© 2022 The Author. The *Bulletin* published by Wiley Periodicals LLC on behalf of The Ecological Society of America.
This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.



Editorial

Carrying the Moral Burden of Safe Fieldwork

Benjamin Wong Blonder
Department of Environmental Science, Policy, and Management,
University of California at Berkeley, 54 Mulford Hall, Berkeley, CA 94720 USA

Abstract

Fieldwork in ecology and the environmental sciences often leads to negative physical and emotional outcomes for workers. I argue that this is largely due to an abdication of responsibility on the part of their supervisors, and that supervisors are charged with carrying three interlinked moral burdens: first, the duty of promoting safety; second, the duty of ensuring safe experiences are accessible to all; and third, the duty of continuing to learn and improve. To help, I offer a set of safety actions that supervisors can easily implement. I then offer a set of personal reflections on how we should think about failure, accountability, learning, repair, and forgiveness in the scientific workplace.

Key words: field safety; field work; equity; inclusion; ethics; supervisor.

Introduction

Many of us who do fieldwork in ecology or the environmental sciences have personally heard stories where things went wrong. I can tell stories of people whose work yielded food poisoning, malaria, blunt trauma from rockfall, deep machete wounds, snakebites, lightning strikes, or vehicle crashes. And, I can also tell stories about people who were targets of microaggressions or verbal abuse, who were followed by threatening people, who were robbed of their equipment on the street, who were taken hostage at gunpoint, or who were sexually assaulted in remote places. These selected stories come from my memories or those of close colleagues, and span only a decade of work experience. I don't think I am alone in being able to tell stories like these. I wish that fewer of us were able to tell them.

Blonder, B. W. 2023. Carrying the Moral Burden of Safe Fieldwork. Bull Ecol Soc Am 00(00):e02031. https://doi.org/10.1002/bes2.2031

The effect of a negative experience in the field can be life-changing (Nelson et al. 2017, McGill et al. 2021, Race et al. 2021, Whipple et al. 2021). The harm caused by a safety incident can have physical and/or emotional consequences that last for years and can upend a person's life and job choices (Clancy et al. 2014). And, in other more severe cases, the effect of a negative field experience can be life-ending (Cantine 2021).

Safe fieldwork means that a worker (a student, a technician, or anyone else in a paid role) carrying out a project can reasonably and informedly expect to come home without harm to their physical or emotional well-being and that if harm should occur, that a path toward repair is accessible. This is the minimum standard we should expect. This standard is often not met.

Power dynamics

Why then is fieldwork often unsafe? We first must consider where worker safety comes from. *Hazards* during fieldwork are mostly inevitable (e.g., rockfall), but *safety* comes from our response to these hazards (e.g., deciding to work near a cliff). This means that safety is strongly influenced by human choices and power dynamics that occur at four levels: the individual workers, supervisors, institutions, and the values and norms of their social context. The worker can make responsible choices around their own behavior, but they are fundamentally constrained by job expectations and resources and policies set at higher levels. The supervisor or institution can provide appropriate policies and resources but are themselves constrained by social context and values. This framing has several implications for conceptualizing safe fieldwork.

First, a common narrative in many fieldwork situations is that the worker should be responsible for their own safety, or that they prefer to be responsible for their own safety (e.g., a new doctoral student starting their first independent project). This is untrue because the worker has the least power, the least experience, the fewest resources, and also the most exposure to harm. Statements to this effect are an inappropriate shedding of responsibility on the part of supervisors, institutions, and society.

Second, many supervisors do not fully appreciate their role in promoting safety. Maybe their class position puts them in opposition to their workers, because they dont think they have sufficient financial resources or training or time to support them. Maybe they see their workers as expendable, or aren't able to understand their identities and positions. Maybe they believe that workers should be responsible for themselves. Maybe they don't know any better, or were once treated the same way by their own supervisors. In any of these cases, they abdicate their role.

Third, there is often little oversight of fieldwork by institutions or supervisors. In the controlled environment of a laboratory, most institutions and governments provide clear and difficult-to-ignore regulations for what can be done, and how. There are laboratory safety trainings, government and institutional inspections of facilities, and so on. In contrast, fieldwork can occur far from the laboratory, in diverse social and environmental contexts. Training is often not required, and inspections of fieldwork practices are usually absent. There are too many situations that could occur for institutional oversight to be effective. This means that a supervisor or institution can fail to value, fail to learn about, or fail to implement best practices that promote safety.

