APPENDIX A: RTK template

This template is for creating project-specific right-to-know documents and follows the best practice of increasing communication between field members. Taken from the legal concept, participants have a right to know the risks they encounter when participating in field work. The goals of this document are two-fold. The first is to inform technicians of expectations regarding field work risks and codes of conduct so that technicians can provide informed consent prior to starting work. The second goal of this document is to provide a communication tool to maintain communication between all field members. While it is everyone’s responsibility to maintain inclusive culture, supervisors can use this tool in setting expectations for the team. This template is broken into multiple sections. Each section links back to specific best practices (green) and has specific goals or content that should be included (yellow). There are also specific topics to facilitate critical thinking and reflection (blue). When the RTK is shared, removing the blue and yellow boxes is optional. However, leaving them will increase transparency and signals that the listed issues are considered. If the topics or contents of subsections should be revised, the boxes provide convenient reference points.

This template is meant to guide supervisors in building communication tools for their teams. However, to be a useful guide, supervisors need to also be cognizant of site or project specific risks. **Recognizing that issues are often site- or condition-specific will strengthen the quality of this communication tool**. Therefore, this template cannot be all-encompassing. New issues will arise, and as science becomes more diverse, supervisors will need to incorporate the needs and concerns of students with different backgrounds. Therefore, this document can only be as strong as supervisors’ willingness to think critically about their projects and listen to their students. Similarly, this document works from technician’s willingness to have open, honest conversations with their supervisors. It is therefore crucial that this resource be a living, working document, but also that everyone works towards building and maintaining open and safe lines for communication.

**RISKS AND MITIGATION STRATEGIES**

This section includes a list of perceived or actual risks associated with generally being in the field and at each specific site. **All risks should be paired with a mitigation strategy so that action items and/or expectations for a successful trip into the field are clear.** It is the responsibility of the technician to share concerns they have with the supervisor so that the document can be updated, and the most appropriate mitigation strategies can be implemented. It is the responsibility of the supervisor to communicate expectations and educate themselves on the local demographics, social climate, and differential risks relevant to all their sites.

**GENERAL RISKS FOR FIELDWORK:**

Communicating clear expectations allows students to make educated decisions about the job relative to their personal safety thresholds. With this information, technicians can give informed consent before participating in research. Field members should discuss current mitigation strategies to update strategies and better accommodate individual needs.

[RISK STATEMENT]

**Mitigation strategy:**

Supervisors should consider

* Physical abilities of technicians
* Medical needs of teammates
* Prior experience of technicians
* Racial/ethnic/religious backgrounds of students in relation to site locations

This section should include general **risks and mitigation strategies** relevant for all projects associated with the document.

Examples include:

* Climate/weather conditions, expectations for inclement weather conditions
* Expectations for duration and/or intensity of physical activity
* More broad environmental threats
* COVID concerns

[RISK STATEMENT]

**Mitigation strategy:**

**SITE SPECIFIC RISKS FOR FIELDWORK**

To be useful lab safety guide, supervisors need to also be cognizant of site or project specific risks. **Recognizing that issues are often site- or condition-specific will strengthen the quality of this communication tool**. This is a good space for past incident reporting. Incident reporting alerts technicians on what happened in the past and communicates plans for reducing the likelihood or severity of repeated incidents.

[RISK STATEMENT]

**Mitigation strategy:**

[RISK STATEMENT]

**Mitigation strategy:**

[RISK STATEMENT]

**Mitigation strategy:**

Supervisors should consider

* Demographics and political climate of the area
* Stereotypes of “what a scientist looks like” and local perceptions of outdoorsy people and/or scientists
* Who else has access to field sites
* Areas surrounding field sites and their historical context
* Logistics for transportation

This section should include brief site descriptions, site-specific risks and mitigation strategies, and any incident reporting

Examples include:

* Access to cell phone reception
* Particularly adverse environmental conditions + relevant protective equipment
* Disputes regarding property boundaries
* Confrontations with landowners or members of the general public

**EQUIPMENT AND PACKING LIST FOR FIELD WORK**

This section includes two separate lists: a packing list and an equipment list. The packing list includes items that students are responsible for bringing in the field. The equipment list contains items that will be provided to complete data collection. The packing list helps to set expectations and prepare students for the field. This is a good time for students to communicate issues related to accessing equipment. The equipment list and their locations also stem from traditional wet lab settings, where locations for materials, especially safety equipment, are clearly labeled.

