

WORKING TOGETHER FOR A
SAFE AND HEALTHY U

UW FIELD OPERATIONS SAFETY MANUAL

Alex Hagen

Laboratory Safety Operations Specialist, EH&S
fischera@uw.edu

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ENVIRONMENTAL HEALTH & SAFETY
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UW FIELD OPERATIONS SAFETY MANUAL

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Environmental Health and Safety Department
University of Washington
Box 354400 Seattle, WA 98195-4400
Phone: 206.543.7262 Fax: 206.543.3351
www.ehs.washington.edu



DEVELOPMENT OF THE MANUAL

EH&S writing team:

- Alex Hagen
- Will Love
- Lila Transue
- Eleanor Wade

May, 2020 - Began work

July - Sent out for review to internal stakeholders

August – Sent out for review to first group of external stakeholders

October – Sent out for review to second group of external stakeholders

November – Finalization of manual draft for publication

February, 2021 – Approved for publication by ICAPS committee

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GOALS

- **Support the health and safety of personnel conducting field research and activities, and help prevent injuries and illnesses**
- **Create a UW Field Safety Manual that establishes high level requirements for a field safety program and encompasses the full spectrum of fieldwork done by our University**
- **Use documents already published and vetted by schools with strong field safety programs (UC Field Operations Safety Center, University of Vermont, Duke University) as templates to create a UW manual that includes templates and checklists**
- **This manual will complement information in the Lab Safety Manual, Boating and Diving Safety Manual, and Biosafety Manual without being redundant**
- **Colleges, schools, and departments can add components to the document that are more specific to their fields of research and needs**

FIELD OPERATIONS MANUAL CONTENT

- **SECTION 1:** ROLES AND RESPONSIBILITIES
- **SECTION 2:** PLANNING AND PREPARATION
- **SECTION 3:** HAZARD IDENTIFICATION AND RISK MITIGATION
- **SECTION 4:** TRAINING
- **SECTION 5:** ENVIRONMENTAL PROTECTION
- **SECTION 6:** EMERGENCY RESPONSE
- **APPENDIX I-** BEST PRACTICES FOR TRIP LEADERS & INSTRUCTORS
- **APPENDIX II** – ONLINE RESOURCES
- **APPENDIX III** – CAMPUS SUPPORT RESOURCES & POLICIES
- **APPENDIX IV** - CHECKLISTS AND TEMPLATES

ROLES & RESPONSIBILITIES

ICAPS Committee

Institutional Chemical and Physical Safety Committee

The [Institutional Chemical and Physical Safety Committee](#) has specific oversight responsibilities for chemical and physical hazards in all research and teaching activities conducted in University owned and operated laboratories, and in field research.

PLANNING & PREPARATION- RISK ASSESSMENT

FIELD WORK RISK ASSESSMENT TOOL (FIELD R.A.T.) GUIDELINES

WHAT IS A RISK ASSESSMENT TOOL?

Prevention of workplace and field research injuries and incidents begins with identifying hazards. 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 experiment, 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.

WHAT IS A HAZARD?

A hazard is the potential for harm. In practical terms, a hazard often is associated with a material, condition, or activity that, if left uncontrolled, can result in an injury, illness, environmental release, property damage, and/or an interruption in work.

WHAT IS RISK?

A risk is the probability or likelihood that that a hazard will cause harm. In practical terms, risk is the product of the likelihood of a hazard causing harm and the severity of that harm.

WHEN DO YOU USE THIS TOOL?

Use a risk assessment when you are developing a new field project, experiment, or procedure. In **Phase 1** of your assessment you will identify the question you are trying to answer, the approach you want to use, and the general hazards associated with the field environment as well as the materials, chemicals, equipment, and processes you intend to use.

A risk assessment focuses on hazard identification at each step or task level of the experiment. When conducting an assessment, always consider the full range of safety, health, and environmental hazards, including but not limited to field conditions, machine safety, high noise levels, as well as chemical and biological exposures.

