.

<table>
<thead>
<tr>
<th>Name/Phone Number</th>
<th>Signature</th>
<th>Date</th>
<th>Emergency Contact/Phone Number</th>
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</thead>
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</table>
Example Safety Training Log for Field Operation Groups

<table>
<thead>
<tr>
<th>Date</th>
<th>Trainer</th>
<th>Trainees</th>
<th>Description of Safety Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex. 1/21/2020</td>
<td>Roberta Rosen</td>
<td>Tim Hansen, John Peil</td>
<td>Protective glove selection, use, disposal when handling solvents</td>
</tr>
<tr>
<td>Ex. 2/12/2020</td>
<td>Dr. Albert Jones</td>
<td>Jerry Marshall, Roberta Rosen, April Shen</td>
<td>Power drill usage, including PPE and handling requirements</td>
</tr>
</tbody>
</table>

Documentation includes formal and informal safety discussions, including meetings when the agenda includes any safety discussions. Attach training outline and other reference materials useful for training new personnel.
ACKNOWLEDGMENTS

Information in this manual was adapted from materials published by the University of California Field Research Safety Center of Excellence, the University of Vermont Department of Risk Management and Safety, and Duke University Occupational and Environmental Safety Office.