# Action Questions

## Physical Safety

### Before the field season

what are 2-3 specific actions a successful field crew leader takes to promote physical safety?

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| * Collect information from all team members for allergies, meds, health insurance, pre-existing conditions. (+7) * Prepare/check/share a “need-to-bring” list for all members of team (+19)   + provide an “optional” and “required”   + discuss appropriate field clothing   + provide gear/funds for anyone who needs help acquiring gear * Safety training of some form (+10   + Mental health training / mental health first aid (+3)   + Wilderness first aid (+13)     - Designate a safety lead     - Give to entire team     - For all involved in remote work   + Basic first aid (+13)   + Harassment and bystander intervention   + CPR (+2)   + Specific to site risks (+2)     - discuss scenarios that may be encountered in the field     - Bear training (+1)     - Hazardous Waste Operations and Emergency Response (HAZWOPER)     - Firearm safety (+1)     - Avalanche training     - Electro fishing accident protocol   + Defensive driving   + Boat/vehicle operations   + Sexual assault training * Collect emergency contact information (+9) * Assemble a robust first aid kit (+13)   + Ensure each vehicle has one   + Ensure 1 at each working location * Safety protocol/plan (+25)   + Base on local/personal/collegial input   + Go over plan with crew / distribute written plan (+19)     - Get signatures on plan     - Customize safety plans for members   + Include written copy in each field vehicle   + location/hours/contact info for hospitals/ERs (+8)   + Know the location and phone numbers of the nearest tire shop, auto repair shop, gas station, grocery, and police station (+1)   + If new to a field site/region - meet with people with experience at that site/region and ask for 'SOP' for field safety.   + Include evacuation information   + notify relevant authorities/landowners about field schedule/presence. (+1)   + Emphasize that safety is more important than data, very regularly (e.g., multiple times during training, every time crew departs for the field). This empowers the crew to make safety-based decisions. * Hold field-specific orientation (+8)   + Create open dialog about expectations (+8)     - create a non-judgmental conversation space where less experienced crew can ask questions about field gear/field safety stuff without feeling judged. (+1)     - Address physical and mental challenges     - discussing what everyone is comfortable and able to do     - Ensure all crew members are aware of exactly kind of environment they're about to commit to and what the types of hazards are (if we're about to disappear off the grid for 3 weeks, you need to know that you can't call your family).     - make sure your crew understands what they're signing up for on a day-to-day basis.   + show maps, pictures, video etc prior to going to the field   + orientation with navigation, weather and terrain (+2)     - discuss area-specific risks ( animals, diseases, people)   + Discuss bathrooming with all team members.   + Equipment orientation (+5)     - Shakedown or practice trips with the truck and gps navigation, with each crew member 'in charge' * Emergency communication protocols. (+1)   + determine if your field sites have cell service, if not obtain an emergency beacon with gps tracking and emergency service subscription (+4)     - include with all crews/vehicles     - ensure that all crew members are capable and comfortable operating all equipment with a special focus on GPS or other spatial tools.   + establish communication norms and expectations (check in times, radio protocols, travel/movement plans) (+3) * Equipment purchase/maintenance (+12)   + Inspect large equipment such as boat motors and trailers (if you don't have the know-how, go to someone who does).   + thinking broadly to include cars, tires, equipment   + as early as possible   + Pack extra of all safety equipment   + Download/print maps   + Have proper PPE (+3)     - Whistles for each person     - Buy bear spray for each crew member * Make sure everyone is aware of both transportation |
| * determine appropriate housing. (+2)   + Communicate housing conditions to crew |
| * Reviewing "lessons learned" from other field leads from the year before   + talk with previous crew leaders who worked in same area * selecting responsible team members   + assess field crew members' safety knowledge and skills (+1)   + gauge crew’s comfort level (+2)     - with remote work     - with specific assigned role (+1)     - talk about boundaries and personal health - if you can only work a certain amount of hours a day, comfort with field conditions like uneven terrain or lightening |
| * + ensure folks hired for field crew are physically capable of common tasks     - warn crews of physical fitness requirements for fieldwork     - Exercise (especially strength training--rock climbing is great field prep; a lot of equipment is heavy and awkward and no amount of knowledge or expertise will help you if you throw your back out in the wilderness).   + Hire individuals with outdoor experience who enjoy being in remote areas. (+1) |
| * study the areas where field work will be conducted   + ensure field sites are safe to access   + Visit field sites ahead of time (+1)     - groundtruth site without the pressure of conducting any data collection (though possibly include a test/run through of field methods). |
| * + Identify and plan for hazards (+6     - study local weather conditions and local hazards (ex. diseases, venomous animals, etc.) (+1)     - Identify main roads, settlements, and 'trouble spots' for navigation, evacuation etc * Gets familiar with local flora and fauna, noting anything potentially dangerous |
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| * Let members know that they will be sent home if they engage in a pattern of unsafe behavior (I had a lead who had a 2-strike policy for life jackets, despite the enormous cost of sending people home early; this sets a dire tone and establishes expectations). |
| * work on how to communicate with all individuals. |
| * Leaders should familiarize themselves ahead of time with potential issues that may affect specific members of their crew (ex. women, LGBTQ+, BIPOC, disabled technicians) * clear and efficient work schedule for each day |
| * We have a six step program think, review, choose, right PPE, proper form, where abouts |
| * 1. Establish a culture of communication with the crew with regular check ins so the crew can bring up any potential issues they may have. |
| * Hire local consultant(s). |
| * Preps for teaching about field safety |
| * make a check list of safety items needed before leaving each day, |
| * Mention it repeatedly and build trust with field crew to promote their communication with you |
| Surveys group to gather anticipated concerns; make accomodations as possible to address those concerns; |
| * Creating an environment where it’s safe to voice concerns, research /safe routes/a way out in case of disaster/communication devices in order |
| * Specific to montane environments where driving is necessary, a successful field crew leader makes sure each crew member is: comfortable with/has a past record of mountain driving, and has basic knowledge of typical problems in the area (in my case, snakes, thunderstorms, etc). |

### **During the field season**

what are 2-3 specific actions a successful field crew leader takes to promote physical safety?

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| * Ensure proper training on safety/data collection/safety (+10   + Schedule time to teach crew how to use safety devices (e.g. personal locator beacon, satellite phone, bear spray) (+2   + Defensive driving/vehicle training (+1   + list any field hazards (insects, weather, crop, allergies) and equipment hazards (show them the protocols, are there chemicals/sharps/parts under pressure/etc. you'll be working with, let the staff be familiar with the equipment- let them play around with it/check it out). Show staff how to use the equipment, then watch them physically do the task while you are there to make sure they perform the task correctly and safety   + firearm safety refreshers   + Teaches technicians patiently how to walk in waders * Detailed introduction to likely threats on site * Address any incidents / address lesson learned (+3   + logging and keeping track of any injuries/incidents and updating guides/handbooks accordingly * Emergency contacts (+5   + Carry with you   + Exchange relevant medical history (e.g. allergies to insect stings, epi pen and where it's kept) |
| * Buddy system (+7   + Review ‘buddy list’ if some crew will be working out of sight * prioritize physical safety/well-being over data collection (+6   + say out loud regularly that safety is our primary concern, above anything else   + Make sure all crew members know that their safety is more important than the data, that everyone has an emergency number to call, and that they know that no one will be angry if they come back early.   + if a crew member looks exhausted/overheated/etc. taking a break or ending the day early to ensure that all crew members understand the expectation that their health is more important than data/science   + distinguish acceptable risk from unacceptable risk. * Model behavior (+9   + Be an example by taking breaks for hydrating, eating, wearing sunscreen, and resting if needed and adhering to safety protocols at all times   + Remember that as a leader, your words carry weight: do not joke about safety or harassment in front of your crew. Your actions speak even louder: respond to even small issues as though someone watching is deciding whether you can be trusted. * Daily check ins/debriefs (+29 |
| * + Monthly, weekly, and daily safety debriefs. Monthly to review big picture, weekly to go over activities for week and expected risks, daily to review specific site safety issues.   + adjusting expectations with changed conditions   + stretching during the safety meeting (each person leading a stretch while giving their safety concern) (+1   + gentle correction of unsafe actions with clear explanations of what was wrong (+1)     - correct/redirect promptly   + talk about specific safety concerns as they are appropriate (e.g. a barbed-wire fence safety review if you know you'll be in an area with a lot of barbed-wire fences for the next few days) (+1 * Ensure sufficient rest/breaks (+13   + Check in on the basics- make sure everyone is doing what they need to do to take care of themselves (i.e. getting enough water, or sleeping okay); Pause and take time for rest, especially in less than ideal conditions; and this last one goes along with the previous point- if conditions aren't ideal or it's already been an especially hard/long day, check in with the crew and call it for the day if needed.   + set working hours that do not involve extensive work in the heat of the day   + time off during long field work (e.g. more than one week)   + Making sure the field crew has time to eat meals so that their energy is not drained by the end of the day, and given them notice if/when they should bring food.   + encourage a culture of hydration and self-care rather than pushing beyond personal limits * Ensure that everyone has appropriate gear including food/water (+11   + Making supplies readily available when in the field (e.g. gloves, float coats, etc.) to keep the field crew safe/warm/healthy, Sending an email with details that outlines strategies to stay safe/warm/healthy. Making sure there are supplies available that fit the body sizes of the field crew (e.g. gloves/coats/boots not too large) - can be a gender issue where men don't consider that women need smaller sizes or smaller size field gear may not be readily available to buy. These strategies help avoid tripping hazards, chemical spills from badly fitting gloves, helping field crew feel confident.   + Have a daily checklist to make sure everyone has all proper personal and team gear, food, water, communication device. (+2   + Make sure people charge their equipment at night.   + bringing extra food/water, generally bringing more supplies than you think you need (+1   + Take into account current and future weather/field conditions to promote careful planning for food, water, PPE etc. * Make decisions based on the least comfortable person on the crew (+4   + i.e. go back to the truck when a storm is coming in when the person who is most wary about lightening says let's go   + avoid traveling in areas/ways beyond limits of “weakest” crew member |
| * Regular equipment maintenance/checks (+3   + ensuring spare tires, fire extinguishers, first aid, etc. are in place.   + Instruct crew on how-to * Safety/communication plan (+26   + discusses a safety plan for our remote living situation (e.g., locking the gate every night, setting mouse traps, dealing with hantavirus risks)   + Hold a safety talk with field crew participants to explain common dangers and the resources and protocols in place to respond to those dangers   + communicating all safety plans with crew in case something happens to lead   + Regularly revisit during field season (+5     - Revise if necessary (+2   + have a written safety plan in field packs/vehicles that includes directions to nearest healthcare and emergency phone numbers (+2   + designate safety lead   + Check in / check out protocols (+4     - Make sure multiple parties are aware of itinerary.     - creating and adhering to a detailed field plan that includes check in times with contacts and overdue times when the emergency contact should start to try to reach out to the group in the field.     - Rehash and remind about chain of communication for work location reporting.   + Emergency communication plan (+1     - carry gps with SOS function   + Ensure crew members can communicate with each other when working apart. * keeping the first aid kit stocked with fresh and appropriate medical supplies. (+9 |
| * Monitor weather (+8   + checks weather conditions and other relevant environmental conditions/hazards (i.e., hunting season) regularly |
| * Monitor crew (+11   + Checking on well being of individuals (heat stroke, frostbite).   + taking time to monitor others working rather than focusing on your own work   + Regular check-ins with all field team members re: physical condition, keeping days to a reasonable length (especially if driving significant distances or in difficult conditions   + Know where people are / when they get back (+2     - keep physical sight of crewmembers if possible   + constant safety vigilance     - make sure everyone is accounted for at quitting time     - decisions made on often an hourly basis that prioritise safety of crew; |
| * Set clear policies around safety (will anyone work alone? who will carry radios? who can they come to if a community member or team member is making them feel unsafe?) and communicate these clearly.  Keep in mind that some students' identities make them more vulnerable to harassment or violence from landowners and law enforcement. Especially if you do not share these identities, trust their guts--if anyone feels unsafe, you need to listen to that and take it seriously. |
| * No one is lifting beyond their capacity. When lifting heavy objects, proper form is key. Take all safety concerns seriously, even small offhand comments. Ignoring small comments makes it less likely that someone will speak up in a higher-stakes situation. Actively encourage to speak up when concerned. Check In-reach every morning to make sure it works; KEEP IT ON ALL DAY IF CREWS ARE SEPARATE (this happened to me once and it wasn't great). Be very clear to the point of being mean when necessary ("We do NOT fuck around with the chainsaw." [say this before anyone touches the chainsaw]) |
| * Regularly communicate with site managers if relevant |
| * buffering crews from potentially dangerous humans |
| * 2. conduct risk assessment/check in with crew before engaging in higher risk activities. 3. Take accountability and act when safety issue arises (commonly these might be ambiguous situations like weather conditions change, someone seems fatigued/dehydrated...) |
| * Make a plan for each day; be very willing to say no to a situation when warranted - turn the truck around and stop sampling if conditions or weather are risky. |
| * Take time to meet with local officials. |
| * Open communication (+20   + Set clear expectations (+1 |
| * + Check in frequently on crew members physical and mental wellbeings. (+2     - Check in specifically about comfort levels at field station   + make decisions about safety group decisions - i.e. should we drive up or down this rough hill or try to find another way? Do you want to keep working in the heat or should we call it a day and head back to camp? |
| * + Make sure entire crew is comfortable enough to speak up if something goes wrong. (+1   + solicit constant feedback on how things are going for the crew; reevaluate and make adjustments as necessary.   + Create and maintain communication channels (including "above" field leader) to hear concerns |
| * Use/encourage situational awareness (+3   + constantly evaluate whether situations are safe and if they are not what needs to be done to make them safe (including leaving the site) |
| * varying tasks day to day |
| * ensure that everyone has permission to be on private land, if applicable, before arriving |

## Interpersonal safety

### Before the field season

what are 2-3 specific actions a successful field crew leader takes to promote safe and productive interpersonal interactions?