23276096, 2023, 1, Downloaded from https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.2031, Wiley Online Library on [04/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Fourth, fieldwork is embedded in a social context and can be impacted by the same structures of social inequality that exist in society at large (e.g., race, gender, class, and disability). Hazards can be created through promulgation of values and norms that influence individual behavior of other workers, supervisors, or community members. This means that safety must explicitly account for human factors (e.g., hazing and bullying). This means that safety cannot be promoted except through explicit consideration of power dynamics and workers' identities (Leeth and Ruser 2006).

Indeed, for the worker, what their supervisor and institution do for them, or don't, teaches them about their value and their power. What is assumed about the resources or experiences they have? What training do they get? What risks are they expected to accept? What recourse do they have if something goes wrong? Are they left to work alone without further guidance? What hazards are other people likely to create for them? People who suffer discrimination, ill-treatment, or disregard outside of fieldwork may in turn have less safe experiences during fieldwork, because social context shapes both.

Moral burdens for supervisors

Supervisors are the key leverage point for promoting field safety. Individual workers have limited power to change the structural conditions of work. Institutions and societies are too big and slow to change priorities, or to effectively regulate daily labor. Organized labor can make demands to force change at higher levels, but industrial action in the scientific workplace has had uneven progress in the United States (Editorial 1914, Nelkin 1983, Zalisko 2019). Here, instead I want to focus on supervisors, because they have the direct power and the clear moral burden to ensure a safe workplace.

Supervisors of field workers must know that they carry three moral burdens.

The first moral burden is the duty of promoting safety; that is the implicit promise to the worker of their coming home a reasonably whole person, or of repairing serious harm done to them. Supervisors should not send people out into hazardous situations otherwise.

The second moral burden is the duty of making fieldwork safe for any person who wishes to and has the ability to do it, after reasonable accommodations are made. Field safety is therefore an equity issue and an inclusion issue. It is an equity issue because some people (because of their reduced institutional or societal power, or differences in prior experiences) require differentiated support to reach a common level of safety. And, it is an inclusion issue because some people may not be able to, choose not to, or be forced not to participate in fieldwork, because they do not feel safe.

The third moral burden is the duty of continuing to learn and improve. As supervisors we may make mistakes, but we should not make the same mistake more than once. More importantly, we should educate ourselves to not make avoidable and preventable mistakes.

If we choose to do fieldwork, we implicitly accept the responsibility of carrying these burdens. Many have chosen to ignore this responsibility, because there is often no legal or administrative consequence. This is especially true for the powerful (often white men) among us who have built

23276096, 2023, 1, Downloaded from https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.2031, Wiley Online Library on [04/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

the structures we work within. But, laying these burdens down is the wrong choice. We owe more to our workers.

Actions to improve field safety

It is hard to change the beliefs of supervisors who do not acknowledge these burdens. But, changing their policies and procedures is relatively simple. The actions below can easily be implemented, before, during, and after fieldwork, as a simple first step toward carrying these moral burdens.

None of the following actions are new, but instead come out of numerous studies and workshops (Stokes et al. 2019, Greene et al. 2020, Abeyta et al. 2021, Atchison 2021, Cronin et al. 2021, Flowers et al. 2021, Kelly and Yarincik 2021, Langen et al. 2022, Ramírez-Castañeda et al. 2022, Toone et al. 2022). Many supervisors are already implementing these actions, or have called for them to be implemented. Yet, these actions are often not implemented at a broader institutional level. I personally know several supervisors who give little or no consideration to field safety, yet regularly place their workers in positions of high risk; indeed, this "macho" culture is widespread in science (Bell and Koenig 2017, Editorial 2017). Many of these supervisors have not experienced the same consequences as their workers have. I wonder whether implementing some of these simple actions below could have helped avoid negative outcomes.