Even within the outdoor community, there are ways in which we can still up-hold materialistic and elitist culture. Apart from instances when equipment from name-brand companies has safety ratings, there is usually little reason to buy name-brand equipment. However, name brand gear can also be used as a status symbol or “ticket” into the outdoor community culture (ex. Patagonia from Pickrel 2020). This “gear head culture” if left unchecked, can be leveraged to make early-stage technicians or members who lack access to name-brand equipment feel excluded from outdoor community.

**PACKING LIST FOR TECHNICIANS**

This sub-section should include any items that you expect teammates to bring with them into the field each day.

Supervisors should consider:

* Materials might pose as a financial barrier
* Materials that aren’t common or readily accessible
* Providing access to size-inclusive gear
* Ways to provide supplies and minimize “gear head” culture

Students should be prepared and be aware of expectations beforehand. Knowing what to bring is important for student comfort/safety.

[packing list here]

Pickrell, J. 2020. Scientists push against barriers to diversity in the field sciences. Science. American Association for the Advancement of Science (AAAS)

**EQUIPMENT PACKING LIST**

**[**Equipment list here]

Supervisors should consider:

* What materials are needed for each project?
* Where can supplies be stored so that they are easily accessible to everyone?
* What systems can be put in place to help everyone be self-sufficient?
* What supplies can be provided to support technicians?

This sub-section is designed to help supervisors and technicians know where supplies are located so that teams can stay organized, and everyone can feel prepared in the field. It is especially important that all field members can locate safety equipment.

Students should know where things go so that they can put them back themselves. Organized spaces lead to more cohesion, and technician access to equipment should not be limited by the supervisor’s ability to locate it for them. Building a culture where technicians can be independent contributes to feelings of self-efficacy, strengthens scientific identity, and in the case of safety equipment, reinforces a foundation of physical and mental well-being.

**BUILDING SAFER SPACES:**

This section includes two different pieces: one is a guide for de-escalating conflicts and mitigating issues related to team dynamics. The other is a communication protocol that helps supervisors and technicians integrate their RTK into the social climate and culture of their lab spaces.

It’s much easier to talk about “blanket physical safety risks” or risks that don’t discriminate based on identity. Discussions around mental health and group dynamics are more difficult because they elicit stronger emotions and there are less resources. However, lab safety plans that only have information on physical safety aren’t meeting the goals of this project.

**COMMUNICATION PLANS**

Building a culture where everyone feels valued is crucial for the advancement of our field. Clear routes for communication and ways to create and maintain safe spaces is vital to empowering experiences in the field. Careful considerations around threats caused by other people is essential to building a foundation of safety and mental well-being.

This sub-section is designed to help supervisors and technicians draft communication protocol for trips into the field.

Supervisors should consider:

* How timing and location of data collection affects communication plans
* Frequency of communication between team and contact person
* What to do in the event of an emergency or if regular check-ins are missed

**Communication protocols should have the following:**

* Contact person(s) – this is a person that does NOT go into the field. This person does not necessarily need to be affiliated with the research project, but he/she/they should have a clear understanding of the team’s communication plan.
* Communication method – this refers to the devices that are used to maintain communication between team members (in the event they split up) and their contact person. Cell phones can be the primary mode of communication but should **not** be the **only** method.
* Communication schedule – this refers to the timing of when contact person(s) and team members should expect to check in.
* 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.