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| * meet with crew as individuas and as a group. Encourage group participation in WFR training/small boat handling |
| * Encourage conversations between new techs and old techs to establish expectations from that perspective. Discuss the chain of supervision, such that any issues can be brought to others as needed. Encouragement of questions. |
| * clear assignment of responsibilities and reporting structures; group activities before the season starts |
| * Getting to know members one on one and identifying what they need to be successful and feel safe; ensure enough resources and training for each crew member |
| * 1- have a meeting or send out an email reminding all of the professional expectations on fieldwork. 2-make it clear that if someone is ever uncomfortable they should make it know to the crew leader so they can rectify the situation. |
| * Layout clear expectations and boundaries |
| * meet with entire team to discuss a Community Agreement (to agree on behavioral norms for sleep, where to use the bathroom, communicating problems, etc), training in preventing sexual harassment and assault, sharing communications plans |
| * Thorough preparation of the sampling design |
| * Ensure folks hired for the crew have emotional intelligence and will be good communicators; have meeting or briefing prior to field work about interpersonal interactions |
| * Ask field crew how they are feeling that day. Maybe if a large group, make statement of value of equity, diversity, and inclusion, and interest in feedback. |
| * Talk about responsibilities and expected behavior; explicitly describe shared activities such as cleaning, cooking, etc. |
| * Discuss expectations |
| * Set guidelines/expectations with crew, Establish complaint procedures, Meet with crew at least once but preferably multiple times to establish rapport |
| * Work on/display emotional intelligence, communicate clearly, empower crew to speak up with concerns, etc |
| * Communicate expectations for behavior from the start. |
| * Facilitate meetings with the team focused on building comradery (eg ice breakers, games); clear boundaries delineated and discussed (e.g. no drinking in remote sites, etc) |
| * Make time to talk and problem-solve with crew members in the workplace: 1) This gets the crew and the leader used to each others' communication and problem-solving styles; 2) helps establish the level of self-reliance that the leader expects; 3) establishes an ethos of availability and willingness to help, as members can often feel intimidated and nervous to come to the leader. Actively invite crew to participate in parts of the planning process to provide both novel ideas, opportunity for critical thinking, and personal investment on the part of the crew member. Speaking to physical safety, data integrity, and interpersonal connections: anyone and everyone on the team should feel comfortable enough to say "I don't know how to do that." This requires a culture that is intentionally established as such. |
| * Have a clear understanding of duties and responsibilities,   + understand how each individual fits into the plan, and understand what actions will take place if the person does support team expectations |
| * -open lines of communication before the fieldwork starts, make it clear the kind of relationship you'd like to cultivate amongst the crew, and send around a written document with expectations/norms for the field season (e.g. how to manage conflict, expectations about attitude, communication, etc.) |
| * Circulate a document on expectations for the field season; Circulate a gear list (especially if crew members have never participated in a field season) |
| * Work with any safety staff at the lab/university to go over tasks and if they can go to the field and see conditions that can also help. They may see hazards you don't. Also consider working in groups/teams |
| * pre-field season social getting together (happy hour) to get to know one another, setting the tone for positive interactions through in-person and emailed corresponsance |
| * 1. Outline expectations for behavior (our campus has petty good ethics module that all should take). 2. Share lab philosophy for supporting and respecting each other, including diverse perspectives and values. |
| * Build a culture of checking on and taking care of one another. Making safety everyone‚Äôs responsibility. |
| * Know your crew. Careful recruiting. |
| * Establish trust with crew. Establish multiple communication channels |
| * provide written information on expectations for field work; actively request feedback on expectations; answer questions patiently |
| * meet with each person individually, introduce people ahead of time, ask about concerns |
| * 1) Being transparent and honest with crew during hiring process, 2) communicating regularly with crew about expectations |
| * Set standards regarding how conflicts will be handled; being willing and open to discuss and resolve issues |
| * Ensuring there are multiple points of contact to raise concerns (e.g. supervisor, graduate student, lab manager), being very clear and transparent about expectations and goals, ensure the entire crew is being paid fairly |
| * Treats everybody the same, has the crew practice what are going to do in the field so we have an opportunity to learn/form comradery |
| * starting communication threads; hosting a meet and greet session |
| * meet individually with all field team members to discuss their comfort level with certain tasks/conditions and build personal relationships, share group expectations with members of the field crew |
| * Have a gathering of the team (pizza is nice) to go over plans, the safety plans, gear lists, and opens up for questions. |
| * Have a code of conduct. Review with field crew. Ask for input (as discussion or anonymously). |
| * 1. Write field season expectations document with statement on non-discrimination, harassment, etc. and include what to do in case of these situations; include external report who is not affiliated with field crew in case independent support is needed/problem is with supervisor. 2. Conduct field season expectations briefing and specifically address this section with field crew, also discuss professional and personal goals. |
| * Discuss expectations of conduct and protocols or reporting / resolution measures if conflicts arise. Put crew members in touch with one another before the field season so that everyone can get to know one another ahead of time. |
| * train team on methods to put everyone on the same page, organize an team-bonding event (extra points for something fieldy), I'm not sure if this counts, but - select a team with interpersonal elements as part of your criteria - better to have a cohesive team with flawed individuals, than a bunch of superstars who can't work together. |
| * Training with equipment at a non-study location, review of protocols, discussion of objectives and purpose of field work |
| * Set a tone for open communication with crew and leaders |
| * Get to kn ow each member, outline responsibilities of each member |
| * Communicate frequently with staff before leaving for the field. Interview references about each member's ability and willingness to work as part of a team. |
| * Identify the why, how and when of reporting concerns or issues |
| * Open communication, safety operating procedures |
| * 1. Outlines guidelines for all personnel 2. prepares safe workplace training for personnel |
| * 1. Similar to physical, there needs to be a standard and culture of communication about communication style, boundaries/things people don't want to talk about, etc. 2. do an ice breaker activity where you learn about each other, each other's communication style, etc. |
| * Train all team members together, even if some are returning or have previous experience relevant to the project. Small team-building events, like group dinners or similar. |
| * Make Checklists and safety protocols |
| * Create a space for feedback and open dialogue, identify people who can help with interpersonal issues, |
| * Spend some time in the office with your crew; talk about personal stuff; get food together, or even better, cook for them. |
| * e 1) Create a clear code of conduct and 2) Create clear job descriptions/expectations |
| * Encourage open communication with your team |
| * Make local connections. Take time to introduce yourself to local partners. |
| * interview prospective techs/volunteers to make sure they will be respectful of others |
| * Prepare a code of conduct, screen field crew for references and ability to work with others, consider a pre-field get together to build rapport |
| * Create and participate in training exercises that everyone participates in. Being to build trust by being open about field preparations and sharing plans. Plan to create space (physical and emotional) for crew members as needs might arise. |
| * training together, getting to know everyone, choosing good crew to start with |
| * Hold a meeting before field season to go over expectations, solicit input from crew, and discuss actions to be taken if something goes wrong. |
| * open communication about expectations and conflict management |
| * Contract outlining expectations etc; Clear communication of expectations; Hire good (safe, inclusive, collaborative) people |
| * giving everyone authority to stop work if they feel unsafe, insisting on respectful communications, |
| * foster an environment that allows for open and honest communication and feedback; share & discuss materials/research about how field experiences can differ for folks with different identities; meet with the crew prior to the beginning of the season to introduce each other, ask pronouns |
| * 1. meet up before season, possibly camping/hiking or potluck 2. make sure that communication guidelines are clear |
| * 1. Meetings with field crew, if possible 2. Exchange contact information |
| * Safety training (reading, role-playing potential interactions and encounters), ensuring all permits are up to date and that all team members have appropriate documentation for all sites where they will be working, contacting relevant stakeholder to mitigate potential bad encounters or confusion in the field |
| * Establish working, professional relationships with each member of the field crew; provide them space to voice concerns; ask about prior experience and knowledge |
| * Stay informed about how to promote a sense of belonging; Send a document to future field crew participants with conduct expectations and policies |
| * clear expectations; codes of behavior/conduct; reminder that still members of the University (and all rules about harassment, violence, bullying, respectful behavior apply |
| * establish and share code of conduct before season that outlines acceptable and unacceptable behavior; post and share multiple contacts (so people have choices of who to go to) to report concerns/misconduct; share the institution anonymous reporting pages; explain mandatory reporting rules and who a mandatory reporter is |
| * Talk to students, introduce boundaries |
| * make sure everyone is familiar/amicable with each other, promote teamwork with bonding activities, respect people's physical/mental limitations out in the field |
| * 1) get to know crew members and build relationships, 2) ask crew members how you can be a good leader for them, 3)make a point to know crew members pronouns and any important aspects of their identities |
| * Open communication and defining personal "space" |
| * meet to discuss objectives of the work; social meeting e.g. dinner out |
| * Make the interpersonal environment of your project clear on recruiting materials, develop a clear policy for addressing issues of racism, sexism, and other bias in the field |
| * meeting the team, pre field get togethers, training on expected behabior and actions |
| * 1. Open lines of communication before the field season so that the crew leader and crew members aren't strangers on the first day of work. Encourage people to ask questions and offer helpful advice. 2. Ask crew members if they have any concerns about the work or work environment. 3. Ask crew members if they have the personal gear necessary for the work. Help them find solutions to fill in any gaps. |
| * Build trust with field crew to promote healthy communication with you and with each other, making sure to spend one on one time with each member. I want everyone to feel comfortable coming to me with an issue and I state this bluntly, as well. |
| * Openly discuss strategies for living in close quarters in the interview, figure out how to draw the line between friend and boss (especially if the age gap is minimal) |
| * general discussions on when to bring questions, etc |
| * Create and maintain communication structures between crew, and outside crew in cases there are problems; implement relevant trainings (i.e., implicit bias, sexual harassment); collaborative identification of goals and means of communicatoion |
| * distribute training modules, set the tone for interpersonal communications early |
| * Explain clearly what the work consists of (specific activities that will take place, hazards from the locality, housing conditions, working hours etc.), communicate expectations from the crew, be accessible to answer questions. |
| * Get to know the crew and start building trust/rapport; leader should do appropriate trainings (TitleIX, Safezone, etc.) so they are able to create a comfortable and trusting environment and are also able to handle a situation should it arise. |
| * Facilitates introductions, answers any and all questions, is warm and friendly - takes time to help others |
| * lead the crew in developing, as a group, a written social contract around how to interact with and treat others, respect boundaries, etc., that everyone signs; when hiring, include interview questions around how each candidate interacts with a group, if candidate has dealt with tough interpersonal dynamics before - look for red flags |
| * Gestures of kindness go a long way towards building trust, a key component of promoting positive interpersonal relationships. The crew leader should be involved in some amount of pre-season safety training with a focus on the improtance of positive interpersonal communications in a field setting. |
| * Introduce crew & allow early bonding time; establish protocol for handling situations that may come later |
| * Vulnerability and clear communication (I.e. I don‚Äôt like to talk before morning coffee) |
| * Organize sleeping accommodations that all crew are comfortable with, clearly convey expectations and norms, be straightforward with crew about any local safety issues (i.e. how to talk to ranchers) |
| * Gain training in leading diverse teams, learn and practice anti-microagression tactics, gain training to be mediator / conflict manager |
| * Coach field crew on potential encounters, how to handle them, provide emergency contacts, and be CLEAR about expectations (ie if they feel unsafe, here's what to do and that safety is always #1 so do what it takes to feel safe) |

### During the field season

what are 2-3 specific actions a successful field crew leader takes to promote safe and productive interpersonal interactions?

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| * Daily group check-ins (+3 * Eating dinner as a team (+1 * Regular individual check-ins (+7   + Do this privately as much as is possible |
| * Daily mental health checks. * Breaks/time off (+9   + Acknowledge the need for personal time (especially if you're on a long field trip in a remote location), and build that into your schedule for yourself and your crew-members   + Be generous with breaks, days off, etc. and understanding when someone cannot do the work that was planned for that day   + do an office day when they're exhausted instead of going into the field   + give plenty of alone time after work hours, if desired |
| * Set and maintain expectations (+3   + check in to make sure expectations are reasonable   + describe daily tasks (+1     - emailing the field crew the day before with details * see if workers have concerns around safety or interpersonal interactions |
| * Make sure each individual feels empowered to say no when they are uncomfortable; occasional check in meetings to discuss any issues |
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| * daily group check-ins reviewing any issues, rotating teams/pairs, * giving everyone access to communications (radio, sat. phone, cell phone). |
| * Getting on the same page about communication |
| * have tough conversations when they need to be had; ensure everyone is working together smoothly and if they are not less conversations to rectify the situation |
| * - keeping all information the field crew needs in one google sheet or other shared document |
| * Mediate whenever conflicts arise; take the lead with responsibilities to show promote a sense of equality |
| * Be aware of crew interactions including body language, Act immediately, and according to plan, if problems arise |
| * Praise, praise, praise! The first step in any tough situation--asking for more out of a member or starting to address a dispute--should always be recognizing that the person is doing a hard thing and doing it well. Even when things seem to be going fine, make sure you're explicitly letting people know you appreciate them. Start from the assumption that everyone is trying hard and feels unappreciated for it, and it's your job to fix that. When you model appreciation and assuming good intentions, other team members are more likely to do the same with each other. |
| * ; regular communication with the group |
| * PATIENCE. A crew member doing something "wrong" is a teachable moment to explain methodological nuances etc., NOT a time to get upset or frustrated. General behavioral/personality patterns should be saved for after field season; e.g., if a crew member is sloppy with details but loves getting their hands dirty, make them the sampler and have someone else record the data (e.g.). But no one is served by a field lead saying "you're bad at details," especially while in the field, and especially in front of other crew members. Patterns/issues that are pressing enough to address in the field should be done in private (no one feels they have time in the field for private conversations but if it needs to be done, it needs to be done right; doing it wrong can potentially make things much worse). DO NOT HOOK UP WITH OR FLIRT WITH A CREW MEMBER. If necessary, talk about it before the campaign begins to address the necessary power dynamic and how it would affect other crew members (preferential treatment makes for bad vibes in the camp). Even if you flirted in the office, shut it down while you're out. You can pick it up in the off-season. Crew members hooking up or flirting with each other can be fine if they are mature about it and don't let it affect their work. Actively invite voices and opinions in planning any given day; again, this builds buy-in and makes crew feel valued and important. Allow crew to build experience in desired areas (e.g., teach an undergrad to trailer a boat); this builds pride and positive relationships while also developing skills useful to the campaign. |
| * -Be very respectful your crew's time and effort.; take responsibility as the crew leader for resolving conflict, preventing negative behavior, etc., even if you feel like the group is more a collection of peers than a supervisor and subordinates. It's important to have someone that is responsible for maintaining group norms |
| * Establish a crew culture where open communication and inclusivity are prioritized; Emphasize that safety will always be more important than data; Emphasize that if one person does not feel safe then the crew will change plans |
| * Tell your staff your expectations. Give your staff time to learn how to perform the tasks. Provide the opportunity to ask questions and provide feedback, maybe they have additional ideas to make tasks more efficient and safe |
| * Having a positive attitude that sets the tone, jumping in to help when field crew members need a break or assistance |
| * 1. Regular check ins as mentioned above. 2. Detecting tensions early and making adjustments to crew composition and/or orchestrating facilitated discussion of needed. |
| * Make sure everyone knows what their responsibilities entail. |
| * Buddy system. Reporting system. |
| * Identify behaviors or actionscontribute to risk, model good behavior |
| * accommodate different paces of working/learning; answer questions patiently; approach unmet expectations constructively; model safe and healthy working habits |
| * , talk about other things, get to know each other |
| * 1) Communication - being transparent, honest, clear, 2) providing positive critique and feedback on work, as well as any areas for improvement, 3) keeping the work atmosphere positive |
| * try to model cheerful and excited attitudes to our work; openly work to resolve differences before they become a huge issue. |
| * , having a clear structure of team lead so that decision-making is easy (even if that rotates from day to day) * treats!!! (+2   + do some fun things for the crew in addition to working hard - surprise them with a snack or drink they like in the field (I used La Croix and gluten free baked goods) during hitches, go out to dinner, etc.   + Taking time outside of the work day to celebrate milestones as a group   + Have candy or some sort of quick mood-boosting thing on hand   + celebrating small successes together with extra beer or an evening at a lake |
| * Communicates/delegates clearly, leads by example |
| * observing crew members and pairing those who work together well; buffering negative interactions |
| * Have a daily de-brief where crew members can share what went well and what didn‚Äôt, monitor that appropriate interactions are occurring between crew members and assist in conflict resolution if necessary |
| * The safety plan includes some sort of code of conduct with clear instructions on how and to whom to raise concerns. During the safety/stretch session, we also answer a daily question (suggested by a team member). It helps with group bonding. During work, the leader keeps an ear open and directly addresses any mis-behavior. |
| * Lead by example. Have a safe and accessible reporting system. |
| * 1. Shut down any harrassment or problematic interpersonal interactions immediately. 2. Conduct mid-season check-ins with field crew on their interpersonal well-being, professional and personal goals |
| * Encourage a supportive environment where crew members aren't afraid to honestly discuss challenges, mistakes, etc. Hold crew members accountable if expectations of conduct aren't met, but provide opportunities for people to learn and improve unless the conduct is threatening the safety and well-being of other crew member(s) |
| * get input from team members on meals/snacks, end of day check-ins that include positive observations (e.g., talk about everyone's best moment/view/find of the day). |
| * , daily post-work debriefs, being attuned to mismatched crew members and adjusting work assignments |
| * Check in with crew to see if they have any concerns |
| * Keeping people aware of all work happening, standing up for lower ranked members who might not be able to fight for themselves |
| * Incorporate regular social interactions,. Make sure each crew member understands they are responsible for the safety of other crew members. |
| * constant checkins and updates |
| * Open communication, safety operating procedures |
| * 1. Checking in with personnel to make sure everyone is comfortable with the crew 2. discusses any issues that may come up to resolve them. |
| * 1. maintain a professional environment - it can be hard, but the crew lead should base the amount that they talk about their personal life on how much the crew divulges, and they should shut down personal conversations if things get inappropriate or if it seems like someone is uncomfortable. 2. have regular check ins with crew members individually to see how things are going with you as a crew lead and with the other crew member |
| * Ensure that the leader is a safe person to come to with concerns about team members. If the crew splits up, the leader should join different crew members throughout the season. |
| * Build relationships |
| * , if issues arise see if you can do conflict resolution of reassign members of the team to different tasks |
| * Make sure they're eating and drinking;; listen and accept input, accommodate crew preferences over your own where possible. |
| * 1) Emphasize the importance of respect 2) Emphasize the importance of open communication |
| * Be open and honest with your team |
| * Be sensitive to cultural norms in interactions. Take time to explain the study fully and answer any questions anyone may have. |
| * Communication, call-out and take action on inappropriate interactions promptly, be prepared to let members go if somethings arises even if in mid-season |
| * Check in with crew members on both good days and bad. Be receptive to feedback, not just for them but yourself. Make time for group and individual discussions. |
| * checking in, time to relax and bons, structure of who is in charge of what |
| * Hold regular meetings to make sure everyone is comfortable with working environment and talk about anything that could be improved. |
| * dedicated time for one-on-one check ins to see how things are going; also checkins with someone other than me |
| * Maintain positive and respectful environment; call out teasing, bullying harassment immediately; provide time for rest |
| * allowing questions, giving learning opportunities to those that want them |
| * model open and honest communication and admit when you make mistakes; rotate duties so everyone gets a chance to work with everyone; check in with everyone collectively and individually periodically to assess and mediate any conflicts |
| * 1. daily check-ins 2. share responsibilities, particularly at camp (ex. cooking, prep, etc.) |
| * 3. Mediate communications between supervisors and field crew |
| * Foster a collaborative, non-competitive working environment, regularly meet with each team member individually to ensure that everyone on the team feels safe and productive, create an environment where field crew members can feel comfortable bringing problems and concerns to the leader as they occur |
| * Regular check-ins with all field team members, ensuring field crew members always go out in pairs or groups, bringing relevant information (permits, science communication information, etc) into the field each day |
| * Check in with each field crew member; give them a place to voice concerns; listen to concerns and to what is going well-- adjust as needed |
| * Set expectations with field crew participants (perhaps by co-creating an agreement) about acceptable conduct at the beginning of the field season; Foster a sense of community by doing wholesome, non-research activities together; Have regular check-ins with field crew participants about their comfort interacting with other people on the field crew/at the field station |
| * Reminders; identify problematic interactions; open door |
| * be aware of personality conflicts and limit time together for conflicting individuals; establish one-on-one checkins at around 4 weeks so individuals can share concerns or problems; |
| * have individuals talk out potential issues (yelling doesn't solve anything), make sure everyone is included in decisions if things don't go as planned, having small breaks (ie lunch) where people can regroup/reenergize |
| * make a point to check in with field crew, ask them for their input and ideas instead of being the all-powerful boss, call out issues when they come up and don't tolerate inappropriate behavior |
| * Open communication and defining personal "space" |
| * Clear allocation of work and non-work roles; feedback to individuals where necessary |
| * Address issues (however small) early and often, set the tone with how you talk to your volunteers, and include interpersonal rules with safety rules |
| * address conflict early, break up/rotate cliques, talk to everypne |
| * 1. Involve everyone in the group in decision making regarding scheduling and work load when reasonable to give them all a chance to voice their concerns. 2. Keep a positive attitude (or fake a positive attitude, if necessary) to keep group morale high. |
| * Host team-building dinners and activities, rotate who works with whom to foster building relationships |
| * asks direct questions of well being |
| * Same as physical safety - lead by example, maintain communication structures, identify problems early and address directly |
| * Describe unacceptable behavior and penalize it, monitor early interactions, have one-on-one reporting set up throughout the season |
| * Communicate the reasoning behind actions or decisions, be mindful that people have different degrees of knowledge/experience, listen to suggestions by field crew (people are more likely to be actively engaged if they feel like their opinions matter). |
| * make all crew feel respected and necessary. |
| * Facilitates communication/bonding among members, admits wrong or uncertainty where necessary, respects others' comfort zones, answers any and all questions, is warm and friendly - takes time to help others |
| * try to be attentive to interpersonal and group dynamics, and intervene discreetly if you recognize problems or worrisome interactions; have check-ins with individual crew members partway through the season about how they're feeling about the work and the group dynamic |
| * Conduct regular debriefs after field work to find out what went well and what could have gone better. Making sure crew members don't feel overworked also goes a long way to ensuring safe working conditions and making sure field crew feel cared about. |
| * Check in with each crew member individually; encourage rest/alone time if necessary |
| * checking in with the mental state of the crew during dinner together, not let things that are bothering you build up and build resentment. Be clear and honest all the time. |
| * Regular check-ins with crew about wellbeing, mediation of disagreements, an open-door policy regarding grievances |
| * Be ready to intervene and mediate conflict so that least powerful / most vulnerable do not have to defend themselves, keep frustrated feelings away from team members who have less power, have systems in place for reporting an issue |
| * Introduce crew to local contacts in case of emergencies to build support network, provide them with pepper spray or other defensive gear, and check in at least 1x daily |