For **Phase 2** of your assessment:

- outline each step/task of your field project and/or experiment;
- talk with your PI and peers about routine and infrequent tasks, near misses, and safety concerns;
- **learn** more about the hazards of the environment as well as all materials and chemicals involved in the experiment/project.

FIELD WORK RISK ASSESSMENT TOOL (Field R.A.T.)

The Field Work Risk Assessment Tool (Field RAT) provides a framework for risk assessment complementing the process researchers already use to answer scientific questions in the field.

This tool provides a format for researchers to systematically identify, evaluate, and control hazards to reduce risk of injuries and incidents. Conduct a risk assessment prior to conducting field work and associated experiments for the first time and review the [Field Work R.A.T. Guidelines](#) document for further details.

The risk assessment process involves rating the risk of the field experiment from "low" to "unacceptable" risk. Consult with your PI/supervisor and EH&S if your risk rating is "high" or "unacceptable" to redesign the experiment and/or implement additional controls to reduce risk.



Field Project / Activity:	
Site / Location:	
PI / Lab Group:	
Supervisor:	
Department:	Start Date:
Form Completed By:	On (Date):

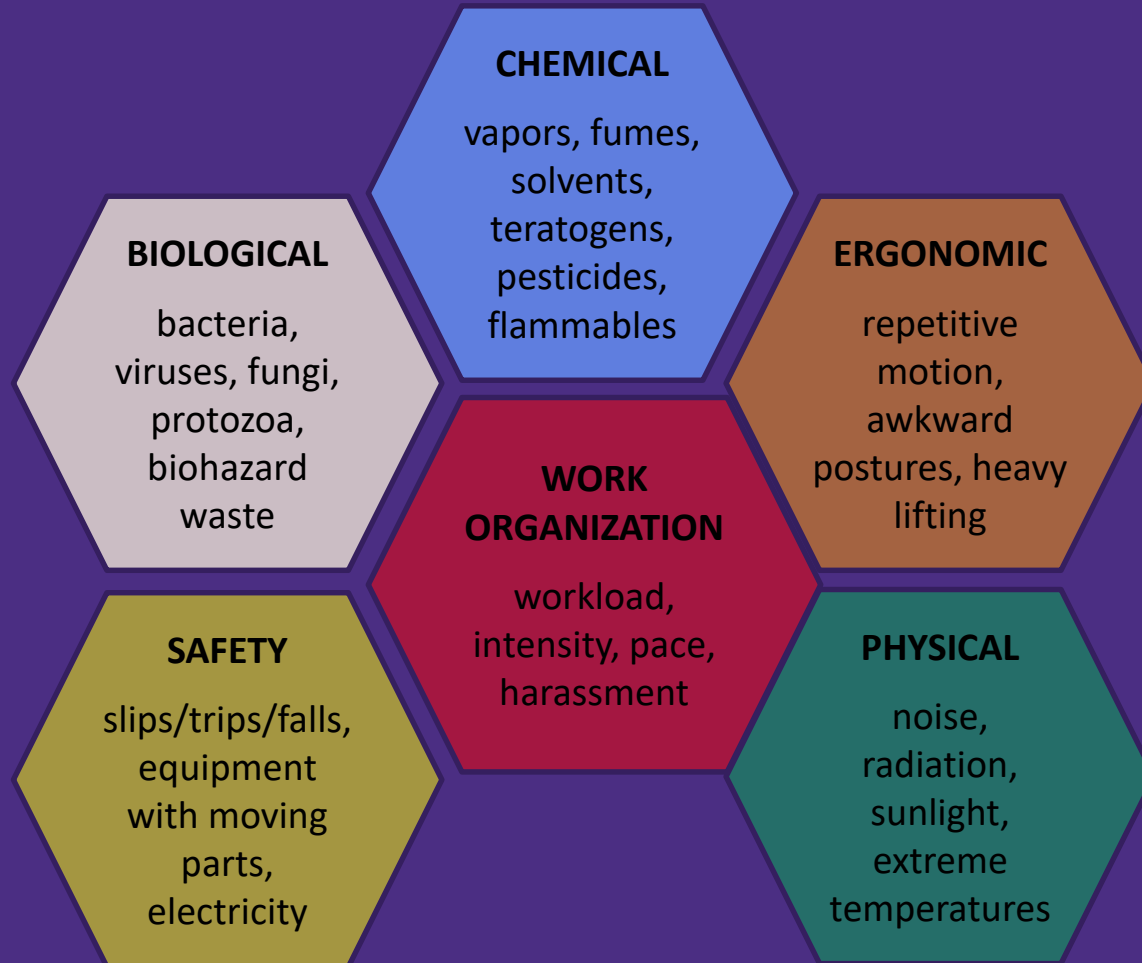
PHASE 1: EXPLORE

Identify your research question and approach. What question are you trying to answer? Where will you conduct your research? What are you trying to measure or learn? What is your hypothesis? What approach or method will you use to answer your question? Are there alternative approaches?

Research Question(s)

HAZARD IDENTIFICATION

TYPES OF HAZARDS



Preventing Harassment in Fieldwork Situations

Report from the University of Washington's
Respect and Equality in Fieldwork (REIF)
2017 Committee


Rebecca Woodgate, Ben Fitzhugh, Stephanie Harrington, Trina Litchendorf, Hope St John, Roger Buick,
Carolyn Friedman, Daniel Brencic, Baishakhi Basu, Rachel Lazzar, and Eric Boget.

January 2018

The committee consulted broadly with departmental groups, individuals involved in field research expeditions, and staff/administrators supporting fieldwork to gather ideas for appropriate solutions. This report, the results of that effort, proposes four main areas of action to establish UW as a proactive leader in this endeavor. The four areas are:

- ✦ **fieldwork-oriented training** focused on acquiring knowledge and interpersonal skills to prevent harassment and de-escalate situations in isolated environments;
- ✦ **department-level community and team building** to share experiences, resources, and cultural knowledge; to establish common guidelines and standards for field-going appropriate to the discipline; and to establish formal and informal mentoring schemes;
