

Right to Know Document

Hedrick Lab

Introduction:

The Hedrick Lab performs research both in the field and in the laboratory. This document seeks to clarify expectations in all spaces where the Hedrick Lab operates and ensure that those spaces are safe, enjoyable, and productive for all members. While this document covers field and lab safety, it is primarily focused on field safety given that that is where the Hedrick Lab spends the majority of its time.

Note that this document does not contain all possible risks or situations that may be encountered by lab members. Further, it is a living document. If a lab member at any point would like clarification related to a specific situation included in the document, they should let PI Hedrick know so that it can be incorporated. Finally, this is not a legal document though it takes the term 'right to know' from legal documents. This just serves as a template to outline safety and other expectations that lab members may encounter.

General Lab and Field Safety

Safety is the number one priority in the lab and in the field. However, what is safe for one person may not be safe for another. People have differences in experience levels, and this can lead to one person believing a situation is safe while another does not. Ensuring that the lab culture fosters open communication is critical for members in the lab to feel that they are safe to express themselves. Further, it is incumbent on lab leaders to ensure that they inform all members of potential risks before going in the field, especially to new members who may be unfamiliar with lab/field safety. This will reduce the risk that students will be in danger, increase clarity of expectations, and promote a more positive research experience for all members.

This document has two primary purposes:

- (1) Inform all members of both potential risks as well as mitigation strategies for situations they may encounter in the field or in the lab
- (2) Provide guidance on how to best communicate with all lab members and ensure that everyone feels safe and is heard

The document has been split into five sections:

- Risks and Mitigation Strategies
- Field Equipment
- Building Safer Spaces
- Travel
- Red-backed Salamander Field Protocol

RISKS AND MITIGATION STRATEGIES

This document outlines risks that may occur in (1) the lab and (2) the field. Risks are paired with mitigation strategies.

General Risks for Labwork

Members should not interact with any piece of lab equipment unless trained by Hedrick or a deputized member with experience using that piece of equipment.

NAS, Networked Attached Storage System: While not a risk to members, no files should be deleted from the NAS. Only PI Hedrick has the authority to do this. If a file is accidentally deleted, inform PI Hedrick immediately.

3D Printer: While generally safe, the 3D printer uses resin and isopropyl alcohol. The printer is located in the fume hood and should not be moved. Gloves should be worn when working with the printer at all times.

Mitigation Strategy: If you get resin on your skin, wash it immediately with soap. If you get resin on the lab counter, a small bottle of isopropyl alcohol is located in the fume hood. This can be used to break down the resin and cleaned with paper towels. If any chemicals get in your eyes, use the eye wash located at the center of the lab.

Iodine Staining: The Hedrick Lab uses iodine staining of specimens to visualize soft tissue structures using CT scanning. This involves mixing Lugol's iodine with DI water to dilute the Lugol's iodine concentration. Gloves should be worn when working with chemicals at all times.

Mitigation Strategy: If any chemicals get in your eyes, use the eye wash located at the center of the lab.

General Risks for Fieldwork

The Hedrick Lab primarily carries out fieldwork in the Ithaca area. However, this is done in all weather, all year long. *For all fieldwork, a field supervisor is chosen based on experience. This may be PI Hedrick or another deputized lab member.*

Weather: As fieldwork is conducted at all times of year, members should be prepared for all weather possibilities. This includes snow in winter, heat in summer, and the potential (and often eventuality) of rain.

Mitigation Strategy: Members should dress accordingly. Fieldwork will sometimes be canceled due to rain, but some types of fieldwork (spotted salamander sampling) must be done in rain. Weather expectations will be communicated prior to going out, typically the day before the fieldwork via the lab slack.

Road Safety: Some sites are located near roads or on roads (e.g., drift fences next to roads). This danger is exacerbated by the fact that fieldwork sometimes happens at night.

Mitigation Strategy: The field supervisor will ensure all members have proper equipment (road vests, flashlights). Members are responsible for communicating when a car is coming to other members regardless of whether they believe everyone sees the car. It is important to not put oneself in danger, even when aiming to save an animal on the road.

Sprained Ankles: None of the fieldwork done locally is on intense terrain. However, a missed step can lead to a sprained ankle anywhere.

Mitigation Strategy: Traveling with someone else will ensure that they can help you if you are not able to put weight on your ankle. Hedrick can also make splints in the field if

necessary. If a person is seriously injured, the buddy will go to a place where they can get cell service and call an ambulance.