## After the field season

**After the field season**, are there any actions a successful field crew leader takes?

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| * None (+1) * Debrief team-members. (+5) * Check equipment before storage (+2) * PROOFREAD DATA IMMEDIATELY (+1 * Serve as reference (+12)   + I try to write down what I'd include in a letter (with specific examples) right after the field season while it's fresh in my mind, because letter of rec requests may come a year or more later. |
| * Credit work (+2)   + Make sure to acknowledge or thank field crew in all presentations, publications, etc. I like to keep crew members updated on the project and the results of the data they helped collect (and offer co-authorship if appropriate, though usually we discuss that before the field season) * Express gratitude (+10   + -it's always nice to get a small token of appreciation like a note or small gift card or something   + I've found small thank you gifts for their hard work really mean a lot. Be open about how you appreciated their work/dedication/effort etc.   + I have mostly led small (2-4 person) crews and usually give crew members a small thank-you gift (like a book, beer if I know they drink it, etc.) * Followup (+7   + Share summary of season   + Touching base with past technicians every once in awhile   + Share updates on publications (+1   + in some situations it is important to communicate the outcomes from the field season to the crew, * Celebrate with crew (+6)   + Sometimes a group camping or float trip.   + Set aside budget for end-of-season dinner or party (if feasible, pay for first round of drinks out of pocket if institution disallows alcohol purchases). Thank the crew for all their hard work, including acknowledgment that it's not always fun or easy but it's important and interesting work. Compliment their strengths. If necessary, post-season is the time to address frustrations and behavioral patterns observed in the field.   + Host (as appropriate) celebration of everyone's hard work   + Take the team out for ice cream, have a BBQ or go out for dinner (something social to celebrate the accomplishments). * Gather feedback (+17   + Exit survey/interview (+2     - If possible, anonymous follow-up surveys or evaluations to make sure that any issues or concerns are brought to their attention without fear of penalization (+2   + Review lessons learned; exit strategies with crew members and be open to taking criticism and suggestions. If there were any issues, review what should and could have been done to avoid. |
| * This is more project dependent and a question of how long-term the study is. For long-term studies or multi season studies certainly review and then aggravation on meta-data regarding equipment and field crew can help |
| * revisit field safety plan, communications plan, and community agreement and take good notes about what worked/didn't. Identify any areas where training is needed. |
| * Making sure everyone has been properly paid |
| * Ask field crew how the leader could improve and better support the crew |
| * Surveying the field crew to identify what went well and what could be improved in the future. |
| * In general, discuss any conflicts or issues (personal or technical) and how those can be avoided or improved in the future |
| * Share your data, help your field helpers take the next step after field work in their professional development |
| * , involve crew w clean up and tying up loose ends, helping crew w pursuing next opportunities |
| * It's always good to check in with crew members one on one. Debrief, if only with yourself, any incidents that could have become serious situations, and what you can do to prevent them in the future. |
| * our field seasons never end, but good to have a mini symposium where everyone presents their first data analysis and laughs about the ups and downs. |
| * Following up with crew, see how they're getting on |
| * Checking back in to resolve any lingering questions or issues; checking back to make sure each crew member received the skills and experience they were looking for |
| gives you constructive criticism that tells you your strengths and areas to improve on |
| * The leader contacts each field member individually to thank them for their contributions and ask for feedback. |
| * Take note of protocol improvements to be implemented in the future. Summarize work done (e.g. samples taken, plots surveyed) to assist future planning. |
| * I like to debrief with whoever I've worked with and brainstorm 'lessons learned' on white board that I then photograph and keep the notes for planning the next season. |
| * Sharing results with crew members |
| * Checking in how project wen, sharing notes in central repository |
| * Identify any issues and the actions taken |
| * It is important to follow up with personnel to see if improvements could be made to crew training and structure and to receive feedback as a supervisor |
| * Forward professional opportunties and jobs you see to them if they're interested. |
| * For those new to leading a crew, asking later on how the crew members felt during the season, and if there was anything they could have improved. |
| * Build relationships |
|  |
| * Give positive feedback, support further career efforts, solicit nd implement suggesitons |
| * Debrief session with field crew. |
| * review the SOP and add safety procedures for any incidents that occurred which were not already covered |
| * Presumably this question refers to safety and interpersonal dynamics. A follow-up evaluaiton / exit interview (wiht feedback going both ways) |
| * solicit feedback from the crew; celebrate with the crew; thank each crew member and offer opportunity for performance assessment/exit interview |
| * Check in with crew about any concerns that came up, make sure results are communicated |
| * 1. Provide field crew with updates on what is happening with the data they worked so hard to collect |
| * A debrief to discuss any adverse or unsafe interactions or situations in the field, and how these could be better dealt with in the future, a follow top with all relevant stakeholders to ease future interpersonal interactions |
| * Follow up with members; ask for feedback on the field season and use that for the next field crew |
| * Review; Evaluate whether difficulties could have been foreseen or are likely to occur again; |
| * "debrief" at the end of field season - what was satisfying/unsatisfying, what could be improved, were there situations that felt unsafe or could have been made more comfrotable |
| * Seeing projects through with students |
| * keeping anyone who wants to be in the loop on results in contact, thanking everyone for their hard work/acknowledgement, providing post field assistance/forming connections |
| * Review of success, failures, and challenges of the season |
| * feedback to all individuals; review and edit safety procedures; consult with other field leaders for their experiences |
| * Review if/when mistakes and accidents happen and develop a plan to prevent them in the future, review safety materials and make changes as needed |
| * follow up on issues, debrief, keep in contact afterwards |
| * During and after the field season, provide positive feedback to the group and to individuals. Make sure they know that you appreciate their hard work. |
| * Debrief on everyone's experience. this doesn't need to occur immediately, but over the next few months. Include academic and interpersonal 'lessons' learned. |
| * Touching base with past technicians every once in awhile, |
| * implement adaptive plannig for future field seasons |
| * has a follow-up meeting with employees to discuss room for growth, advocates for good crew members and fully articulates issues about unsafe or endangering crew members |
| * It depends, in some situations it is important to communicate the outcomes from the field season to the crew, and make sure to acknowledge other people's contributions to the results of the work. |
| * Debrief with the crew- show appreciation for hard work, |
| * a crew leader could ask for feedback from crew members, about anything that didn't go well or could be improved then next year |
| * Assuming you have a good rapport with your field crew, it can be helpful to provide space for a final debrief to allow field crew members to voice their suggestions for making the next field season even better. A successful field crew leader will openly listen to these suggestions and give serious consideration to implementing/addressing the following field season. |
| * Maintaining contacts near the field site may also be necessary. |
| * Ideally check outs with team members, reflect and improve team and leader practices |
| * Follow up with crew and community to chat about how to improve or change the protocols, expectations, and culture |

## Volunteers

How, if all, do you change your strategy for leading volunteers vs undergrad/grad students gaining experience vs paid assistants?