Planning and risk assessment

Before fieldwork, the supervisor should work collaboratively with the worker to identify all known hazards and their probabilities. They together should propose realistic mitigation plans in collaboration with field workers, thus opening a dialog on foreseeable challenges. They also should determine whether adequate resources and communication and permits are available to ethically carry out the work. From an equity and inclusion perspective, risk mitigation plans can explicitly consider identity-based risks of workers. The worker can self-disclose any factors they think are relevant. The worker can then give a more informed consent to the project after a full disclosure of likely hazards and risks and mitigation strategies. For example, a non-white female worker can be made aware of likely racially motivated microaggressions and potential harassment at a field site. They can be given university-branded equipment and vehicles to use during work, and not be not expected to work alone. Or, a worker who is likely to experience thunderstorms can be given a lightning monitor and a clear set of criteria for when fieldwork should be stopped early.

Resources and training

Before fieldwork, the supervisor should identify what resources (time, objects, people, and permission) or training are necessary for safety and success. They should ensure these resources are available to the worker at no additional cost. From an equity and inclusion perspective, the supervisor should limit assumptions about what resources a worker can/should personally provision, as well about the prior experiences a worker has had. For example, a worker who will be working in a remote area can be given a satellite beacon and training on how and when to use it. Or, a worker who is disabled can use a modified protocol that will enable them to successfully carry out the work. Or, a worker can be given mental health crisis training to prepare for possible needs of other workers.

23276096, 2023, 1, Downloaded from https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.2031, Wiley Online Library on [04/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Protocols and checklists

Before fieldwork, the supervisor should provide clear step-by-step guidance on what steps are necessary to effectively carry out the project. They should also determine the number of people and amount of equipment necessary before leaving for fieldwork. They should identify necessary communication methods and fallback plans are available and agreed upon in case of safety incidents. In particular, they should determine reasonable actions to take in various situations, including when to "no go" (call off fieldwork). From an equity and inclusion perspective, the supervisor should provide clear steps to take especially for relevant psychosocial hazards. They should also provide training on any protocols and ensure the steps are fair and well-understood, and that all workers can invoke a no go decision. For example, a checklist can be used to determine what equipment should be brought to the field, and a protocol can be provided for how to handle harassment by members of the public while conducting fieldwork (e.g., following bystander intervention guidelines).

Communication

Before fieldwork, supervisor should clearly communicate expectations for appropriate behavior to field workers and any community partners. They should facilitate agreement on mutual expectations for all parties. They should collaboratively create communication and check-in plans, as well as clarify the available financial/logistical support for the project. From an equity and inclusion perspective, the supervisor should clearly state expectations around identity-based risks and the unacceptability of certain behaviors (e.g., assault, drinking with minors, and discriminatory language). For example, workers could co-write a code of conduct. Or, the workers and supervisor could work together to identify a trusted local contact to reach out to in case of conflict with others.

Personnel and personal data

During fieldwork, supervisors should ensure that they and any workers have adequate medical and government documentation is available in case they are needed during a safety incident (e.g., physical or mental health emergency and police stop). From an equity and inclusion perspective, the supervisor should provide workers an opportunity to get to know each other's identities and work together prior to being put in high-stress situations.

Incident handling

After fieldwork, the supervisor should keep track of conflicts, safety incidents, and near-misses, so that they can regularly review data for patterns (e.g., involving certain people, certain situations, and certain equipment). Before fieldwork, the supervisor also should identify an accessible incident reporting and resolution process for workers. From an equity and inclusion perspective, workers should know their rights and options, so that there is no strategic ambiguity around processes that can be exploited by others.

Articulating a "safety culture" (Cooper 2000) through actions like these is critical for obtaining safe fieldwork outcomes (Nelson et al. 2017). A safety culture can improve worker belief in institutional capacity to reduce risks and handle incidents well. It also sets specific and high standards for the responsibilities of both workers and supervisors. It provides clarity on what is

23276096, 2023, 1, Downloaded from https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.2031, Wiley Online Library on [04/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

acceptable and unacceptable in the workplace, reducing issues due to inadvertent or exploitative ambiguity. It also enables workers to speak up to identify issues and conflicts early on, and to stop work when needed. Promoting this sort of healthy conflict and transparency can also challenge the perfectionism and absolutist leadership characteristic of white supremacy culture (Okun and Jones 2000, Cronin et al. 2021, Rudd et al. 2021), and can promote retention of people in non-dominant groups (Johnson 2019). Promoting a safety culture is only a first administrative step; a longer term goal is building an authentic community of care (Featherstone and Morris 2012, Marín-Spiotta et al. 2022) where listening and responsibility toward others are core values.