Ticks and Other Animals: For Ithaca-based fieldwork, the most dangerous non-human animals are ticks. There are multiple species of tick in the Northeast and all can carry lyme disease. Snakes, scorpions, and other animals may be encountered in fieldwork in Belize.

Mitigation Strategy: In Ithaca, all members are encouraged to wear long pants and tuck their pants into their socks to reduce the chances of a tick bite. All members are also expected to check themselves for ticks after getting back home. For fieldwork with other animal hazards, Hedrick will give a detailed presentation on the risks and how to best mitigate them.



Each row shows an adult female, adult male, nymph, and larva of a species.

Top row: American dog tick

Middle row: Blacklegged tick

Bottom Row: Lone star tick

Image from Cornell CALS

Human Interactions: Although the Ithaca area is generally safe, humans are one of the most dangerous animals we are likely to encounter. Many people on trails are interested in the work our lab is doing. Giving them an explanation of the work is a good opportunity for outreach. However, overbearing passersby can be a potential danger.

Mitigation Strategy: Fieldwork should not be performed alone and a buddy system is a good buffer to issues with people in the woods. Having cell phone service is also ideal when possible. Note that Ringwood and Polson field sites do not commonly have good phone service. If you sense you are in danger, leave immediately and drive to the nearest police station.

EQUIPMENT AND PACKING LIST FOR FIELDWORK

Individual Gear (If you do not have components on this list, contact PI Hedrick)

1. Long pants/ closed-toed shoes
2. Extra layers (for warmth and/or rain)
3. Water/ light snack
4. Lunch (if doing daytime survey)
5. Headlamp/flashlight – if you do not have one, one can be provided.
6. Sunscreen
7. Any medications (Epipens, insulin, etc.)

Team Gear (Ithaca Red-Back Salamandering)

1. VIE supplies (4 colors, hardening agent)
2. 29-gauge syringes
3. 3 black lights with batteries
4. 3 rulers
5. 3 headlamps
6. Zip lock bags
7. Cooler with ice packs
8. Sharpies
9. Laptop
10. Code sheets
11. Spray bottle
12. Wet wipes
13. First aid kit
14. Thermometers
15. Hook up for Tomst Units

Team Gear (Spotted Salamander Surveys)

TBA

Team Gear (Belize Bat Work)

TBA

Communication in the Field

- Contact person: A designated contact person who does not go into the field will be identified. If Hedrick is not in the field, Hedrick will fill this role. The field supervisor will have Hedrick's cell phone number. If Hedrick is in the field, this role is held by Samantha Cordero.
- Communication schedule – this refers to the timing of when contact person(s) and team members should expect to check in. This will be set by Hedrick prior to going into the field.
- Plan for evacuation and emergencies – this includes (but isn't limited to) how team members will respond in inclement weather, medical emergencies, car accidents, or dangerous run-ins with wildlife or people.

BUILDING SAFER SPACES

Cornell University Policy 6.4

Prohibited Bias, Discrimination, Harassment, and Sexual and Related Misconduct

<https://policy.cornell.edu/policy-library/prohibited-bias-discrimination-harassment-and-sexual-and-related-misconduct>

Cornell University is committed to providing a safe, inclusive, and respectful learning, living, and working environment for its students, faculty, and staff and does not discriminate on the basis of protected status, including sex, in the education programs and activities it operates. Admission and employment are included in the requirement not to discriminate in the education program or activity that Cornell University operates. To this end, through this policy, the university provides means to address bias, discrimination, harassment, and sexual and related misconduct.

Identities protected under this policy are those protected under federal, state, and local equal education and employment laws and regulations. These include race, ethnic or national origin, citizenship and immigration status, color, sex/gender, pregnancy or pregnancy-related conditions, age, creed, religion, actual or perceived disability (including persons associated with such a person), arrest and/or conviction record, military or veteran status, sexual orientation, gender expression and/or identity, an individual's genetic information, domestic violence victim status, familial status, marital status, and any other legally protected status.

All members of the Hedrick Lab are expected to follow University guidelines at all times, whether in the office, lab, or field. However, the field is commonly more relaxed and has perceived reduced accountability. As a result, it is especially important to be diligent in following these guidelines in the field in particular. Here, a series of steps are presented for dealing with conflict in all settings, but with a focus on field settings.