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| * I don't / I don’t work with volunteers (+10) * I don’t use volunteers intentionally due to ethical concerns (+10   + I don't use unpaid student labor. Doing so is exploitative, and contributes to patterns of exclusion--see Jensen et al 2021 in BioScience. Of course grad students usually aren't in charge of these decisions and don't have the funding to provide stipends. (I get around this by applying to lots of small grants to support undergrad research projects, and with creative use of some "professional development" funds.) Even when we can't make sure everyone is paid a living wage, we need to advocate for ethical pay practices when we can.   + this is a known barrier to EDI in STEM fields. * Same strategy for everyone (+4   + I don't really change strategy based on position, but on the person (experience, motivation, self-confidence, ability/skill) and project (+1   + I think that even though the experience is different, you have to assume that everyone needs the same level of comprehensive training and support structures. (+1 |
| * Simpler instructions for volunteers   + Paid assistants receive more advanced training and I expect them to (after some time working with me) to help facilitate safety of volunteers * Prioritize volunteers having fun/a good experience (+20   + I try to make days fun and easy-going with volunteers (i.e., not expecting them to hustle in poor conditions for extra long days) and I feed them (+1   + Volunteers should be shown as good a time as possible within the parameters of the work, because they're not getting anything else out of it (imagine volunteering for something that drains your soul). * I would allow non-volunteers to work more independently. I would tailor expectations of independence and responsibility to experience level regardless of pay level, although clearly paid assistants often have more experience. But I would also assess experience under our conditions, rather than relying on self-reporting of previous jobs and experiences. |
| * Students and paid assistants are given the chance to develop their own safety plan, which I can review. Volunteers are not given this opportunity due to liability issues. |
| * volunteers/undergrads focus is on learning and building basic field skills. kind, careful, and slow guidance is important to maintain moral and ensure quality skills are being established. they need supervision and should not be left alone in the field. grad students/paid assistants are expected to have established most skills and should be more independent. after several trips they should be capable of knowing how to prioritize tasks and accomplish their work with limited supervision. |
| * This is very much depends on the nature of the project itself. With volunteers time expectations may be different as commitments are more likely to shift. Experience level is generally far more important than whether someone is a volunteer, a student, or a paid assistant in terms of how much training I need to give them and how much work they expected to do independently. |
| * All are expected to follow safety and communication plans. If volunteers or students join mid-season, trainings and intros happen in the field. |
| * Paid assistants get less slack about being timely and doing tasks; volunteers still need to do a good job but aren't expected to bear the brunt of the work. Honestly I rarely work with volunteers though. |
| * I assume that I am responsible for making sure everyone knows how to stay safe/healthy/warm without making assumptions about experience and knowledge of safety. I have also made the mistake of being a new person leading a group of more-experienced undergrads and assuming that they knew how to stay warm when they did not actually have the experience to know how quickly weather conditions can change, so now, even if I am new to a group of people who I consider to have more local knowledge than me, but who are still novices, I still consider it my responsibility to consider what could go wrong and require all to wear appropriate gear for this. |
| * offer them more flexibility as well as opportunities to learn. Paid assistants have more expectations to operate efficiently and effectively. |
| * I've generally found undergraduates to need a much more hands on approach. I've worked with volunteers less on field research and more with land management, but because they are volunteering their time I usually make more of an effort beforehand to make the task more accessible, engaging, and more appropriate given that kind of commitment (i.e they're not being paid) |
|  |
| * I'm not sure how my strategy would change. Emphasis on safety would be important for all groups. Perhaps for volunteers, I might give them the opportunity for more hands-on work (versus scribing, for instance) since they are not compensated for their time. |
| * Again, all team members should feel free to ask questions and contribute to planning. In general terms, students are there to learn and to work, whereas assistants are there to work (learning enough to execute tasks as necessary). Students should be assigned a mix of tasks they're familiar with and tasks they don't yet know how to do (strengthening existing skills and learning new ones). Assistants can be assigned tasks they already know, as they are hired to perform labor; all else being equal, the team doesn't need the loss of efficiency associated with teaching an assistant a new skill (although if it's something they're eager to learn, then personal and team morale will benefit from it). |
| * Fieldwork is a lot of work, so I would be extra appreciative of the effort made by volunteers or any unpaid workers and maybe not expect quite as much of them. |
| * I'll adjust based on their experience and comfort level performing tasks. For those coming in with more experience or are quick learners and feel comfortable doing tasks either by themselves or helping to lead tasks, then I will usually give them more opportunities to take additional responsibilities. But usually after about a month or by the 2nd or 3rd time in the field doing the same tasks, I will generally expect most the staff to be comfortable. If they are not, then I will work with them more closely to bring them up to that level. |
| * Not at all, except that for volunteers I offer lots more breaks and potentially more snacks (but I've only worked with volunteers on hours-long local (urban) restoration projects, vs undergrad/grad students and paid assistants on days to weeks-long semi-remote projects). |
| * Rarely use volunteers. In rare occasions, just abridged training appropriate for the day‚Äôs activities. |
| * I usually treat everyone the same. One exception is placing paid employees in positions of authority. |
| * Amount of training and supervision, type of risk risk tjeh will be exposed to |
| * Volunteer workers and undergraduate workers are only given tasks that are embedded within the work of paid workers in order to maximize their chances to gain skills from experienced professionals |
| * in terms of the points above, not much. I expect more autonomy from students, and let them make more choices but also mistakes. I'm more aware of the time I ask from paid help |
| * With volunteers (especially undergrads) I typically give more breaks, slow down a little, and teach more as we go. With paid volunteers, I provide training in the techniques before the season, so my expectations for their work ethic are higher. |
| * I expect the paid assistants, particularly if its a long term project (say >3 months or permanent and 40 hours a week), to be able to learn and perform the duties I need them to without me having to constantly reteach or remind them how to do the work. With volunteers I am more willing to reteach/remind them, particularly if they only help for a few sporadic times. |
| * my expectations for the abilities and purpose of volunteers/students is aimed more towards learning rather than the expectation of independent work completion |
| * Generally no because all members deserve the same level of information, respect, and learning opportunities. However, the types of learning opportunities presented my differ based on the goals of the individual (I.e do they want to gain new skills for their degree or focus on a particular topic) |
| * No difference other than possibly needing to give more instruction to volunteers or people new to the work. |
| * It depends more on the length of time someone is participating in field work v. whether they are volunteers or paid. For long-term (multi-week) volunteers, ideally the strategies are the same. For short-term (a few days) volunteers, usually I just focus on the physical safety component and make sure we conduct a safety briefing on the first day - I have not done a briefing on interpersonal safety or check-in meetings. Maybe I should consider it re: interpersonal safety/harassment expectations! |
| * ; students - discuss goals, interests at the beginning, be conscientious of the example you are setting in how you work and how you treat other people, check in with them regularly to give them lots of opportunities to discuss challenges or questions, I find sometimes they are not as comfortable speaking up without a prompt; paid assistants - clearly communicate expectations, instructions and plans, as would be expected with any job (i.e., make a plan and stick to it unless compelling reason to make changes - then changes should be discussed), sometimes putting instructions and expectations in writing helps ensure this information is clearly communicated, also provides a reference (for both sides) if expectations are not being met - if the wage is fair for the job then I don't think it is necessary to baby an assistant, field work is hard and uncomfortable sometimes and that's what they've signed up for. When the job is not fully compensated monetarily (i.e., maybe some money but not a fair wage and the balance of compensation is experience of some sort) I think it is important to not forgo the non-monetary part of the compensation, this usually equates to added time for teaching or more slowly conduction sampling in order to let the people practice, discuss the process/procedure and maybe reflect on the day's work in greater detail (vs. the essentials or safety, challenges, preparedness). |
| * With volunteers I try to assess their interest in being there in the first place, their level of experience, what they hope to gain from volunteering, and establish expectations. I do less of that with students and paid assistants. |
| * Being paid does not justify treating students badly, more experience can allow more work but comfort is key. Undergraduates likely overwork to prove they are capable, and experience is not worth hurting themselves. Experience does not equal pay. |
| * More junior crew members are never sent to work by themselves until I or the graduate student are confident they can perform their duties safely and confidently. |
| * Have to be extra diligent with volunteers |
| * Training is the same, job duties may be different |
| * If personnel are volunteering/are students, I will usually take more time for educational opportunities if needed (assuming that the paid assistants already have those experiences). I also give paid assistants more responsibilities/independence depending on their experience. |
| * I think that you should generally push less hard on volunteers. For paid assistants, sometimes you need to push a bit and say this is the work, this is what you signed up for, and this is what we need to get done. For volunteers, you shouldn't push as much, because it may turn them off of the field and make them less likely to volunteer in the future. |
| * Volunteers are held to a slightly lower standard than students or employees -- for example, I might not expect a volunteer to hike three miles in waders, but a student and an employee would. I would also generally expect improvement across the season for all crew members if they are there more than a day, but one-time volunteers obviously will be less skilled. |
| * Pay them more and get paid more myself! |
| * Generally, I have lower expectations about the amount of work or the difficultly of work that can be done with volunteers. With volunteers it is more about engaging with the public as a form of education and outreach. |
| * . The other two get accommodation for their preferences and desires, but I don't write off a sampling trip for anything unless it's objectively serious. I treat all crewmembers (undergrad, grad, paid) as though I was training them to do my job. If they're good and like the work, by the middle of the field season they can easily take over many of my tasks on an equal basis, which helps me out. For volunteers I keep the trips short and take extra care to provide good food and housing where appropriate, and do any onerous work in the background if possible. |
| * paid assistants are required to assume responsibility for their own safety and that of others (i.e. they know the safety SOP by heart and are a backup if anything happens to the field crew leader, whereas volunteers rely on the field crew leader) |
| * I always ask students what types of skills they are trying to build before the season starts so I can try to make adjustments for them to get what they need out of the experience while also helping me out. Sometimes that means more technical skills other times it may be helping them build a small project but can also be as simple as letting them observe and ask questions. Their availability will also shape how much independent work I assign to them. I try to adjust my expectations to the experience of all members of the crew. Paid assistants will be expected to be or become independent and reliably work but I am always open to helping an assistant gain new skills or build a small project. |
| * I don't have exact strategies, but I'm sure there might be differences based on time spent together/tasks performed etc |
| * Undergraduates are often looking for more than a job when it comes to field work. They can require more guidance with regards to maintaining consistent professional interactions, work ethic. But they also react positively to learning experiences (learning to drive large truck, operate power tools, chop wood, cook, etc). Can be rewarding if it goes well but also harder if it does not. It is very important that they understand going into the field season how challenging it might be and that we will working and living together. Driving each other a little nutty is normal but that their job is to work hard, learn a lot, and communicate their needs. In my experience paid assistants appreciate a super clear delineation of work/non-work time so there is less guidance once they are "off" the clock. They are often be happiest if assigned a task to lead/organize on their own. I think this helps them feel connected to the team in a professional, productive way. If you happen to get along during non-work time it is more of a cherry-on-top rather than integral part of the interaction. |
| * Make sure everything with volunteers is in writing, some can be verbal if paid |
| * For undergrads getting paid/credit experience: encourage more responsibility, include them in more in-depth conversations about research methods and decisions, introduce them to more complicated techniques, etc. For professional field technicians (paid assistants): acknowledge them as fellow professionals in their field, and facilitate their work by taking care of logistics, safety, and communication, etc. |
| * Generally volunteers aren't given as much flexibility (I'm stricter with overseeing their work), but students are allowed to try things, make mistakes, take ownership of their projects. Volunteer schedules are more set, student schedules are more flexible |
| * Undergrads: Greater emphasis on check-ins about how they are ding, who to talk to in case of problem, people who are closer in the hierarchy.  Grads: Greater emphasis on setting the tone for the field crew; leading by example; showing work-life balance in the field. |
| * a bit more flexibility and less responsibility for volunteers, likely not giving them anything that the project would depend upon if correct/incorrectly conducted |
| * volunteers get more flexibility in their time commitment and job duties according to their interests, and also get more support resources for finding paid work or professional development (my way of paying them without money). students gaining experience get tasks and expectations tailored to the sorts of experience they want. Paid assistants have a little less flexibility but also have more ownership of the project and decision-making power/responsibility. For all three, I do my best to offer professional development resources and support with the specific experience they want. |
| * More open to graduate students taking the lead. More diligent at providing learning opportunities to volunteers and graduate students. More diligent at providing leadership roles graduate students. Those opportunities may be offered to paid assistants, however, research and graduate student learning takes precedence. |
| * so tricky!! I tended to treat them the same in the field/while on the job, but tended to grant volunteers fewer of the out-of-the field tasks (so they could just go and have fun during time off), and also work to get them free housing etc etc |
| * I expect more knowledge and initial competence from paid people |
| * I expect less of volunteers. I express more gratitude for any small amount of help a volunteer provides, while I expect students and paid assistants to work harder to be proficient and productive. |
| * Usually I have less lead time for volunteers and seasonal assistants to get to know them ahead of time. I always talk to them one on one at the start and tell them I want to hear from them about how things are going, including interpersonal interactions with the rest of the team, and they can feel comfortable coming to me. I also ask grad students to do the same to act as a tiered system of management. |
| * I cannot expect the same level of data ownership and hours put in from a volunteer. Often the technicians we pay are getting paid more than I am as a graduate student, so I make sure they are taking initiative to get tasks done and care about the data they collect. |
| * more that change by career stage - try to make individualized plans. Ultimately these roles are transactional, so find out what crew members need/want/expect, develop explicit plan to mete those needs. E.g., an undergrad volunteer may be expecting "career currency" but it's important to understand individual goals so that the relevant sills/resume lines are acquireed. |
| * I don't have experience working with various groups, but I'm not sure I would change my strategy. The only thing that might vary is making sure to be aware (and accepting) of varying education levels surrounding the field work topic. |
| * As a leader, be the first one up and the last one to bed. Be easier on unpaid volunteers/interns. Provide opportunity, have reasonable expectations, understand volunteers/interns aren't being properly compensated. ---Make sure to work for a PI that understands not paying people promotes a system that recruits people from privileged backgrounds and generally excludes those that can't afford to work for less than a living wage. |
| * Most of the field staff I've supervised were underpaid interns (e.g., AmeriCorps) or volunteers. Basically, the less someone is getting paid, the more I ensure they are enjoying themselves and getting type of experience they want. Unfortunately, this meant I had to absorb more of the workload and was a sign that another paid staff member was needed to manage crew work. |
| * Volunteers I use more of a body to assist with wherever we can use them. With students I ask them what they want out of this experience and help them get that through fieldwork. |
| * I have never worked with volunteers, but I expect I'd have different expectations for data analysis vs. data collection for students vs. paid assistants. That is, I'd expect students to need to spend some time doing analyses, while paid crew might not. In terms of safety, everyone is the same, with some practical considerations for undergrads given different laws about chemical exposure, etc. |
| * More supervision and hands on time with less experienced people |
| * I do not expect volunteers or undergrads to work alone ever. Paid techs I had work alone after ample training and always provided them with as much support as possible. |

# Reflection Questions

## Successful field season

Think about a field season you had that was successful. Without giving identifying details and in less than five sentences, what leadership traits and/or actions made it successful?

