



SYMPOSIUM

Fieldwork and LGBTQ+ Identities: Queering the Outdoors

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Synopsis Fieldwork is considered an integral component of research within conservation biology and ecology. Oftentimes, institutions and researchers share resources on general safety when collecting data in field settings. Despite an increasing awareness, there has been a lack of transparency and communication in terms of the hazards associated with fieldwork. These include but are not limited to an increased risk of sexual harassment and assault. These risks are compounded particularly for those from marginalized racial, sexual, and gender identities. In addition to this lack of acknowledgment, the added risks to those who identify as lesbian, gay, bisexual, transgender (trans), and/or queer or members of other marginalized sexualities and gender identities (to reflect the “+” in LGBTQ+) are often overlooked. We have found that there is not only a lack of data on sexual orientation and gender identities of researchers and the barriers they may face as field-based scientists, but also a lack of awareness of how we can support those from these marginalized groups within our disciplines. Creating a SAFE and INCLUSIVE community for those with marginalized identities is key to sustaining the diversity within our discipline. Here, we outline a series of recommendations that can be utilized to address the harassment, homophobia, and transphobia that our LGBTQ+ colleagues face. These recommendations range from what can be applied at the local level (within a lab group), at the department level, at the institutional level as well as specific field sites.

Fieldwork is deemed an essential component for many disciplines ranging from ecology, biology, forestry, fisheries and wildlife sciences to geosciences. The diversity of the work conducted in the field can range from interviews to habitat restoration to species sampling. What is considered fieldwork may also vary from short-term courses with field lab components to field seasons where researchers are “in the field” for significant portions of time (Fleischner et al. 2017). Additionally, there is variability in terms of the spatial scale covered as well as the geographic location of the fieldwork, whether the work is being conducted locally/within the same state, in remote regions of the same country, or overseas.

While we see an abundance in the diversity of work conducted under the umbrella of fieldwork, we find that there is a lack of diversity in terms of the gender, sexual orientation, race, and/or ethnicities of individuals conducting this work (Arismendi and Penaluna 2016;

Taylor 2018; Carter et al. 2021; Dockry et al. 2022). While the lack of diversity (and inclusion) within these disciplines is not a new phenomenon, in recent years, there has been a renewed interest in addressing these issues. US demographics are changing. The majority of people under 18 are people of color (Jones et al. 2021) and one in five Gen Z individuals identify as LGBTQ+ (lesbian, gay, bisexual, trans, queer, and/or other identities that are not cisgender or straight, hereby referred to as queer; Jones 2022). Oftentimes, this lack of diversity has been attributed to a lack of interest on the part of individuals belonging to a marginalized identity (whether that is race, ethnicity, gender, sexual orientation, and/or ability).

Conversations have often centered around ways to remove barriers and improve access to individuals from marginalized groups. Many of these conversations are particularly centered on those who are Black,

Indigenous, people of color (BIPOC) and focus on childhood opportunities (Rowland-Shea et al. 2020), but few focus on queer individuals. Additionally, we seldom take into consideration the adverse and greater risks faced in these settings by those who are queer, especially those who also hold other marginalized identities. We would like to introduce the term intersectionality (Crenshaw 1989) to highlight the notion that those belonging to more than one marginalized identity (e.g., Black and queer) face greater compounded risks and discrimination than those belonging to a single marginalized identity, such as those who may be white and queer (Mahowald 2021). Oftentimes, when thinking about the challenges that those from marginalized groups face, we may consider the harm that is associated with a particular identity but overlook the differential impact that occurs when an individual is part of more than one marginalized identity.

Clancy et al. (2014) conducted a survey of academic field experiences and reported that trainees experienced a greater frequency of harassment and assaults at field sites. A large proportion (>70%) of these comments and unwanted contact came from other researchers at their field sites (rather than local community members) and were overwhelmingly from a superior (particularly in the case of women). While this study highlighted the frequency and degree of these kinds of behaviors individuals faced, a limitation of this study, which the authors acknowledge, is that they examined harassment experienced by men and women only—a few individuals who did not identify gender or designated gender as other than male or female were excluded from the analysis. The majority of those who responded to surveys as part of this study identified as women (77%). Additionally, the respondents were overwhelmingly white (87%) and identified as being heterosexual (86%). While this was one of the first studies of its kind to shed light on how pervasive harassment and assault are in field settings, they were unable to capture the experiences of those who are queer, either alone or in combination with other marginalized identities. A recent survey of geoscientists (Olcott and Downen 2020) who self-identified as being part of the LGBTQ+ community found that over 55% of individuals found themselves working in environments where they felt unsafe. Their safety concerns were directly related to perceptions of their identities, expression, and presentation. Queer researchers know all too well that it may be safer for them to remain in the closet (Ragen 2017; Atchison 2021). However, having to “stay” or “go back” into the closet (by intentionally obscuring their gender or sexual identity) can have a negative impact on the mental health and well-being of individuals (Pachankis 2007; Mackay and Bishop 2022; Zebracki and Greatrick 2022).