[communication plan here]

**CONFLICT MITIGATION STRATEGIES**

Supervisors should consider:

* Power dynamics between team members and with people outside of the team (land owners, community members etc).
* Differential risk of individuals based on identities
* How to supplement and incorporate existing protocols to better support everyone

This sub-section is designed to help supervisors and technicians prepare for how to handle conflicts in the field

Building a culture where everyone feels valued is crucial for the advancement of our field. Clear routes for communication maintain safe spaces and is vital to empowering experiences in the field. Careful consideration around threats caused by other people is essential to building a foundation of safety and mental well-being.

Conflicts between people can arise for a myriad of reasons. The dynamics, and the outcomes, of interpersonal conflict can vary widely, and they pose differential risk based on individual identity.

**Anatomy of a conflict mitigation plan**



**Mitigation strategy (follow-ups)**

Are there any follow-up items that need to take place?

* Do you need to officially report what happened?
* Is there anyone else with whom you want to discuss the issue?

**Mitigation strategy (in the event of)**

The mitigation strategy depends on the context of the conflict. Things that you should be aware of:

* What (if any) power dynamics exist? How do backgrounds and identities affect this interaction?
* Are you in immediate danger? Is it safe to use de-escalation strategies?
* Assume competency and assume mutual interest.
* If the situation worsens or you continue to feel uncomfortable, use your exit strategy.

**Mitigation strategy (prevention):**

There is no way to stop all conflicts from occurring. However, there are certain things we can do to prevent conflicts from occurring.

* Set an annual meeting (or before each season) to review codes of conduct and expectations.
* Establish clear and safe routes for communication and feedback between all team members.
* Recognize potential triggers to conflict
	+ Lack of basic needs being met (sleep, food, privacy)
	+ Inability to be recognized or establish credibility
	+ Differences in background, attitudes, power statuses
	+ Failure to set clear expectations and communication routes

**Mitigation strategy (continued planning)**

* In what ways could you have felt more supported in the future? How can we prevent similar problems in the future?
* Review scenarios with team members so that they can prepare for similar incidences in the future.
* Update sections of RTK (including list of risks/mitigation strategies) as needed.

**Consider how you might handle the following circumstances**

For each scenario, consider the following:

Steps of mitigation strategy

* Is it safe to use de-escalation strategies?
* Does my exit strategy make sense for this scenario?

Details and follow-up questions that can impact your responses to the questions.

* Identities (including power dynamics) and how they might intersect
* Individual personalities

Examples 1-4 are taken from examples in Daniels & Lavallee’s 2014 paper.

﻿You are working at a field site in the mountains when the weather conditions dramatically deteriorate. It is raining, cold, windy and you can see lightning down the valley, but your crew lead wants to continue.

﻿Your field site is located on a small island that you access by boat and then hiking. While working on site, you stepped on a wasp’s nest and were stung. For the first time in your life, you are having a strong allergic reaction. You have only one field assistant and they do not know how to drive the boat or the truck.

﻿There are two ways to get to your field site (a) short and steep and (b) long and gentle. Everyone but one person is ok with the short, steep route…

﻿Departure time for field work is 8am, but the assistants are chronically late by 30 minutes because someone sleeps in, breakfast takes a long time, etc.

You split into teams, and your only crew lead is on the other team. He/She/They ask(s) you all to work together to get the tasks done for the day, but one of your team members is overbearing and difficult to work with. They talk constantly, watch every move you make, and correct you on things, even when your crew lead said your way was fine.

It’s your first day and you’re feeling overwhelmed. There are so many things to do and everyone else on the team has been in the field before. You were assigned a task, but it’s taking you longer than everyone else. Everyone is focused on their own jobs, but it becomes clear that you’re slowing everyone else down.

You are taking a lunch break with your crew and a man walks up to the group. You’ve seen him walking around the area a few times before but didn’t think anything of it until now. He starts talking with the group, but he his attention is especially directed at the only female in the group. He’s standing just a little too close and repeatedly tries to touch her shoulder, even though it’s clear that she’s uncomfortable.