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| * Team Members regarded each other as peers with common goals I was able to play a more "hands off" role while at the same time checking in casually but regularly |
| * Frequent two-way communication. Clear expectations. Some prior experience by technicians in remote field situations, even just casual experiences. |
| * Setting detailed priorities, making sure everyone got enough sleep, group discussions about daily jobs. A list of when people were out (taking boats to remote locations) and when they expected to return. |
| * Patience (particularly under stressful field conditions) with inexperienced crew members. Having monthly, weekly, and daily safety plans which are continuously adjusted as needed. Periodic check ins with team members. |
| * clear communication, flexibility, empathy, compassion |
| * Communication and the expectation of communication from all involved. |
| * great communication, great community building |
| * Developing good rapport with everyone and establishing clear expectations from the beginning, but also understanding where everyone's at and tailoring the field work to people's skills/ work ethic/ ability to withstand the elements, etc |
| * Encouraging questions from the crew, facilitating independence |
| * I kept a google sheet and had students sign up there and kept important information there. I asked for feedback in surveys. I emailed the students the day before with weather and reminders for the field day. |
| * Openness and generosity with participants |
| * Shared division of labor, good communication |
| * good communication, positivity, clear expectations, organization |
| * Finding an undergrad who was a great fit, and communicating more than I thought I needed to |
| * Everyone was working their asses off in tough conditions, but we knew we could take breaks or ask for schedule changes for any reason and no one would be angry. The leader made time for both time to ourselves and fun bonding activities. |
| * Clear hierarchy with defined roles and tasks, with the ability to switch roles when needed. Friendliness and ability to adapt to mistakes/circumstances is important for leadership. |
| * Team camaraderie was incredible. A lot of luck in terms of meshing personality types. However, a productive, team-oriented, and efficiency-minded demeanor is a decision that each member must continue to prioritize in every moment of ever day. Sometimes something happens that you can only laugh or cry about--effective team members must be able to laugh. Everyone felt a sense of personal investment/"buy-in." Field leads were open to input and easily changed plans when faced with roadblocks or when crew members suggested efficiency tweaks to the plan. Leads understood well that "if you can do something about it, it's a problem; if you can't do something about it, it's a parameter." |
| * Ability to empower people |
| * developing a good rapport with my field techs, trying my best to anticipate their need for personal time and breaks from work to have fun |
| * Clear communication, allowing crew members to feel a part of decision-making |
| * We completed the work that we targeted to complete at the start of the season (barring any uncontrolled events: weather, health, etc). No injuries. The work was done well. |
| * Pre-planning (and being willing to stay up after everyone else went to bed) helped make sure our equipment was present and in order, which prevented too many unexpected hang-ups (morale killers), and illustrated to the crew that I was fully in it, reliable, and on top of making their experience go as smooth as possible. I also prioritize expressing appreciation and recognizing people's contributions, which I think helps keep people positive and motivated, even under sometimes challenging physical conditions. |
| * Establish clear schedule of tasks with personnel assigned. Give regular time off (adequate rest important). Lead by example - leader take just as many tasks (no matter how menial) as other crew members. We all take turns doing everything. Positive attitude and appreciative of crew efforts always. |
| * Having a clear plan for conducting research, keeping time critical elements on schedule, but being flexible when field conditions dictate changes. Trying to maintain an exciting and fun environment. |
| * Luck. Good weather. Good people. Resilience and resourcefulness when the unexpected happens |
| * Clear communication before and during field season, training, indentificafion of all possible risks |
| * Patience, thorough communication about objectives, |
| * regularly going together to the field, talking a lot. making about more than science. all women a lot of the time. |
| * Dedication, motivation, clear instruction, keeping the crew cleared in on where the work fit in the 'big picture,' keeping a positive/casual atmosphere where interpersonal discussions were painless even when on serious topics |
| * Listening the the crew and adjusting our plans as necessary; acknowledging tasks done well; making sure everyone has a chance to do every role in the field |
| * Prioritization of health/safety/fun, regular rewards for hard work (usually ice cream haha), mutual respect, clear communication of expectations and goals, very open to input and expertise from all team members, leadership was rotated for different tasks giving all people agency over the field day/activity at some point in time |
| * Clear communication, prior knowledge/planning by the crew lead, clear and decisive delegation and decision making, organization of gear and personnel. |
| * Clear expectations of the field crew |
| * honest and frequent communication between team members about the safety conditions, research goals, and individual comfort levels |
| * Implementing everything I provided in previous answers. |
| * preparation, teamwork, trust |
| * Communication about expectations and schedule, Listening, Making decisions and sticking to them, Accountability, Give field crew opportunity for ownership/participation in decision-making, Adaptability/flexibility |
| * Never ask my crew to do anything that I'm not willing to do personally; make sure to provide regular days off; keep a good sense of humor even when a particular task sucks (ex. vegetation surveys in regenerating clearcuts!) Also, each crew member has their own strengths; when possible, divide up tasks so that each person can work on what they find most rewarding or feel they are most competent in |
| * having an organized plan, being flexible, ability to problem solve, knowing when to step back, pause and adjust. |
| * Forehandedness - having a plana the equipment needed to carry it out, making sure the crew was briefed before ever going in the field; Flexibility - sometimes sites have to worked on days other than scheduled for various reasons; patience and evenhandedness. |
| * People who wanted to support each other and made it comfortable to take breaks. |
| * We made good hiring decisions. |
| * choosing the right people in the beginning and identifying any watch out situations |
| * Team player, good communication, motivated workers |
| * Good communication, being receptive to feedback and understanding when things go wrong (supporting subordinates when mistakes happen), treating personnel as a team instead of subordinates, having clearly outlined roles and responsibilities. |
| * This past season I was supervising one paid undergraduate assistant while collecting my data as a graduate student. We were in remote locations in the Great Basin collecting seeds for three weeks. I talked about my communication style at the start of the season, and asked my assistant questions about her communication style, her personal boundaries, her experiences doing fieldwork, etc. We were also sharing a bedroom (not ideal for fieldwork/professional relationships!) so we had to have strong boundaries and spend a lot of time together. The first week was incredibly stressful because 1. we almost ran out of gas 2. we went up a scary hill in the truck then had to turn around and go back up it because we couldn't and 3. we couldn't find all of the populations we needed and I was worried that my project wasn't going to work. HOWEVER, I stayed calm the whole time, and tried not to show how stressed out I was. I said that even if we didn't get the seeds it wasn't the end of the world, and that our safety was more important than making my project work. After that first week we had much better luck, but I showed that I am competent and in control during the first week, which set us off to a good start. |
| * It was a crew of two, and though there was a leader (not me), it felt like decisions were made together, not unilaterally. |
| * Planning, multiple people taking on different specific tasks, making sure people are not burning out of fieldwork |
| * Well organized, long days but with ample time off, open dialogue and trust and respect among members |
| * The most important difference I can make is listening to the people I'm working with and making changes as they prefer. The more comfortable they are in how they spend their day, the better the work will go, so I try to identify work and life styles early so I can plan accordingly. |
| * 1) Planning out daily schedules, but being flexible to adjustments based on group's energy, 2) Creating an atmosphere of open communication and emphasizing the importance of asking questions whenever one is unsure |
| * Communicate regularly about field work and mental health with your team |
| * Eye contact and discourse with research team to allow them to be invested in project. |
| * being prepared for any emergency situation with a first aid kit and having responsible techs |
| * Communication |
| * Having grace for people when they needed it. Being clear in communcation about expectations/plans/protocols/just about everything. Be willing to be flexible with yourself and your crew members and field plans. |
| * planning! organization of logistics is crucial |
| * Having a team that was interested in the work, and worked well together. Cultivating a positive team environment can really make a field season. |
| * frequent communication |
| * I feel like I "got lucky" with people that were hard-working, respectful, professional. Listening and paying attention to crew members, providing breaks and rest. Being organized reduces stress for everyone. |
| * constant communication, lots of planning ahead, setting expectation for flexibility |
| * honesty, good communication, openness, consistent encouragement, modeling hard work, flexibility/adaptability, open to feedback |
| * Regular contact with logistics coordinator, discussing any concerns clearly. |
| * Checking in with individuals; including everyone in goal-setting; field lead being properly trained and having prior cumulative experiences with living in the field and leading others; field lead caring about the field crew. |
| * Individual attention for each crew member to ensure everyone was receiving the experiences and training they wanted, adjusting work schedules/plans to accommodate crew member needs as issues arose, creating a strong atmosphere of collaboration and teamwork |
| * Strong communication and organization skills |
| * Motivated field crew, Clear goals and expectations, Proper safety training, Good interpersonal connections between field crew members (we had fun), Student researchers were able to take ownership of their projects from start to finish. |
| * Lots of positive feedback; Built a trusting community; Goofy times in the field; Days scheduled for rest and fun |
| * group camaraderie, espirit de corps |
| * communication, listening, flexibility |
| * clear communication, building a relationship with the crew, empathy and flexibility when needed, clear explanation of WHY we were doing everything we did, responsiveness to email/communication |
| * Open communication. Curiosity. Recognizing and utilizing individuals talents. Forgiveness of mistakes. Take advantage of learning/teaching moments. |
| * 100% commitment to completely the task at hand, including during time off; deeply trusting all team members partly due to prior field working experience with most of them; mentorship from senior very experienced field workers |
| * I had confidence in my abilities to lead the crew, I took the time to engage with my volunteers personally, and I spent enough time in the lead up gradually preparing rather than rushing to prepare |
| * it was fun even when it was not, everyone pitched in, no one got isolated |
| * Leaders are organized, they invite input from the group regarding scheduling and work load while being decisive in making the final call, they are very hard working while having reasonable expectation for crew members, and they position themselves just slightly above crew members in the crew hierarchy - they know when to lead and they know when to be 'one of the crew' so that everyone feels comfortable and respected. |
| * Clear work plan, focus on good morale |
| * The whole crew took ownership of the project and worked together to problem solve rather than relying on one specific person to fix everything |
| * being direct and clear. faulting toward over communication. |
| * A supervisor who created clear roles and expectations, gave crew members enough space to learn and grow in a safe environment |
| * The leads identified metrics of success, described how we were going to meet them, and how the data we were collecting fit into to bigger picture of conservation/purpose of the study |
| * Communication |
| * Keeping the field atmosphere overall light and fun. I think the key here was recognizing that everyone was going to feel tired and frustrated at points and allowing that to happen, but keeping lighthearted conversation rolling or figuring out how to make things into 'games'. |
| * There were a couple of years where the crew chemistry was just awesome and we had a blast hanging out together. |
| * making sure to express appreciation for work done well, and for effort even when fieldwork/data collection don't go as planned; listening to my (local) field techs and taking their advice was often helpful for building respect |
| * Incorporating lessons learned from previous three field seasons helped dial in logistics and pre-emptively respond to safety challenges. My best field seasons involved leaders who 1) had worked at least three seasons of field work previously, 2) were understanding of others who didn't have previous experience and took the time to teach them, 3) treated others with respect and kindness, 4) possessed some trait that brought a sense of lightness and even fun when field challenges arose |
| * Spending time upfront figuring out which people work well together; getting everyone comfortable asking questions of any kind, so make or hide errors that could have been avoided |
| * Involving the crew in making decisions so it‚Äôs more of a group effort than a dictatorship. |
| * I would say all my field seasons have been successful, but have also been hard in different ways. I think having crew members who know how, or learn how, to support you and one another is the greatest form of success. |
| * Leader had good attitude and was well prepared which limited frustration of the team |
| * Feeling supported, great morale, clear expectations, having access to tools/equipment that is needed (eg 4-wheel drive vehicles vs 2-wheel drive), and a culture of professionalism and respect |

## Challenging field season

Think about a challenging field experience. Without giving identifying details and in less than five sentences, what made the situation difficult?

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| * "romantic" relationships developing. This is always tough, some folks can do this without spoiling things for others, other folks make everyone's life miserable. I try to discourage "exclusive relationships" saying that if it is real, it will keep & if it isn't real, get on with the actual job. |
| * Imbalanced communication, such that technicians were not responsive. Technicians unwilling to compromise for labor or housing, increasing their financial burden by their choice. Technicians that did not ask questions, making it difficult to isolate where they were being challenged. |
| * Decisions were being made by people off-island who did not have boots on the ground. They put pressure on team leads to do nightly banding efforts despite safety concerns. This was troubling as it was a remote and rugged environment where an injury made evacuation quite difficult (e.g., hard to climb a cliff with an injured leg). |
| * Crew members not listening to leadership can create dangerous situations when unexpected weather occurs. |
| * limited resources, low moral, bad communication, inexperience |
| * Several situations arose when I was on field crews Definitely impacted my leadership strategies.  1. If at all possible it is best that the crew leader not be rooming with crew members especially if the crew leader has a different days off than the crew member. The temptation my crew leader succumbed to was to ask for work during my down time. I had nowhere to escape. It is important to understand that people need their off time. 2. Not all folks on a field crew will be the best of friends one of the most fun and simultaneously most frustrating experiences was crew quarters shred by 5 folks from 5 continents. We had no cultural background in common customs were very different. The one thin we shared was our passion for biology... and we exchanged some lovely recipes. But it was also explosive and we argued voraciously. |
| * poor morale, very long hard work days with no breaks, team members bickering |
| * Bad communication |
| * Interpersonal struggles, techs who do a sloppy job and don't take feedback well |
| * For my field sites, staying warm when on the water in weather that changes quickly (e.g. windy day in the summer) is difficult. Often, when we are at the different sites, we encounter new unexpected changes in the weather (e.g. the temperature will be 10 degrees below the predicted temp). We do our best to adapt. This is a new region for me to work in. |
| * Lack of clear instructions, lack of resting time (to maximize productivity) |
| * Unrealistic expectations of the amount of data that could be collected |
| * Unclear expectations of working hours, technician unprepared for environment |
| * Crew not exhibiting any proactive communication whatsoever, and me not communicating with my co-lead on things like scheduling, responsibilities, etc |
| * No one felt appreciated. There was a lot of triangulation (person A talking about their issues with B to C, rather than bringing them up with B directly), most damagingly a supervisor speaking critically of one subordinate to others. This was unprofessional, put us all in a tough position, and undercut trust. Misery was normalized, rather than being seen as a serious problem needing immediate changes and mental health support. |
| * Situations where there is more than one crew leader with responsibilities are not clearly defined are difficult. Misperceptions in actions can lead to miscommunication and friction. |
| * One pouty team member can ruin a whole team/trip. I'm not sure if this person hates me as a lead (or as a person), hates field work, or is just generally always grumpy. But unwillingness to engage in conversation, snippy/impatient demeanor, and unwillingness to take direction did a few things: 1) work was less efficient because he wouldn't take direction; 2) work was slower because an unhappy team is a slow team; 3) everyone was constantly uncomfortable by virtue of his presence. |
| * An employee that was not willing to participate. |
| * A supervisor gave me vague instructions for a task to do on my own, then got very angry when I did the task 'incorrectly' and didn't acknowledge any responsibility for unclear communication on their part. It was a great lesson that as a leader, you can't take responsibility (entirely or partially) for their work that is 'correct', but then not take any responsibility for their work that 'incorrect'. |
| * Poor communication |
| * Working with landowners or collaborators can sometimes be difficult (being able to access the field, or having collaborators complete tasks in timely manner). Having a lot of of tasks to complete during the summer and not having enough staff to help. Having unexpected issues with equipment (malfunctions/animals chewing through wires/etc). Incorrectly collecting data/samples resulting in a loss of data |
| * Once, a paid field assistant was clearly drinking on the job. I was so freaked out that I didn't do anything, which was, in hindsight, a serious failure that put myself and the rest of the crew in danger. I allowed data collection to progress, despite the need to drive to a remote site and operate heavy machinery (chain saws), although I did call the day early. I still don't know exactly what I should have done, considering that I didn't know this person well enough to know whether they could be a danger to the group if provoked while drinking, but I probably should have called the day earlier than I did. |
| * Letting personality conflicts fester without addressing early. Failing to take a leader role - early career, wanted to feel like part of the team and this failed to lead it. This led to indecision, passive aggressive comments instead of clear statement of goals and expectations. |
| * Extremely cold temperatures that made skiing difficult and kept freezing our water. |
| * Field workers / collaborators who were not able to cope with difficult physical or cultural environment (different culture, bad weather, bad food, heat, fatigue) and not being about to resolve those stresses |
| * No possible support |
| * the worst time is when a lead is actively angry about unmet expectations when those expectations were not communicated in advance. Likewise, it is hard when a lead assumes knowledge they have is already in the head of their technicians |
| * my co-phd student wanted to have sex with me and had extreme jealousy whenever I interacted with men. He took it out by blaming me for data problems and equipment failure. we were in a village for 4 months together with no cell phone connection and I was the only foreigner and had just terminated a pregnancy that he had caused against my desire. it was pretty awful. |
| * Poor interpersonal relationships, poor planning, conflict between staff, unmotivated crew |
| * I was stuck taking the data rather than helping with the hands on field collection for the whole weeklong trip. |
| * Extremely poor communication, leader was not flexible and did not take input from any assistants, data was prioritized over health/well-being/fun, decisions only ever came from one single person |
| * Lack or preparation on the leaders part, lack of communication, lack or decisiveness and delegation |
| * negligent leadership and negative interpersonal interactions |
| * unexpected weather conditions and logistics issues, unclear expectations for crew members |
| * Lack of overall goals/plan. An expectation that people will just figure it out. |
| * poor decision making due to tiredness and mental fatigue. |
| * Lack of preparedness (specifically, have had run-ins with running out of water/dehydration concerns on hot days, I now include a water filter as part of the safety kit), Disorganization and poor communication |
| * Not communicating adequately with project partners / property owners prior to data collection. Completely my fault! |
| * team of 3 technicians with no manager (i.e. no one assigned lead, all 3 on same level) completing time sensitive sampling program at remote (heli access) site, one team member who didn't want to be there would not contribute but also would not get out of the way of the other two technicians, putting everyone at risk in the field and slowing down the sampling by refusing to work. I think either a manager should have been part of the team or one of the team members put in charge by manager before team went into the field so that leadership was understood beforehand. That being said, this team member was problematic from the beginning and should never have been hired for this position as they lacked the experience and maturity to be part of a team working remotely and independently - they wanted a free trip to the arctic and were not prepared for the hard work, conditions and long shifts (28 days in camp, no rest days). |
| * Trying to use equipment (ATV) that I wasn't trained for. |
| * People who thought being connected to a PI made it ok for them to leave early and not do their fair share, putting work on graduate students and undergraduate volunteers. |
| * We made some poor hiring decisions. |
| * rough terrain and hot days |
| * Having to do all the work without people taking initiative |
| * People taking their feelings out on others, supervisors letting personal troubles strongly impact their leadership abilities but refusing to admit it/compensate for it. Supervisors being unsupportive of subordinates and yelling at them when things go wrong. |
| * I was leading a crew for the first time and we had huge goals to accomplish and I was prioritizing accomplishing the goals over my crew's comfort, and potentially their safety. Towards the end of the season they were pretty miserable, but we had a lot of work to do, and I stopped checking in with them and instead just tried to stay positive but push us to get the work done. Part of the problem is that they didn't understand that the field job required a lot of hiking, long days, and a lot of driving, which led them to have a bad attitude about fieldwork. The other part of the problem is that I was so obviously stressed out that I wasn't showing how fieldwork can be fun and rewarding - instead I was contributing to the negative environment. Some of the feedback I got at the end of the season was that I shouldn't have stopped out weekly or biweekly check ins, and that I should have stopped and talked about what we accomplished and celebrate out accomplishments instead of already striving for the next goal, because all in all, we accomplished a lot. |
| * Interpersonal conflicts. One crew member was not well-liked by the others, which made it difficult to pair people up each day. Eventually, that "unlikeable" crew member felt so pressured and judged (they were slower than others at most tasks), that they made up data instead of taking the time to collect it properly. |
| * Leaders or bosses having remote control when they don‚Äôt even experience what is going on in the field with the weather or other safety concerns telling you what to do. |
| * Unable to take time off, unable to communicate with superiors about concerns, lack of logistic or scientific support for students |
| * The most difficult problems I've run into were due to lack of attention to detail and supervision by me. When I requested a crew member to navigate while I worked on something else, we sometimes went to the wrong place. When I asked them to fill something in without verifying the first several, we got incorrectly filled forms. The lesson is to give crew jobs to do, but look over their shoulder from time to time to check it, before there's a problem. It's better to correct something as it goes wrong, than to do it over again afterward. This lack of attention also leads to frustration and irritation over the course of the day, which means less smooth work overall. |
| * Having a leader that prioritized data collection over student's well-being -- i.e. working through breaks |
| * Lack of communication |
| * Safety around drunk people and trust in the research team in remote location. |
| * members of the public can be confrontational and threatening towards students who don't "look like researchers" and it can sometimes be better to dress like the public expects to avoid dangerous situations |
| * Slow or non-existent communication |
| * Attitudes, unwillingness to compromise, the effects it had on other crew members who were not involved, monotony and boredom, being overworked. |
| * poor weather conditions, natural hazards |
| * Dealing with sexism is difficult, especially when other agency partners don't take your credentials seriously. This can make it hard for technicians to treat you with respect. |
| * lack of communication |
| * In my experience very large crews / > 10 participants makes things challenging. Need a clear hierarchy for decision-making. Input can be solicited in a democratic way, but too many cooks can't make decisions efficiently. Losing sight of practical safety considerations (ie hydration) can lead to disaster. |
| * interpersonal dynamics, conflicting communication styles, time zone differences make communicating in real time with project leadership difficult. |
| * poor communication/miscommunication, inconsistent decisions/standards, making assumptions |
| * One member did not feel comfortable sharing concerns, not a sense of being a team |
| * Disrespect and negative/not constructive criticism was allowed to trickle-down from higher management to field crew; unprofessional and terrible for morale, especially for those experiencing their first field season. |
| * Lack of awareness of crew member situations, lack of flexibility for different members' needs, little relationship building among team members |
| * Negative interpersonal interactions with stakeholders in the field (common in urban environments). |
| * Weather issues (can't control that), crew members who didn't mesh well with others, General high stress and not enough down time for crew members |
| * Lack of communication; Exclusionary behavior; Constant criticism; Lack of sleep; Expectations to be working all the time |
| * Unforeseen -- and unforeseeable-- personal conflicts. |
| * Unexpected danger in the field |
| * hostility, single-decisioned actions, |
| * overwork, poor communication, insufficient housing/travel support, constantly changing protocols, generally poor science practices, unreasonable expectations, very low pay |
| * Poor communication and interpersonal relationships. Poor planning. Lack of method comprehension. |
| * That none of us present (4 individuals) had any prior experience negotiating the particular risk at hand |
| * Not taking the time to anticipate potential struggles and plan to get around them, being distracted by my own lack of confidence |
| * couples, sarcasm, shirking |
| * Less physical space in living quarters, larger research team, and one assistant with a very annoying personality to all... |
| * Covid made it so that we had to drive and live separately, which made communication and training very difficult. Relationships were not fostered as quickly so the team dynamic was worse off and the data suffered because of it. |
| * Given no support from department. Makes me constantly worry -- if I get injured during fieldwork, do I get workman's comp? What about during the one month I don't get paid by the department? If I didn't get emergency contact info for my students, what would I have done if there was a problem? I want some institutional things in place, like how you have to do lab safety training every year. I participated in a meeting with our chair and a safety compliance officer and they were just like "well we've always let the field ecologists do their own thing"  There needs to be support structures in place BEFORE there's some tragedy (either at my school or another) -- especially before a URM gets into some horrible incident in the field |
| * A leader who did not take crew concerns seriously (let alone actively seek them out), dismissed and disparaged complaints, took safety shortcuts leading to injuries |
| * Isolated conditions with the same crew led to ultimately feeling isolated an inability to communicate issues I had about relationships with crew members and a lead |
| * Sexual harassment, sexism (specifically condescending attitudes toward women in the the field), lack of communication/organization |
| * Conflicting ideas about what should be done in a certain situation. |
| * Crew chemistry - conflicting personalities |
| * One of my field techs was the only one of us who could comfortably drive a manual vehicle, and also happened to have a drinking problem. He would not listen to me when I asked, then demanded, that he not drink before driving into the field once every ~2 weeks. This turned into a very toxic, stressful dynamic that I did not handle very effectively. I tried many different tones and tactics to get him to comply, none of which really worked - and I couldn't afford to fire him and find someone else, because the training period had already ended and I couldn't spare the time on a tight field schedule to find someone new. I should have called on my PI earlier than I did to help me address the situation |
| * Not having the right equipment for the field conditions (e.g., vehicle w/o 4wd, poorly equipped tires). Another example would be having a field leader who was far less experienced than field technicians. |
| * A conflict between personalities led to issues in data collection as communication broke down. We needed to check on the crew more, but logistics were difficult. |
| * Negative attitudes, disrespect for equipment and sexual harassment that I didn‚Äôt nip in the butt immediately. |
| * Interpersonal dynamics are always the hardest to manage. One time, despite clear communication about certain expectations, two crew members tried to argue against those expectations. These were expectations about norms of behavior--not workload or safety-related. That was really difficult and led to long-term resentments. |
| * Too large a team with lack of communication and some poor attitudes / bad fit with current ability that caused frustration across the team |
| * One that comes to mind is having a hostile interaction with a colleague, sharing it with a supervisor, and later taking the blame so we could continue to work with the person because their skillset was valued more than mine |