Closeted individuals will end up spending considerable energy ensuring that their identities are not out in the open, particularly in settings they do not feel supported or safe. This hypervigilance is also a behavior often magnified by the intersection of queer and BIPOC identities. It is a tactic often employed for safety, but it is both taxing and detrimental to overall mental health (Hewlin 2009).

Within academic settings, the belief that those who are from marginalized communities like LGBTQ+ people are uninterested in this work might be an approach that has served the status quo—it is rather the lack of inclusion and increased harassment that deters individuals from marginalized groups to participate (O'Brien et al. 2020; Wilkins et al. 2023). Additionally, it absolves us of the responsibility of doing the work needed to change the future of our discipline. Furthermore, this exclusionary approach has done us a disservice by excluding those whose perspectives are much needed. In order to address challenges and identify opportunities to make our disciplines more inclusive, we need to closely examine our current positions, and identify tangible steps that allow us to make fieldwork safer and more accessible for all. While we would like to highlight some of the challenges and risks faced by those who are part of the queer community, many of the recommendations to mitigate these risks can also help other marginalized groups. Here, we propose a relatively simple framework for scientists particularly those mentoring early-career researchers who may identify as LGBTQ+ and/or are BIPOC (Fig. 1). Our hope is that by adapting a framework such as this, mentors can develop plans while keeping in mind the greater risks those with intersecting marginalized identities may face. We present a framework focusing broadly on what can be done prior to going into the field, what should be readily available to researchers and trainees, as well as what can be done to change lab culture(s).

Policies in place versus policies in practice

The best place to start is to determine any existing policies and plans. There may be field risk assessment plans and policies regarding fieldwork safety—these may exist at the lab group level, at the departmental level, or at the institutional level. In addition to determining whether there are policies or field safety plans that may exist, it is imperative to determine whether these have been updated to reflect staff/faculty members who are still affiliated with the institutions or field sites (as we determined that these were not always up to date with staff members still listed who were no longer affiliated with the

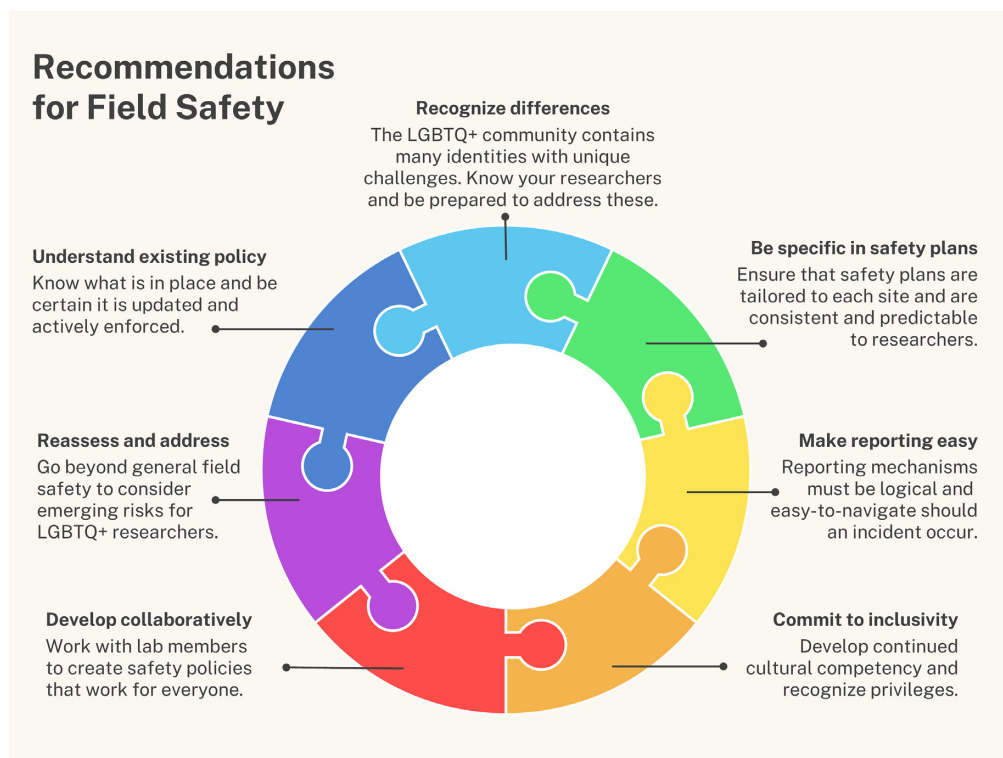


Fig. 1 Recommendations for field safety.

institution) and designated emergency contacts (who may be on call and readily available).