Daniels, Lori D. & Suzie Lavallee . 2014. Better Safe than Sorry: Planning for Safe and Successful Fieldwork. Bulletin of the Ecological Society of America 95(3):264-273

**PROJECT DESCRIPTIONS**

This section includes descriptions and guides for technicians when they talk about the projects with others. This is especially important, as the link between data collection and data analysis is often very weak. This section should discuss project goals and how data collection contributes to larger research questions. This is also a good opportunity to feature past/current graduate students and external collaborators.

**CONNECTION TO RESEARCH**

External links to lab webpages, extension/outreach resources (i.e. videos) etc. here

[Project description]

[Photo of site/project]

Supervisors should consider:

* Not all students will be equally familiar with specific terminology
* The connection between data collection and the rest of the research process is often not evident

This section should include

Expected activities and relevant methodologies

How data collection relates to research questions

Related terminology

Examples include

* Objectives of the data collection
* Broad research questions
* Information on other collaborations

Project descriptions are helpful for connecting the field work back to the larger research objectives. This is important for helping students feel that their work is meaningful and strengthens their identity as scientists. Established connections with broader research provides meaning to student contribution and improves sense of self-efficacy.

**A TYPICAL DAY IN THE FIELD**

[Day in the field description here]

This section should include a schedule that incorporates the expectations from the risk mitigation section and the project descriptions. This is also a good space to inform students about significant landmarks or exciting encounters to look forward to.

Supervisors should consider:

* Even with outdoorsy people, collecting data is a new experience.
* Students want to feel like their contributions are meaningful.
* This is a valuable experience for students, and they should be excited!

This section is used mostly to help get technicians excited about going into the field. Equipping students with prior knowledge helps preparedness and informed consent

[Supplemental Materials here]

**NEXT STEPS FOR TECHNICIANS**

This section specifically addresses the regular use of jargon. Although jargon can often be exclusionary and inappropriate in certain settings, it can help establish credibility in others. Having a working “word bank” of regularly used terminology helps technicians that may be early in their careers or volunteers in unrelated fields. This is a useful reference tool for technicians as they integrate relevant terminology into their resumes and job interviews.

This section also includes guidance for students as they use their field experiences in resumes and interviews. Technicians regularly helping with fieldwork should be financially compensated. However, especially in volunteer situations, students’ main source of compensation is experience. Even so, there remains a scarcity of guidance for how students should leverage their new experience in hiring settings. The goal of this section is to provide students with example the context, language, and guidance for adding field experiences to resumes.

**JARGON BOX**

Supervisors should consider:

* Not all students will be equally familiar with specific terminology
* The roles that jargons have in building community and its potential to be exclusionary.

This section should include

Related terminology and definitions

Examples include

* Survey methodologies or related techniques
* Fundamental or theoretical concepts related to projects

Providing common working definitions for jargons helps to ensure that everyone is familiar with relevant terminology. Jargon boxes serve as a tool for technicians as they communicate with others within and outside of their teams. This is important for helping students feel that their work is meaningful and strengthens their identity as scientists.

Jargon 1 : definition

Jargon 2 : definition

Jargon 3 : definition

Jargon 4 : definition

**BUILDING A RESUME DESCRPTION**

This section should include

General tips for building resume lines

Specific details about the project that could be included

Examples for how to format

Examples include

* Action verbs and quantities
* Specific skills methods/gained
* Any leadership or independent roles

GENERAL TIPS FOR BUILDING A RESUME

THINGS TECHNICIANS SHOULD KEEP TRACK OF:

Supervisors should consider:

* Not all technicians will be equally familiar with how to talk about their field experience
* Not all technicians will have similar experience building resumes
* The importance of research and field experience for professional development

Providing guidance on how to talk about projects in professional settings helps technicians in seeing their work as meaningful and strengthens their identity as scientists. This section provides guidance for how to leverage field experience to maximize professional growth.

**Role**  **Start Date – End Date**

*Institution/Affiliation City,State*

* Line 1
* Line 2
* Line 3