## General advice

In general, what advice would you give to incoming graduate students leading a field season for the first time?

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| * Get to know your assistants ahead of time. Ideally in a short field-type setting. Even a couple of hours in the field can often tell you who is going to be useful & who will fold up |
| * There is no such thing as a perfect field season: Something will go wrong. Understand what can shift in your study and what cannot; prepare for alternatives if you can. Keep your eyes open and know your field area well; inspiration can save you in a pinch by knowing the available resources at your disposal. Take tons of pictures! |
| * Not to be over-confident. Better to ask the team to assess conditions than try to exert authority at the expense of personal safety. Hire a strong team who will support the leader while bringing needed experience that the lead may lack. |
| * Be patient. Make Plan A, B, and C. Create a safety plan and review with more experienced leaders. Create contingency plans. Interview crew members for their specific concerns; ask what they need in order to be successful (i.e., autonomy? direct guidance? advice on supplies? work in a team? working alone?) |
| * keeping excitement levels high is critical. clearly communicate field plans, priority of tasks, and expectations. manage your own expectations and don't plan more work than you can reasonably accomplish in a day. It's better to plan to do less than you think you can accomplish and get more done than try to cram in too much work and feel like you've failed by not finishing what you set out to do. make a checklist of field gear and personal supplies and have multiple people on the team responsible for ensuring everything is packed. ALWAYS triple check that you have everything. anything that can be easily lost or broken (rulers, pencils, calipers, etc) should have multiple back ups packed. This includes things like power tools. eg. if you need an impact wrench, pack extra batteries and a hand wrench. most importantly, remember that when it comes to field work everything goes wrong always so prepare for every way that it possibly could. |
| * Talk to you crew, make sure they know what you need and what your goals are, but also listen to them and make sure you know their needsa and goals and wherever possible do your best to make things align |
| * Take the time to plan (and delegate). A field safety plan, a communications plan (who has the radios and how to use them, what will you/they do if there's a problem, who to talk to and how to get in touch), and meeting the crew to talk through a community agreement (what are the shared behaviors that we agree are/aren't ok) can go a long way. |
| * Comun√≠cate well, early and often. Prepare as much as possible ahead of time |
| * Ask your advisor for advice on what to do; ask other graduate students with field leadership experience for advice; encourage your crew to always ask questions |
| * Bring someone more experienced than you to bounce ideas off of in the beginning. Then, when you know you will have fewer unknowns, bring those who are less experienced than you and share the joy of doing fieldwork with them. It will keep you motivated in your research, and studies show that undergrad research involvement keeps students motivated to pursue a STEM field. |
| * Listen to everyone and do not invoke your hierarchical position to get things done, unless it's absolutely necessary |
| * Test your protocol and your equipment so that you have time to adapt it. Set reasonable expectations (that stuff will go wrong) and have precise goals when in the field. Proper preparation is key, Find reliable field help. Field work is hard! Keep it fun, value relaxation time, and treat yourselves. Access to sites takes alot of effort, minimize travel when possible. The safest comfort level will drive your actions in terms of work and safety. |
| * Be as clear as you can about your expectations, the field environment including facilities (or lack thereof), and the work to be done. This includes working hours, exactly what a typical day involves, and when breaks are expected. Do this all in writing and verify your crew members have read it. Be sure to check in with each person as an individual human that deserves to be heard. Address any concerns before they become problems, delaying is never a good plan. |
| * Learning to lead/manage a crew is likely going to take up as much time as learning to do the rest of the study, so seek advice from multiple parties and adjust expectations where needed. Also always make copies of all your raw data asap. |
| * When you are responsible for other people, you have to take that seriously. This will probably mean watching what you say a bit more, and making decisions about risk differently than you might for yourself.   Most of all, remember that your well-being and theirs is always, always more important than the data. |
| * Be prepared to adapt to something going wrong or someone making a mistake. Be careful to discern when a mistake is a learning experience versus when it is serious enough to require correction. |
| * 1) "If you can do something about it, it's a problem. If you can't do something about it, it's a parameter." Be ready to adjust priorities and plans on the fly. 2) Be patient with people, but be firm about safety. 3) Like it or not, being the lead means you're seen as the pro; if you don't know the answer, the best thing you can do is say, "I don't know, what do you think?" and workshop the answer from there. 4) Keep an eye on methodological integrity when others are performing sampling tasks; teachable moments don't have to be or feel punitive (a little bit of backseat driving is ok if sample integrity is on the line; just make sure you teach them such that they do it right on their own next time, rather than having to continue to rely on you to be watching). 5) "It is possible to do everything right and still fail. That is not failure, that is life." 6) You are the anchor for team culture; people who feel good make a team that works good. 7) Guaranteed, you will make mistakes. That's ok. Learn from them, fix them, and move on. Field season (and your crew) can't wait for you while you feel bad about yourself. |
| * Communicate expectations. Have a trial field day. While some might say they are up for a task, they may really not be physically or mentally capable. |
| * Do your best to become friends with your field crew, but also make sure not to forget that you're 'in charge' of them, and responsible for their safety and their work. |
| * Complete a Wilderness First Responder training (I'll also add that PIs and Departments should support such endeavors with financial support, given that the training is pricey) |
| * Learn who your staff is and their skills/limitations. Take the time to train them and tell them your expectations (work hours, what tasks need to be done when, if they are to work independently, how to collect and process data correctly). Be flexible both with your expectations and be flexible when things to go as planned. Field work usually never goes as planned so know that you may have to adjust your protocols or field work tasks the first time you try it out (i.e. tasks may take too long for the time you allotted, your equipment set-up might not work out as you planned, something breaks, its too hot or too wet to do certain tasks, etc.). Make sure you have good communication (phone, walkie-talkies, etc.) between team members in the field. |
| * You've got this! I doubted myself at every turn as a graduate student leading a crew, but when you show up with a confident but humble attitude, your crew will trust you and will want to help you succeed by helping the project succeed. Provide opportunities for rest and socialization, thereby acknowledging that this project probably means more to you than it does to them. In other words, you might be motivated to push it to the limit, but this isn't their thesis/dissertation, and they're going to stay more productive and positive if their experience is enjoyable. Let people know that you appreciate them. Try to find ways to personally connect with each member of the crew, even if (and maybe especially) a crew member is a little difficult to get along with. And don't slack on making sure that protocols are carefully followed - have followup accuracy checks, refreshers, etc. if you see that data is coming in messy or inaccurate. You only get one chance at this, so gently remind and refresh to make sure that everyone's data is clean. |
| * All of the above! Especially point out the responsibility. You are not just another tech. This is your show, lead but remain humble. Be open to input but clear and decisive on expectations. Listen and observe. Ask for support from PI if issues arise‚Ä¶ ASAP. |
| * Seek the experience of their professor, be flexible in accomplishing goals, and don‚Äôt be afraid to change methods that don‚Äôt work. |
| * Make a plan for physical and personal safety, discuss safety issues with crew. Get some training your self in field safety. |
| * Take more precautions than you think are necessary. Don‚Äôt rely on your PI to give you enough information or advice |
| * Monitor your emotions and always remember that you are responsible for communicating your expectations clearly. Keep in mind that every person brings their own history to a learning experience so what is clear to you may not be obvious to them. |
| * be organized, get to know everyone, be aware of personal and professional relationships - you don't have to drink the beer. you have the right to read your book and write in your journal whenever one else is drinking beer. |
| * Seek advice from others; be transparent with your tech/crew; make the 'bigger picture' clear to your crew - why is the work important? Why should they care? |
| * Let the undergrads see your thought processes as you try to solve a problem; plan out everything you need, and pack the boat/truck the night before (and double check in the morning). Know that eventually the truck will get stuck or blow a tire, it‚Äôs just part of field work, make sure you have what you need to deal with it. |
| * Your data is not worth the suffering of another person - be kind and generous and treat your field crew how you wish you were treated as an undergraduate. This is an opportunity to break the toxic cycle of academia and make science a place that is more inclusive and welcoming, use it! |
| * Be patient with yourself and the people on your crew. Make sure you understand what you are doing. Prepare as much as possible before hand. Practice and know how to do the field work before you teach the crew or go in the field. Be a leader and communicate clearly and dont be afraid to delegate. Theres nothing more frustrating than a crew leader who doesnt really know what is going on or how to make decisions and just tell people what to do. |
| * temper expectations, not everyone will be as passionate about completing your project as you are |
| * take the time to outline all logistics and emergency plans, even if they feel like common sense. in a stressful situation you will be glad you wrote all this details out. Communicate clear expectations for crew behavior, team roles, and science goals ahead of the field season. Also ask your crew and yourself what they/you are hoping to accomplish. I like to set a best case and worst case/minimum goal for what I will accomplish research wise. |
| * Ask for help or advice from experienced leaders. Make sure to have prepared: packing lists, team gear lists, itinerary, communications plan (including emergency contacts, communication devices, and protocol for reporting problems), safety plan (including parts for bathrooming and natural hazards like bugs), and go at it with a smile and a sense of humor. Mistakes will happen! |
| * Gain some "big picture" knowledge of the field location before you go, including land use history, traditional and current land owners/managers and how you might develop relationships with them (including formal permitting requirements). |
| * Overprepare. Use existing or encourage your PI to write standard templates for safety plan and interpersonal safety (non-discrimination, harassment, etc.). Write detailed field protocols but reassess and be open to changing them once you're out there. If this is your first time doing a particular type of field data collection, ask an expert (your advisor, local collaborator, university faculty who teaches relevant course) to ideally join you in the field early on or walk you through it before you leave - particularly valuable for plant ID! Set realistic goals (ask for advice about what is "realistic") and take it slow, particularly on the first few days - take the time to adapt any protocols/expectations as needed early on. Prioritize safety and well-being. Treat your field crew well and support their long-term professional development. Have fun and find ways to decompress at the end of a long day. |
| * Fieldwork can be physically and emotionally challenging but is SO rewarding. Some degree of risk is inherent but remember that getting the data is never worth putting your crew in danger. If you encourage a fieldwork culture where people are comfortable asking questions and aren't punished for making mistakes, where they know that you will listen to their concerns and have their well-being in mind, everyone will be happier and your data will be of higher quality. |
| * Do a test run of your field procedures, plan for delays and give yourself time and space to reassess you procedures part way through the season, ask lots of questions of your advisor/s and get a commitment from them as to whether they will join you in the field for any part of your work and how you will communicate with them when you need their input during the field season, select your team carefully (request to be involved in the selection process, you're the one who has to work with these assistants/undergrads afterall), stay dry and bring extra sharpies and batteries. \*\*know how all your equipment works and how to problem solve technical glitches in the field (and when it's time to take your widget back to the lab for assessment). |
| * Prepare - prepare - prepare |
| * Manage expectations, data is less important than a good field team environment |
| * Get references from people you know who know prospective hires, preferably someone who has supervised a prospective hire in a field setting similar to the one anticipated for the graduate student's work. Find out about interpersonal sills, work ethic, practicality, in addition to intellect and field skills. You can often quickly train people to collect data but you can't always train them to be team players, to like remote sites, or to be practical when confronted with field challenges. |
| * learn from the conditions and be willing to adapt but always error on the side of safety first |
| * Make the goals well defined and give specific duties to everyone to be responsible for |
| * To be understanding, to be patient as things will go wrong and mistakes will happen all the time. To lead safety trainings at the beginning of the field season and to be sure each person on the team fully understands the protocols before starting. To promote interpersonal relationships and bonding of the team to make it through tough conditions. To always write equipment lists to avoid forgotten items in the field. To always have emergency medical and mechanical rescue tools on personnel and in vehicles. Bring remote phone battery packs. Always make sure multiple people know where each person is in the field at all times. Set up a system to check in throughout the day in the field and keep to it. Ideally don't have people alone out in the field. |
| * Communicate! Before the season starts, make sure you know about communication style, health and safety issues, and their levels of field experience. Have weekly check ins with each crew member individually. Try to maintain an air of calm and positivity, even when things are going wrong. As the leader, you set the mood for the group, so make sure to stay positive. Also, comfort and safety blur into each other, but if you crew is really uncomfortable it might become unsafe and remember that safety is more important than getting the work done. |
| * Hire your own crew members, don't let your advisor do it for you. Personalities matter. Always thoroughly check references. Post your positions early. Pay as much as you possibly can in order to get the best applicants. |
| * Relationships are the most important! |
| * Take time for yourself. Make sure you can get real time feedback from your PI that will be constructive and respectful. Be kind, supportive, and understanding to you technicians. |
| * Initially, having a crew is extra work, not less work. When you're leading, you need to be both training and checking the work that gets done, so it'll feel like it's quicker and simpler to do it yourself anyway. Spend lots of time on the 'training' phase, and verify that they know exactly what they're doing. The crew won't start taking stuff of you're plate until you've shown them everything you know, so give it plenty of time. Afterward, if any of your crew is ambitious, you'll have a colleague, not an employee, and you can work on an equal footing, which is very relaxing. If your crew doesn't want the responsibility, you should at least have a competent worker and you can only check their work every once in a while. Always give opportunities for more responsibility, and encourage them to do more, more independently. |