If any members feel that they are being harassed or discriminated against, they should contact Dr. Brandon Hedrick (bph54@cornell.edu) or the Office of Diversity and Inclusion (<https://diversity.cornell.edu/>).

Prevention: Although all conflict cannot be prevented, there are steps that can be taken to reduce its likelihood and promote a safer working environment.

- Hedrick will discuss expectations with all employees at the time that they are hired, including codes of conduct
- Hedrick will ensure all members read this Right To Know document
- Hedrick will meet with all members regularly (defined based on role and need) to check in that things are all going smoothly in the lab, that the member's needs are being met (professionally, but also personally when necessary, e.g., getting enough sleep, not overloaded by work and school)

During Conflict: When conflict happens, members should all consider:

- **Whether they are in immediate danger. If so, leave the situation immediately and call Cornell Police (607-255-1111)**
- Whether there are power dynamics that need to be addressed as part of the conflict
- Using de-escalation strategies
- If you are a bystander in a situation, speak up and clarify that a joke or comment was not appropriate.

Follow-up: Following a conflict, contact PI Hedrick to discuss the issue. Although conflicts may seem small, they can impact lab morale and the experience of all students involved in the conflict. Discussing issues with Hedrick will hopefully lead to a more positive solution for all members. Additionally we will discuss:

- What ways you could feel more supported in the future
- Discuss with all members how to prepare and deal with similar situations in the future
- Update the 'Right to Know' accordingly

TRAVEL (LAB BUSINESS AWAY FROM THE LAB)

Travel to conferences and to remote field sites will take members away from the Ithaca area. Hedrick may or may not accompany members.

Conferences:

- Hedrick and the attending member will make a plan prior to the conference outlining goals (who the member wants to network with, how to present their poster/talk, typical conference attire, etc).
- The member will ensure that their poster or talk is prepared one week prior to the conference.
- The member will work with Hedrick to get a hotel room booked. If the hotel room is not at the conference hotel, Hedrick and the member will make a plan on how the member will get from their hotel to the conference.

Remote Field Work:

- A field plan will be made before the member goes including a list of supplies, a specific risk assessment, a timeline, and a list of emergency contacts (both local and back in Ithaca).

RED-BACKED SALAMANDER FIELD PROTOCOL

We typically do salamander fieldwork every Friday (however the exact day may change due to rain). This is done on a rotating basis where we do every site every three weeks. We meet in East Hill Plaza at 8:30am and travel together to the first site of the day.

Upon arriving at the site:

- 1) Most members will gather zip-lock bags, spray water in them, and flip coverboards to look for salamanders. If a salamander is found, it will be caught in the zip-lock bag and the board number will be written on the bag. One member will take environmental data and download data from the TOMST temperature/humidity reader to the field laptop.
- 2) Salamander zip-locks will be kept on their boards. These will then be collected and counted so we know how many salamanders we have caught at the site.
- 3) All salamander information will be written on the zip-lock following the template in the field box.
- 4) Two people will be assigned to measuring SVL (snout-vent length) and total length. They will not consider the other person's measurement when they measure, but if

measurements are more than 2 mm different from one another, the salamander will be remeasured by both people.

- 5) One person will determine the sex of the salamander by candling. They will check for the presence of vas deferens, eggs, and cirri. If the salamander has no clear characteristics, it will be listed as 'F?'.
6) One person will black light each salamander to see if it has marks. If it does, they will write 'recap' and the salamander's code. If it is new, they will choose new codes using the code sheet.
7) One person will mix the visible implant elastomer (VIE) and mark the new salamanders according to the codes. This requires extensive extra training.
8) Once all salamanders have been done, one member will read out the salamander information from the zip-lock and another will type the information into the computer. If the salamander is a recap, previous captures will be checked to make sure measurements and sex information is reasonable. If it is not and tag movement is suspected, the salamander will be noted and potentially remarked.
9) Salamanders will then be returned to their board of capture. They will not be put under the board, but will be put next to it. If they do not immediately go under the board, they will be spritzed with the spray bottle and covered with a leaf.

Important considerations:

- Salamanders are extremely hardy, but the greatest risk to them is heat stress. Keep them out of direct sunlight and put them in the cooler when the ambient temperature is above 22°C.
- Some sites have LOTS of salamanders. If more than 35 salamanders are caught, stop sampling and process those 35 before catching more salamanders. This ensures that the salamanders are not in the zip-lock bags for too long.