In our initial assessment of plans within the Virginia Tech College of Natural Resources and Environment across three departments, we found that robust guidelines centering around fieldwork safety were lacking. In some cases, there were outdated policies that were either inactive or enforced inconsistently. Furthermore, there was a lack of clarity surrounding contacts and policies in place when doing research at field stations and/or other host institutions. Overall, there was little to no consideration of addressing the greater risks that those belonging to marginalized identities may face, especially for queer researchers. We determined only a small percentage of Principal Investigators (PIs) had explicit conversations and/or training focusing on the added risk that those from marginalized communities may face.

Re-assessing risk assessment

After considering policies in place, reassess existing risk assessments to consider new or emerging risks, especially as related to queer researchers with a consideration of how their identities may intersect with other marginalized identities. We found field safety plans included risk assessments primarily focused on environmental hazards, health hazards, and travel risks. There were minimal guidelines and policies in place to help

guide students, postdoctoral researchers, technicians, and faculty. The existing guidelines or assessments centered on general fieldwork risks such as working in adverse weather conditions, navigating difficult terrain, availability of water sources, encounters with wildlife, etc. but did not go beyond these generic risks.

In some cases, training was mandated by funding agencies such as USGS (Safety and Health for Field Operations). However, this was not always consistent across labs or departments and less so across the college. There were no policies or guidance in place to address risks or provide recommendations for those who may be at greater risk due to marginalized identities. We propose that PIs and researchers “re-assess” risk assessment and management to include the adverse risks that may be faced by those who are LGBTQ+, especially in concert with other identities like race, ethnicity, and ability. Additionally, where you do fieldwork can present a significant safety risk. Considerations need to be made when thinking about the legal status of LGBTQ+ identities worldwide; the Human Rights Watch has detailed information by country including the type of anti-LGBTQ+ laws ([Human Rights Watch https://internap.hrw.org/features/features/lgbt_laws/](https://internap.hrw.org/features/features/lgbt_laws/)). Furthermore, we need to recognize that even if queer identities are not criminalized in countries such as the United States, there are significant concerns when considering whether or not a

particular field site and its larger region is safe for someone who is part of the LGBTQ+ community. A useful resource is the Southern Poverty Law Center, which tracks hate group activity across the United States with maps of activity ([Southern Poverty Law Center 2019](https://www.splcenter.org/hate-map) <https://www.splcenter.org/hate-map>). For those who are part of the dominant majority, considering where to stop for gas, food, or bathroom breaks when in the field or going to and from the field might not involve a lot of planning or special consideration. However, for those who are from marginalized groups, knowing where it is safe to stop may help reduce the risks they may face.

Collaborative development of field safety manuals and risk assessment

Next is to redevelop field safety in collaboration with others, especially those who have been marginalized. In recent years, there have been several resources and articles from a variety of disciplines focusing on field safety and recommended best practices ([Anadu et al. 2020](#); [Marín-Spiotta et al. 2020](#); [Lawrence and Dowey 2022](#); [Le Bras 2021](#); [Rudzki et al. 2022](#); [Toone et al. 2022](#)). We suggest that rather than “reinventing the wheel,” PIs and lab groups should utilize these resources to develop plans and policies that may fit their singular needs. This can be a collaborative process with input from all members of a research group or lab. Additionally, for those who may feel overwhelmed by this undertaking, these resources can serve as a starting point. Factors to consider are who is doing the fieldwork while acknowledging how their gender identity and sexual orientation may result in them facing additional risks and barriers, especially as they intersect with other identities like race, ethnicity, and ability. In terms of reassessment of risks—we also encourage the incorporation of the “human risk.” By “human risk” we mean taking into consideration the kind of fieldwork being done (location, duration, etc.) and anticipating the frequency of encountering other individuals. Resources need to be shared with mentees prior to going into the field. It may be beneficial to prepare mentees for challenges they may experience in the field by practicing scenarios and emphasizing the importance of situational awareness. Additionally, we recommend having more than one emergency contact for a particular site—ideally with at least one individual reflecting the identity of the researchers in place.