| * Make sure that there's open communication! |
| * You don't have to be friends with your team, but everyone should feel like they can come to you with their questions or concerns. |
| * Something will go wrong. It always does. Just roll with it and try to plan contingencies. |
| * write a full safety SOP detailing potential dangers/issues and how to avoid or deal with them, including not just natural issues (e.g. bears, poison ivy, ticks) but also people (e.g. poachers or illegal activity) |
| * Be prepared for plans to change and be open to trying new things. Don't burn yourself out trying to do everything if you realize you were too ambitious planning, ask for help! Put your safety (and animal welfare if applicable) first when it comes to collecting data. No data is worth your life or the inhumane treatment of your subjects. Be an advocate for yourself even if those you work for or with are more lax about safety or protocols. Don't force yourself to work in unsafe situations or with people you feel unsafe. |
| * Data is important, but your crew is essential. Trust them and build trust with them, give them grace but be clear about your expectations. Treat them like team members, not your employees. |
| * plan, make back-up plans, and back-ups to your back-up plans |
| * To cultivate a positive team environment, hold regular check-ins with whole crew. |
| * check in with people daily, ask specific questions if crew members are not providing details |
| * Set reasonable expectations that allow for variability in the performance of your crew. Build in time for rest, days off and hygiene. Insist on safety training and equipment. Carefully select group members for respect and resilience. Have alternative plans. |
| * Be patient with those working for you AND yourself. It is a lot to take on but can be very rewarding, both scientifically and personally. Don't be so stressed you can't take a day off to enjoy a hike/beer/book/call home. The time off is necessary to make it through a long season and campaign. Eat well, no one is at their best if they are living off energy bars and coffee. |
| * The people aspect of a field season can be as challenging or more challenging than the data collection side; honesty is the best policy; make sure you celebrate accomplishments and acknowledge the work you and your crew are putting in; encourage questions; ensure you're putting in the work alongside the rest of your crew |
| * Write everything down - precise methods, notes, daily records, etc. |
| * Communication, preparation, take a WFR course, be flexible, and care about your crew! |
| * Transparency and collaboration builds trust and enhances training for field crew members. As problems arise, discuss them with your team rather than trying to figure them out on your own without telling anyone. Let crew members see your process of inquiry and participate in troubleshooting. Be receptive to feedback from crew members about how to improve workflow, procedures, teamwork, etc. |
| * Get to know your study system well, including any potential stakeholders you will encounter. Have a safety plan (including for personal interactions). Prioritize strong and consistent communication throughout the field season |
| * Plan but know that you can't plan for everything-- so roll with the punches when you need to. Have high expectations for your crew members, Don't be afraid to hand over some responsibilities. Know that you will make mistakes--that's ok, Keep notes, Keep data organized, Plan a timeline of projects from the beginning of the season and try to stick to it |
| * Check in with your field crew often about how they are doing; Be positive with your feedback; Be intentional about building an inclusive community; Schedule off days |
| * Focus as much on soft skills, humane leadership, leading by example as the actual research objectives and technical scientific skills |
| * take care of yourself first, make sure you have a direct line of communication to a trusted mentor at all times in case something goes sideways or a problem situation arises; prepare for physical and emotional injury for yourself or others even though it is rare - you'll be in a better situation to respond quickly and appropriately |
| * Be prepared for situations you don‚Äôt expect to be in |
| * It's just like riding a bike, it will be bumpy at first but once you figure out how your group responds well to your teaching, things will smooth out. Don't be afraid to figure things out as you go, as we can't always plan for every scenario, but try and be prepared for unexpected events as best you can. Always check in with assistants at least 1/2 times a day. |
| * think about what you would want or appreciate as a crew member. Also remember that you and your crew are all humans with needs. Academia has a toxic culture of "you work until you get it done" even if your physical or mental health suffers, do your best to prioritize the health and safety of yourself and your crew over that one more bit of data. |
| * Have fun, communicate well, use common sense, prepare prepare prepare. |
| * Make sure you have thorough preparation before the field season both out of the field (policies, procedures) and in the field (experience of lay of the land etc), if possible talk to and go out to field with very experienced people before you begin. |
| * Confidence is key. Even if you don't feel it, try your best to fake it until you can get out of your own head. Take the time to talk to your adviser. If it's a new project, work together with them to develop a game plan. If it's an established project, ask about the pitfalls and communicate with the previous grad who ran the project when possible. The more time you can take to prepare, the better. Bring extras of EVERYTHING you might need. |
| * embrace the hard stuff, talk about the unpleasant, empathize, lead by example |
| * Don't feel like you have to shoulder all of the work. Making decisions for the group and delegating tasks can feel 'bossy' and uncomfortable at first, but if you're conscious of your tone and remember to give positive feedback you shouldn't have to worry. The crew is there to work for you, let them do their share of the job. Of course, being superbly organized is a must so that you don't waste the crew's or your own time. |
| * Interview prospective volunteers multiple times and take mentorship seriously. Make a mental note of where the professional/personal line is ahead of time and do not cross it. You can know someone well from fieldwork and shared quarters, have a pleasant and personable interaction, but not cross that line. I don't mean only for a romantic purpose or in regards to harassment or any extreme case scenario like that, but also just how friendly to be with someone you are managing and whose respect you need to command at all times. Remember that the physical safety of your team can depend on your ability to take this seriously. Not everyone will respect your authority if you are 'friends.' I tell my students we are 'friendly' but not friends as an example when I am talking to them bout mentorship, which helps to clarify bounds for them on both sides of their leadership structure. |
| * Try to set boundaries early on so it's clear you're the boss and not just a friend to complain to. Find someone with lots of interviewing experience to ask about good interview questions and how to determine what a good tech looks like. |
| * Don't be afraid to ask the awkward questions -- make it comfortable so your undergrads can tell you if they have to go to the bathroom. Be explicit on what they need to wear in the field. Get emergency contact information (put yours on it as well) and keep it in the glove compartment of the car |
| * While there are idiosyncrasies to the field work element, much of this is a matter of personnel and project management - for which there are numerous resources. take this element seriously - treat it like another technical aspect of your job/training, just like any other scientific skill like quant, writing, subject matter, etc. |
| * Structure time to reassess progress and relationships continually over the season both with yourself and the crew members |
| * Research and plan as much as possible before going to the field. Don't make a tight schedule, include extra days in the planning in case there are delays. While in the field, know that a lot will not go as planned, so be flexible, resourceful and creative as you go. Safety should always come first. And lastly, don't get frustrated if things do not go as planned, that's the nature of the job! |
| * Nothing is more important than the safety of your crew. Also, maintain your composure- the crew is looking to you for leadership and will feed off of your energy. |
| * When it's good, it's good. When it's bad, it blows really really bad. Be easy on yourself, be available, try and meet people where they are at while being professional and making decisions in the best interest of the group. People are more important than data. Not everyone will be happy all of the time. |
| * Take a course in effective leadership styles! Having had zero formal training or much experience leading a team, especially in another country and language, before grad school made leading a field crew the most challenging part of my PhD. Figuring out what kind of leader to be, and what sort of relationship to foster with your crew members, is hard, but so important in shaping the crew dynamic. For example, I think I was too friendly and acted too much like a peer, which led to my crew members testing boundaries and not respecting my authority later on. Also, it's really important when working with local crew members in another country or culture to be prepared for cultural differences, and differences in expectations e.g. around things like money; try to consider power differences and how those might affect interpersonal dynamics. |
| * Emphasize that safety and well-being is more important than data. Every time. |
| * Plan as much as you can ahead of time - get advice on protocols from other students/professors/professionals. But mentally prepare for the need to address problems on the fly while keeping everyone as calm as possible. Establish authority, but try to be approachable for all questions - to avoid later issues and errors. |
| * Get used to delegating tasks and giving clear, concise directions. Know what you want out of your crew (attitudes and level of work) and demand that from them while also remaining empathetic about their own personal struggles. |
| * Choose your crew members wisely. Don't hire your friends. Prioritize safety first, then happiness, then the work. Think creatively about how to obtain useful data with minimal effort. Be sure to explore the various safety issues of your study area well in advance of the start of the season. Expect to do everything yourself, so that you're capable of stepping in when something is going wrong, no matter the situation. |
| * Become trained in culturally responsible mentoring. Make safety plans individualized. Invest time early in training your group. Use data validation to limit data entry errors. Create systems and delegate responsibility to teammates within those systems. Write out expectations both for what your team can expect from you and what you expect from them. Mentoring-type contracts can be useful |
| * Get to know EVERYONE who works on your sites, talk to people and be curious about their jobs and ask about the area. Especially how the law enforcement operates and who to call or not call. Building a community helped me not only keep my team safe but helped me find reputable automotive repair shops, good restaurants, and increased joy exponentially. |

# Exit questions

## Resources

Are there specific resources (e.g,, online readings, workshops, etc.) you recommend for new field crew leaders?

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| * No (+19 * Learn from personal experience (+6) * Learn from community experience (+5) * Required course for students * Humboldt's Personal Narrative |
| * Know your system and its risks(+4) * A solid grasp of maps and mapping can be useful. |
| * CPR/first aid courses (+1) * Wilderness safety training (+6) |
| * Field Safety Plan template: https://ucdavis.app.box.com/s/9395kqk32r8aiuhuy510dhb7fgr8qqzy |
| * ADVANCEGeo leads a great training specific to fieldwork scenarios * Hollaback offers bystander intervention trainings which can be tailored to address specific harassment dynamics.   There are many great readings on this topic. I particularly recommend: - John and Kanh 2018, Mental health in the field - Cooper et al 2020, An Exploratory Study of Students with Depression in Undergraduate Research Experiences  - Nelson et al 2017, Signaling Safety: Characterizing Fieldwork Experiences and Their Implications for Career Trajectories - https://eos.org/opinions/ten-steps-to-protect-bipoc-scholars-in-the-field - Greene et al 2021, Safety and Belonging in the Field: A Checklist for Educators |
| * Some kind of team building workshop. |
| * We've been compiling an informational document to disseminate within our department that outlines strategies/provides information about field safety (both physical and interpersonal, emotional, etc). This has been a good opportunity to think about things I've learned or knowledge related to fieldwork that I have taken for granted. (Here is the document, which includes links to other resources that have been helpful: https://docs.google.com/document/d/1Kb8euvRodO3gri3zdnCUZYKo2OHx45-sJqIHRs4F7-U/edit?usp=sharing) |
| * https://cpo.noaa.gov/News/News-Article/ArtMID/6226/ArticleID/1601/Leveling-the-Field-%E2%80%93-Tips-for-Inclusive-Arctic-Field-Work |
| * Wildlife techniques manual |
| * UC Santa Cruz has a great training program |
| * I've been hearing about some new workshops now, but I haven't managed to attend any |
| * I did a teaching & pedagogy course before my field seasons which caused me to think critically about mentorship, which I think probably helped. |
| * the FISST training to combat sexual harassment and discrimination in field settings fieldworkinitiative.org |
| * I think it was IARPC who did a webinar for women in the field, including details on clothing and bathrooming. Everyone should watch it. Men need to know what women are dealing with. The book ‚ÄúFieldwork Ready‚Äù by Vero is an excellent resource. |
| * For my safety plan, I started with some university templates (e.g. https://www.ehs.ucsb.edu/field-safety). I do work in national parks, and their websites often have good resources including videos covering physical safety. |
| * University policies and procedures |
| * I took a workshop hosted through UF called Safer Science - Safety in the Field which was very helpful, especially if you are from a minority community or are working with individuals from minority communities. |
| * Conservation Corps of New Mexico had some good resources in their trainings but I'm not sure if they're available online. |
| * Reflect on your field experiences -- what made the experience good or bad? why? what can you learn and incorporate from your past experiences? |
| * Not anything specific that I can think of, but they should take workshops/attend seminars about good leadership. |
| * Dillons Tailored Design Surveys |
| * I wish I could remember the title or authors one paper about fieldwork safety I found useful but hopefully someone else will suggest it! But I do want to suggest that if you are in charge how assistants are compensated or have any say in it you should consider reading this paper about some of the inequities caused by volunteer or low paid positions in ecology  https://doi-org.aurarialibrary.idm.oclc.org/10.1002/wsb.603a We all know funding can be tight and it's difficult to pay assistants fair wages sometimes but knowing about the inequities this can be useful for adjusting recruitment and expectations (especially on time commitments) to help alleviate it. |
| * Demery & Pipkin 2021 - Safe fieldwork strategies for at-risk Individuals, their supervisors and institutions (+6) * McGill et al. 2021 - You are welcome here: a practical guide to DEI for undergraduates embarking on an ecological research experience * https://serc.carleton.edu/advancegeo/resources/field\_work.html; https://www.ucop.edu/safety-and-loss-prevention/environmental/program-resources/field-research-safety/index.html; https://eos.org/opinions/ten-steps-to-protect-bipoc-scholars-in-the-field |
| * https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0102172 |
| * Probably just general readings on how to be a good leader |
| * read up on servant leadership |
| * Dyson, K., Ziter, C., Fuentes, T.L. and Patterson, M.S., 2019. Conducting urban ecology research on private property: Advice for new urban ecologists. *Journal of Urban Ecology*, *5*(1), p.juz001. (+1) |
| * https://zenodo.org/record/5604956#.Ybi03c\_MI2x |
| * Field safety workshops (i.e. wilderness first aid, bear safety, etc. ) |
| * Leave No Trace training, sexual harassment training with field focus - https://training.ucr.edu/courses/sexualharassment-field. Also, every institution that sends students out into areas without cell service should equip those students with an InReach and a plan for daily check-ins. |
| * I've really appreciated the recent literature on fieldwork safety for biologists of color and women. I think it's important to be aware of the stats on sexual harassment in the field. |
| * Yes! This entire webinar and the papers they recommend :) https://vod.video.cornell.edu/media/Safer%20Science%3A%20Strategies%20to%20protect%20at-risk%20researchers%20when%20conducting%20fieldwork/1\_noix4lnn |