- ✦ **raising the common standard of trip-specific planning** both before and during fieldwork, including physical resources for emergency medical kits and communication assets; and
- ✦ **clarity on UW trainings and support resources available**, how they are applied to the complex national, international, and multi-institutional nature of fieldwork, and, importantly, **clarity on the process of and outcomes from reporting harassment** in the UW environment.

RISK MITIGATION - FIELD WORK SAFETY PLAN

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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 fieldwork 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 Fieldwork:

Country: _____

Geographical Site: _____


Nearest City: _____
Name, distance from site

Nearest Hospital: _____
Name, distance from site, phone number

Type of fieldwork: 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: _____

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FIELDWORK SAFETY PLAN – TEMPLATE #2

Field Site Location:	<i>Descriptive name of research location (e.g. Carrizo Plain, CA; Tortuguero, Costa Rica)</i>		
Activity Description:	<i>Type, length, and purpose of activity (e.g. hiking 3-4 miles, collecting specimens, etc.)</i>		
Plan Created for:	<i>Name of Research Group / Course / Trip Leader</i>	Date of revision:	<i>Mo-Day-Yr</i>
Date(s) of Travel:	<i>Start date, duration, expected return to campus</i>		
Site Information			
Location	Latitude: XX.XX (from GPS/Map)	Longitude: XX.XX (from GPS/Map)	
Site Information	<i>Elevation, terrain, environment.</i>		
Travel to Site	<i>How will participants get to the field site? Note any dangerous roads, conditions.</i>		
Site Access	<i>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.</i>		
Environmental Hazards	<i>Describe any dangerous wildlife, insects, endemic diseases, poisonous plants, etc. that participants may encounter. Note intended mitigation measures; discuss prior to trip.</i>		
Security	<i>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</i>		
No Go Criteria	<i>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 > 100 degrees, within 2 hours of high tide, wave heights over 1 meter, etc.</i>		
Expected Weather	<i>Note extreme conditions that could impact the trip or require additional planning, (e.g. high heat, wind, rain, snow, approaching storm).</i>		

TRAINING

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Find your course

Alert: New Safety Smart Online content is available. Please enable pop-ups and install the latest version of Adobe Flash for proper viewing. At this time, certificates for these courses can only be viewed through MyTraining, the day following course completion.