Who is in the field?

Another consideration is who will be conducting the fieldwork. Currently, as agencies such as the National Science Foundation (NSF) do not collect data on gender identities and sexual orientations, we may not

have a clear picture of who is in the field. As a consequence, LGBTQ+ scientists are often overlooked and underrepresented particularly in STEM disciplines, with LGBTQ+ scientists reporting more negative interactions at work compared to non-LGBTQ+ scientists ([Freeman 2018](#)). For researchers who identify as being part of the LGBTQ+ community, it is important to consider identity disclosure (selective or otherwise) to increase field safety by allowing PIs and other supervisors to determine ways to best support their mentees while they are in the field. Given that identity disclosure within a work environment can have risks (and benefits) associated with it—individuals may choose to selectively disclose their identity. However, for this to occur, PIs need to ensure that they create an environment where mentees feel safe and supported in sharing their identities.

The following topics should be addressed with mentees prior to going into the field:

- 1) **Housing:** It needs to be discussed whether housing will be shared (shared rooms within on-site accommodations) or out in the open (involving camping and/or backpacking). Individuals who are non-binary and/or trans may have specific housing needs or preferences. These conversations should happen in a manner that does not isolate a person who may have specific housing needs. The end result should be that any marginalized people feel confident in the arrangement and included in the rest of the group, not isolated or called out.
- 2) **Bathrooms:** In order to minimize putting selected individuals at risk, addressing the topic of bathroom breaks is important. Ideally, these breaks may be scheduled or discussed to include when and how often so that random breaks in unsafe locations do not put some at greater risk. This is particularly important as we consider the political environment as it pertains to anti-trans legislature and transgender bathroom policies. Resources such as Refuge Restrooms can help to identify safe places for LGBTQ+ and individuals with disabilities to use the restroom. It is important to note that this resource is centered primarily within the United States with limited information about other parts of the world. Therefore, it is important that PIs try to acquire relevant and updated information with mentees for particular sites especially if it is a site that the PI has worked at previously and may have contacts that are trusted allies at these sites.
- 3) **Healthcare:** Some LGBTQ+ individuals, like those who are medically transitioning, may need specialized health care. Depending on the location of fieldwork, access to the necessary healthcare

professionals or specialized services may be unavailable. Discrimination and refusal of care should also be considered, and PIs should know which hospitals are safe. As an example, the Center of American progress reported that 8% of survey respondents who identified as LGBQ reported that a doctor or healthcare provider had refused to see them due to their actual or perceived identity in the year prior to the survey. When examining the results for those who are transgender the number jumps up to 29% (Mirza and Rooney 2018). Similarly, 7% of respondents who identified as LGBQ shared that they experienced unwanted physical contact from a health care provider, for individuals who are trans the number is 29%. Again, these are things to consider as we understand the barriers and risks that being in the field can pose for some of our colleagues and mentees.

Site-specific and individual-specific plans (in-field resources)

Another consideration is ensuring consistent, predictable field safety plans and responses. While fieldwork is inherently unpredictable, what to do in a high-risk or emergency situation should not be. Prior to going in the field, determine whether there are policies surrounding field safety, and at what level these exist, including knowing policies and contacts at field stations and host institutions. It is important to determine the policies in place, but it is also important to know if they are implemented and effective. It is imperative that there is a robust field safety plan in place and that all members participating in fieldwork are made aware of it. Oftentimes, PIs have certain field sites or stations where mentees collect data. There may already be a site-specific field safety plan for the lab in place in these cases. However, we propose a “local fit of strategy” (concept adapted from Lindell and Dayer 2022) in that PIs should adapt the field safety plan as needed to take into consideration (1) the specific location and associated risks and (2) the identity of the person conducting the work. Queer researchers may have vastly different experiences from previous lab mentees at a particular site solely due to their identities and other people’s perceptions of them. It is also recommended that whenever possible, researchers are either in pairs or groups when collecting data in the field. If that is not possible, safety plans should reflect regular “check-ins” with the field supervisor or PI. Mentees should always have a way to communicate with the PIs and other emergency contacts. In field settings where cell phone service is unavailable or irregular, PIs should consider

investing in satellite phones and/or GPS communicators.