## Policies

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| * No (+21) * Said yes but didn’t include specifics * Get a good health form & make sure EVERYONE fills it out |
| * Supervisor training, if it exists. * Ask other graduate students (+1) * Department level training (+5)   + <https://fieldworkfuture.ucsc.edu>   + https://safetyservices.ucdavis.edu/units/ehs/research/field   + improve existing training   + My department in grad school had a workshop every spring for faculty and grad students who do field work. Some review of policy, but mostly playing out scenarios and discussing the merits of different courses of action (everything from "one member has concerns about the trail ahead but others don't; the alternative is an hour longer" to "you hooked up with a subordinate crew member, how do you proceed?") I found this massively helpful and believe more departments should do this. Open conversation in small groups for each scenario allowed for exchange of ideas, consideration of alternative priorities, and various leadership style. In addition to being important field prep, this is one of the best methods for team-building prior to the season.   + the AFS and TWS subunits on campus provide workshops on field techniques * talk to field leads/mentors that you enjoyed working for and try to emulate them. |
| * Would suggest spending a season on the project not as a crew leader before taking a lead role. (+1) * Wilderness first aid training (+8)   + For leads   + For everyone (+2)   + Funded by university (+1)   + could be department-sponsored and on campus. (+1)   + CPR/First Aid should be a minimum requirement. (+1) * Workshops on communication, leadership, mentoring (+5) * Mental health first aid training (+1) * Online seminars for graduate students before field season * filing an overall safety plan with your dept/program (+6)   + provide a template (+2) * I have been at universities where each skill needs to be noted by a supervisor before being performed independently. This sometimes seemed onerous, but a bit of bureaucracy is much preferable to another institution where students were sent to remote locations completely untrained. The latter situation is dangerous to both study species and personnel. |
| * Make sure all students know people at the facility who are both mandatory and nonmandatory reporters who they can go to with concerns. Make sure new students know all the mandatory and optional training available to them (boat training, navigation, etc...). I dealt with many issues as a graduate student where I felt unsafe and had no idea who to turn to (advisor developed dementia and coerced me into unsafe field work; heard of other PIs insulting other students looks and weight; second advisor coerced me into signing out boats for other students who weren't trained even though I wouldn't be on that boat). |
| * Never put data or research before crew safety, no data is worth someone's life/health and that's final. Reiterate that multiple times especially when field work is happening in remote/challenging terrain. Also don't make crew feel like they have to risk totalling a vehicle to keep to a schedule. Have effective channels of communication for things like vehicle failure (including to the mechanic themselves and not just to the university). Give crew methods of communication such as radios and SAT phones, as well as multiple navigation devices. there's so much more I could list but overall never make people feel that they are worth less than the research they are doing. |
| * Many research institutes have checklists for conducting research and offer workshops (e.g, bear safety training). |
| * The environmental safety department on our campus has training and resources and They borrow most of those resources from another campus that developed it but at least they make it available |
| * We've had students die. It is crucial that as a leader, you plan for the worst case scenario. The university needs to put in place the infrastructure for this -i.e. have a app, or form or something that gets everyone contact information and emergency information. The university needs to have money available for all and any safety equipment and training (avalanche, first aid, etc). Everyone should have access to it, including students. |
| * MONEY for field equipment |
| * Templates for field safety and non-discrimination/harassment protocols at any level. |
| * private sector takes safety very seriously and if there is fieldwork involved discussions about safety task by task are usually part of the SOP, I haven't found university safety documents or discussions to be very practical (they are just concerned with legal coverage). I think taking some pages from the private sector book would be a valuable addition for grad student field leaders, as unless you've been exposed to the private sector in this way these concepts don't come up in many other life experiences - I'm a fan of the Field Level Risk Assessment, it's basically a conversation at the field site prior to start of work that lists the potential risks and what the team will do to mitigate them based on the site, the conditions that day (snowing, hot, windy, etc), and the task at hand (are there any chemicals involved, sharp or otherwise dangerous tools, etc). It just helps put the potential risks at the front of mind (vs. that one safety document you read two months back before you were even out in the field), clarify the task and roles to everyone involved and note any new/unique challenges due to the here and now of the situation. This usually takes 5-10 minutes, and can be as simple as: we're sampling vegetation plots this morning, it is sunny and hot out, we are an hour walk from our vehicle and wildlife in the area include bears - we will wear sunscreen and hats, and stop for water breaks, we will leave by X time to return to the vehicle before dark, we will work in teams of 2 and have 1 bear spray per team and scan the surroundings for wildlife regularly (at least every 15 minutes). We all know these things, but saying it at the outset puts it in each team member's mind. |
| * Orientation of the tasks, tools, and protocols |
| * I've never seen a guide but advice about how to deal with food for remote sites, field kitchen, sanitation, bathing, etc. would be very helpful. I learned by doing and from others but it certainly could have been more efficient. |
| * Library research services |
| * Review existing protocols, field memos, contracts, etc in your lab and update to you needs. Ask for these if they don't exist in your lab, or create them with help from your advisor. |
| * ESWN field guides |
| * Ensuring that a discussion about safe fieldwork practices occurs before students go into the field, including aspects such as sexual assault, racism, and interpersonal conflict that are common in the field. |
| * Field safety training for the whole dept would be ideal. Clear expectations from the dept about how much leadership grad students should have and how much mentoring needs to take place from advisors is also necessary (but that's a bigger problem) |
| * bystander and/or sexual misconduct training (not the online tutorials that are pretty lame in my experience |
| * A manual that is reviewed at least annually. |
| * Having just a written copy of the field procedures can be really helpful. I strongly recommend grads and advisers work together to develop this. |
| * The DEI committee provides a framework for academic situations, but less so for field conditions. I think we need a fieldwork ethics module or at least set of resources for the department. |
| * PIs and departments could help connect grad field leaders with appropriate trainings. Also having lab/departmental support to help grad students handle any issues that happen (i.e. reporting misconduct, having lab policies or something in place before the field season that could help guide the grad leader on the appropriate course of action in handling a situation). |
| * https://www.nature.com/articles/s41559-020-01328-5 (Safe fieldwork strategies for at-risk individuals, their supervisors and institutions; Demery and Pipkin 2020) |
| * A good relationship with the people that handle your fieldwork paperwork (hiring, expenses, etc) can go a long way. Introduce yourself. |
| * Check in with researchers who do international fieldwork, they are likely much more prepared than some who stick to national or state research. |

## Other

Are there other strategies to leading fieldwork successfully that you’d like to mention that have not been addressed above?

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| * Have fun. If you don't have fun, what's the point? (+2) * Snacks, in some form (+1) |
| * Start the permit process as soon as you can, ideally at least 5 months in advance. |
| * Constant open communication that minimizes ego and maximizes community is important to dealing with conflict before it becomes destructive. |
| * Make sure all crew members know people at the facility who are both mandatory and nonmandatory reporters who they can go to with concerns. |
| * No (+14) |
| * Remember the person most passionate about your reaserch is you and alow people to be engaged without drowning them in it. |
| * Depending on where the fieldwork is, interactions with "outsiders" (those outside your research group/field team) can disrupt any plans you have made. Be sure you address how you plan to deal with the local community when you make your plans, including any culturally sensitive topics on how you should dress or act. |
| * Try to start each day with a cheerful attitude. If you just can't, be honest and tell your crew your having a bad day :) |
| * Know that not everyone is the same. Their approaches to learning are likely different. Learn what works best for your team and if an approach doesn't work out, work with your team to determine what does. Be patient. Make sure your team knows why you collect the data the way that you do- so they don't try to cut corners or change anything because they feel its more efficient or because that's what they did in a previous job. In the end you want good data and your team is there to help you to collect/process/analyze that data in a scientifically sound way. Have open communication with your team to make sure you are collecting that good data. |
| * Openly discuss any concerns with crew before the season. How safe and comfortable people feel in the field can depend on fieldwork location and individual characteristics such as gender, race, ability, etc. Make an effort to allow all team members to feel safe and supported in field activities. |
| * Let people know your work ethic in the field. I put in really long days because it is expensive to get to remote sites and the time is very limited. So with paid assistants who are not collecting data for their own research I try to compensate accordingly. If I am paying them hourly and can only pay 8 hr/day an, and for the three weeks in the field they are working 10 hr/day 6 d/wk, I pay them for 4.5 wks |
| * Don't ever act like your technicians or assistants should feel lucky to be helping you. |
| * It takes time, and it should be a more explicit part of my job "rewards". I mostly feel guilty for having a slow publication record. I know my academic career will reach a dead end. But it is just because I have invested so much time (and blood, sweat, and tears) in field work. |
| * Be nice and have fun. Besides lack of communication/delegation, a crew lead who is a grouch, bossy, etc. is just down right miserable to work under/with. Get to know the people on your crew. * Dont ask them to do all the hard stuff while you get to do the easy stuff. Get down in the trenches with them. That will earn their respect and trust and then they will be willing to work hard for you. |
| * daily checkins with your field team are super valuable! And can be adjusted based on your personal leadership style |
| * Smiling, being enthusiastic, and confident in one‚Äôs self (even if you‚Äôre new‚Ä¶you‚Äôre still a leader), all lend to success. |
| * A good sense of humor is probably the #1 requirement! It's stressful when shit hits the fan and it's your thesis or dissertation on the line, but try to see the humor and roll with the inevitable fieldwork fails (as long as they're not actually endangering anyone.) |
| * Try to stay calm, and expect to have to make decisions. |
| * Optimism goes a long way, many things go wrong and surprise happen but a leader can reduce the stress |
| * Work hard and enjoy the experience. This can be infective. |
| * Ask other students what has worked or what hasn‚Äôt worked |
| * In general, show your crew what you're doing and tell them why, even when you're doing admin work that doesn't really affect their job. They'll understand the project and what you're asking them to do much better. Always be willing to explain your reasoning, and listen to suggestions. If they disagree even after you've explained, it's fine to take their suggestion, and it's also fine to say 'that would probably work, but I still want to do it my way, just because' |
| * Make sure to have plenty of dry socks and snacks in your field vehicle. Your team will thank you. |
| * Be sure to answer community questions and be prepared to take time getting to know the community and people and not just extracting data. (+1) |
| * Have fun! Things can and will go wrong all the time but sometimes those are the most memorable moments (in a good way!) and make great stories. Don't take the work TOO seriously but do take your safety and well-being seriously. (+2) |
| * Safety is more important than data collection. |
| * InReach Devices that allow you to share a website where the group's location is at all times are pretty great. The emergency beacon is a good safety tool when off the grid (provided you have clear standards and discussions about it's use). The website is really nice for project leaders/ parents of undergrads to follow along too. It allows you to be "off" the grid but keeps folks at home invested and aware (and also pre-trip discussion re: the Inreach will helps drive home just how limited other communications will be) |
| * Housing and payment - they have to be receiving adequate compensation (monetary/credit or combination), sufficient food, and safe and preferably comfortable housing so that they can recharge and relax during off hours and are able to safely focus on the project during work hours. Providing or ensuring housing (even in the form of a well-organized remote camp, including equipment and safe water/food) is critical. Not providing adequate payment or housing also means that you will have a homogeneous, privileged field crew who can afford to pay for "experience". |
| * In science, we rarely have the opportunity to train to lead people, but it's a huge part of your job. Start early, know you'll make mistakes, be confident and cautious, ask questions, if you think it's unsafe, it probably is |
| * plan early. communicate with your advisor. talk to more experienced grad students in your lab about what did/didn't work for them, especially if you do field work in the same place- there might be little details (like, the housing at XX place is disgusting, or this place has great cheap field snacks and is right near our sites, or in July the black flies are horrendous for a couple weeks so make sure you have head nets) that they'll be the only ones who know |
| * Make sure the work is not under-resourced. There is enough pressure when juggling the safety vs. getting work done tension, when you throw in a third angle of pressure (financial) it can force short cuts that compromise safe decisions. (+1) |
| * In this context, it can be ok to prefer hiring someone who you think will get along with the team (and is qualified) rather than the most qualified person. I would not say this in any other context, but often resources, physical space, and mental space are limiting. One person who clashes with the team can make things difficult for the whole team. |
| * Fieldwork is often a particularly challenging setting for personnel and project management - it is baffling that we ask graduate students to lead such endeavors without any training or education in these arenas at all, let alone specific to field work settings.  There are also very serious challenges in field work settings that are experienced differentially by different groups of people. White men for instance may have real blindspots wrt how e.g., BIPOC feel in very remote situations. Likewise, not all field works situations are equally safe for all people depending on location. Formal structures to identify, understand, and mitigate these concerns are essential. |
| * Take detailed field notes! Sometimes you just know what's important after coming back from the field. |
| * Setting boundaries and clear expectations at the beginning of the field season is so important. If I could do my graduate fieldwork over again, I would be better about making expectations and boundaries clearer from the get-go, and co-develop a behavioral contract with my field crew |
| * Figure out your own stress management strategies/outlets ahead of time. |
| * Experience and utilizing your own supervisors by asking for advice on how they would deal with a situation you‚Äôre dealing with. I wish I had been more upfront about my crew struggles with my supervisors so by the time my post interview came around it didn‚Äôt feel like a slap in the face to them. (+1) |
| * Fieldwork changes so rapidly that it's hard to be fully prepared for any situation. I always wish I had taken a wilderness safety course before my field seasons, so I'd recommend one! |
| * It's something my dad taught me that helped me center and calm down amidst feeling like I was carrying the entire weight of my project and reminded me that everything will be okay. He said, "Remember everyone is doing their best, and our best isn't so great some days." It was something I probably needed to hear more than my team, but it really helped. Also, telling people it takes about two weeks for our bodies to acclimate to new environments. I worked in the hottest, most humid place for 13 months of my master's program and having that patience and perspective with my newer techs who weren't used to it yet helped a LOT. Lastly, figure out how to set people up for success. Everyone learns differently, so ask them what is helpful for them as well! |