MODE

Online (37)
Classroom (27)

TYPE

Laboratory Safety (31)
Physical, Electrical & Materials Handling (31)
General Health & Safety (29)
Hazardous Materials - Disposal and Shipping (21)

	Mode	Duration
Investigation Training	Classroom	1 hour
Wallboard Systems and Practices	Classroom	7.5 hours
Wallboard Systems and Practices Refresher	Classroom	2 hours

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TRAINING + CERTIFICATION: Individuals Organizations

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- BLS Certification
- CPR Certification
- First Aid Certification

Red Cross Training in Washington

Find a Class

SELECT A CLASS TYPE


NULL, WA

TRAINING – DEPARTMENT/GROUP-SPECIFIC SAFETY PRACTICES

- Department's accident prevention plan
- Policies specific to the group or department should include information such as what types of work can be conducted alone
- Approval of field safety plans is done by PI/RP and their department

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WORKING ALONE SAFELY



Working alone applies to work or study occurring when **no other person is in direct line of sight or within hearing range** of the person working. A person may work alone in a lab, office, shop or other University location, or in the field. Working alone can take place during normal working hours, as well as on evenings and weekends. While it is not always unsafe to work alone, pre-task planning to identify and assess the risks and safety measures needed for a task is an important element of accident prevention. Consider personal safety and reduced building occupancy when planning to work alone.

WHEN IS IT SAFE TO WORK ALONE?

Review the practices and conditions of any work being conducted alone, especially if this type of work has not previously been done alone, and determine whether it can be conducted safely.

STEP ONE: Identify the risks of working alone.
Questions to ask include:

1. Is it appropriate and approved for these tasks to be conducted by one person?
2. Can the necessary equipment/materials be handled or lifted by one person?
3. What specific physical hazards are involved in the work (e.g., working at a height or with electricity)?
4. Will any hazardous chemicals or materials be used?
5. How will individuals seek assistance or first aid in the event of an emergency?
6. Is there a possibility of personal safety issues?
7. Is the individual permitted to conduct unsupervised work? Note that undergraduate work usually requires supervision.
8. Are there hazards that exist outside of normal business hours that are not a factor during normal business hours?
9. Are there any underlying health conditions that might preclude an individual from working alone?

STEP TWO: Assess the risks.
Anyone planning to work with potentially hazardous materials or in conditions that may result in

immediate injury or serious harm should perform a **risk assessment** with their supervisor prior to conducting the work alone. The risks of working with hazardous materials and equipment are heightened when working alone because help may not readily be available in case of an incident. Processes that have potential to result in a life threatening injury or unconsciousness are of particular concern, such as operating a saw or working with corrosive chemicals.

STEP THREE: Implement controls to reduce risk, or do not perform the work alone.
In addition to controlling hazards from equipment, substances, or work processes, some form of remote supervision, check-in procedures, or direct connection to emergency services are additional risk controls.

Determine if the risk of working alone can be controlled or mitigated. Check for possible health accommodations. If the supervisor determines that the risk cannot be minimized to an acceptable level, then the individual should perform the work only when others are present or a suitable alarm device is available that will summon help immediately if needed. Options include:

- A device that sounds an immediate alert to a central, continuously available group or service (e.g., UW Police, UW Facilities) and can be worn by a person working alone.
- The use of a cell phone as an emergency contact device may also be adequate in certain situations.
- A personal locator beacon that can be used when performing work outside of cell service.

The adequacy of a device worn by the individual needs to be addressed on a case-by-case basis.

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ENVIRONMENTAL PROTECTION - WASTE PRACTICES



EMERGENCY PROCEDURES – SAFETY PLANS

Include communication and response practices for:

- Injury, illness, or exposure to something hazardous
- Someone almost gets hurt (near miss)
- Something doesn't look safe

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Questions?

Contact us at:

Lab Safety - labcheck@uw.edu

Alex Hagen - fischera@uw.edu



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