Reporting mechanisms

A further component is to have logical and easy-to-navigate reporting mechanisms should an incident occur. Nelson et al. (2017) reported that field experiences tended to vary greatly depending on whether or not there was clarity surrounding guidelines, appropriate behavior while conducting fieldwork and/or at field sites, and what reporting mechanisms were in place. The presence or absence of rules at a field site or while conducting fieldwork, and variability in what was considered appropriate impacted the field experiences of those who were interviewed as part of this study. Additionally, the lack of clarity surrounding reporting mechanisms and/or the absence of consequences (when issues were reported) also contributed significantly to an individual’s field experience. Individuals participating in fieldwork should be made aware of what behavioral norms and expectations are prior to being in the field. Specific attention should be given to inappropriate behavior surrounding queer and trans identities, especially as they relate to “every day” misconduct like microaggressions (i.e., misgendering), microinsults (i.e., “You don’t look/sound gay”), and microinvalidations (i.e., “It’s just a phase”). Additionally, all individuals should be made aware of reporting mechanisms both at the home institution and/or field site. It is imperative that if an issue is raised that it be addressed as soon as possible to prevent further harm to the individual experiencing the abuse and/or harassment.

Individual responsibility

Ultimately, leaders, whether they be PIs, postdocs, or field managers, must take personal steps to commit to ongoing efforts to make research groups more inclusive. It is imperative to educate oneself and develop one’s cultural competency as it pertains to understanding the challenges and risks faced by those who are queer, solely or in combination with other marginalized identities. This can be done through on-campus trainings and additional readings. Leaders can signal their allyship to queer mentees in a number of ways, for example, the use of identified pronouns, modeling appropriate and inclusive behavior, and discussing their own gender and sexual identities, whether or not they are members of the queer community.

It is important for PIs to recognize their privilege and implicit power dynamics in order to better understand what students, postdocs, and other junior researchers may be experiencing. These power dynamics may make it more challenging for mentees to share their

experiences or report any incidents. Examples of what may not be shared can range from concerns about anticipated challenges (housing or safety related) to sharing incidents that have occurred particularly if these are topics not addressed and discussed openly prior to fieldwork occurring. To ensure that mentees feel safe and have trust in their mentors, we encourage PIs to have proactive conversations in their lab groups—not only acknowledging their privilege but also expressing a desire (and openness) to support their mentees. We also recommend that PIs check-in with their mentees over the course of the year to allow multiple opportunities for this type of communication to occur.

It may be useful to utilize the LGBTQ+ resource centers on campuses and share information about these resources with mentees early on. Similarly, leveraging the work of existing DEI committees (within a department, institution, and/or professional society) may be beneficial as PIs consider ways to make their field-based work more accessible. Furthermore, when working with mentees from marginalized identities, consider ways to provide enhanced mentorship and connect students and early-career researchers with those who identify similarly. Representation of people with shared backgrounds is incredibly important in these students' lasting success (Hunt et al. 2020). Last but certainly not least, bringing one's authentic self may make room for others to do the same while signaling that diverse perspectives and people are welcome. Collectively, these individual efforts will make mentees feel supported and cultivate a sense of belonging.

Summary

As we envision a diverse, inclusive, and safe future for field biology—we must take into consideration the experiences of LGBTQ+ people, particularly the adverse risks. Faculty advisors, supervisors, and institutions all play a role in making field-based research safe and must be aware of the associated safety issues, especially human impacts, and be proactive in addressing these concerns. Many of these concerns can be addressed while keeping the framework we have shared: by thinking about the policies in place (versus policies in practice), re-assessing risk assessment, developing field safety manuals, recognizing who is in the field, and modifying safety plans accordingly with clear reporting mechanisms. However, as we think of not just recruiting, but retaining scholars who identify as LGBTQ+, we need to think about ways to cultivate a sense of belonging. This can be done by modeling inclusive behavior and thinking of ways to create an inclusive community—one where LGBTQ+ students feel comfortable shar-

ing their identities and concerns. Building this environment facilitates the success of both queer researchers and scientific outcomes, as these traditionally excluded groups bring novel perspectives (AlShebli et al. 2018).

Final note: As of January 30, 2023, NSF now requires plans for safe and inclusive off-campus and off-site research. A written plan is required per the NSF's Proposal & Award Policies & Procedures Guide (PAPPG) 23–1 for NSF-funded research. For researchers submitting proposals under these new guidelines, it may be useful to take this opportunity to develop robust field safety plans for their research groups and take into consideration the risks that those from marginalized groups may face.

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Conflict of Interest

The author declares no conflicts of interest.

Data Availability

No data were collected or analysed in this work.

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