There are also some common misconceptions about safe fieldwork that deserve to be addressed. First, safety does not mean no risks, or no risk-taking. Fieldwork is inherently risky. Rather, we seek to mitigate risks to a level that we deem is acceptable given the benefits of carrying out the work. By considering the power dynamics of fieldwork relationships, we can better mitigate the hazards that necessarily exist. Second, "toughing it out" is not a viable alternative to the sort of planning outlined above. Working hard is not the same thing as doing a project that is hard to do safely. Some people may have to expend much more effort or take on more risks than others, leading to substantial equity issues. And, most importantly, a macho culture can promote bullying, hazing, and harassment. Third, safe fieldwork does not necessarily create excessive paperwork and administrative procedures. It certainly takes more time than doing nothing, but processes can be streamlined and normalized to yield a minimal time burden (e.g., see document templates; Macrosystems Ecology Laboratory 2022). Fourth, safe fieldwork does not mean slower or less effective fieldwork. When we build a safety culture, we are minimizing negative outcomes, exposure to catastrophe, and the likelihood of not achieving the aims of the fieldwork. We are also investing in our workers' futures and health and autonomy, which in turn is an investment in the quality of our discipline's future work.

Personal reflection

I have been a field ecologist for a decade, supervising students and workers for half of those years. When I first sent someone else into the field, I didn't understand the moral gravity of the contract I had implicitly entered into. I wasn't mature enough to understand what I was asking of someone else, and many of the criticisms I raised in the introduction to this piece certainly applied to me. I did not come from a scientific culture that prioritized safety, I did not make any effort to prioritize my learning, and my own identity and experiences made it easy to evade my responsibility. I did many things poorly, and I didn't treat the people who worked for me as well as I could have. At the time, many of these choices seemed appropriate, and everyone consented to them, but after some years of reflection, I know that I could have done better.

Since then, I have listened more carefully to the experiences of people who are close to me, found better role models, prioritized my own learning, and been challenged to make good choices in numerous difficult situations. As a result, I have shifted my focus to making these safety concerns a priority for myself and others. This is the first step toward learning and repair. This is not meant to justify my position via a "move to innocence" (Tuck and Yang 2012). Rather, it is meant to push others who may also hold positions of power to do more than they have been doing and to encourage other people who have not yet come into a position of power to avoid repeating the mistakes of those who have come before them.

23276096, 2023, 1, Downloaded from https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.2031, Wiley Online Library on [04/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

These topics invite a broader discussion of how we should treat those who have failed their responsibility. Should they be forgiven? Forgiveness requires accountability, and accountability comes from learning and repair. Should we then have a system where someone like me is given the chances to make mistakes along the way to a leadership position? Or should we make way for new people who are more likely to make good choices? What can be forgiven, and what not? Can learning for supervisors be prioritized when the cost is borne by harm inflicted on the less powerful?

In contemplating these questions, I remembered a short story, *Deutsches Requiem*, which is the fictional last testament of a convicted man who will be executed (Borges 1949). The narrator, seeking to justify his actions, writes (my translation), "We are like King David, who passes judgment on an unknown man and condemns him to death, then later hears the revelation: *You are that man*."

I wonder whether some readers of this piece will like me and need to grapple with whether they are indeed *that man*. Perhaps, it is easier to call for change than to make change, and it is easier for the guilty to criticize than for the innocent. In the story, the narrator has been convicted of crimes against humanity; forgiveness is hard to find, because there has been no accountability, learning, or repair.

We must revisit our values, if we do not want anyone to be *that man*. I think about contemporary stories of the men in science who have done things in leadership positions we rightly consider unforgiveable (sexual assault of trainees, e.g., or hazing at remote field stations) and wonder how different fieldwork would be whether more people who have had direct experience of marginalization were given the opportunity to rebuild their workplaces in a more just way. All of us are being challenged to lead better, and perhaps to step back so others may step up.

From a policy perspective, we might call for accountability from our leaders, or investing in processes of restorative justice (Van Ness and Strong 2014) to support learning and repair and perhaps ultimately forgiveness. This route might be most appropriate if we are not comfortable changing power structures, or do not believe they are changeable. Alternatively, we might call for better policies to force better outcomes (e.g., the actions I outlined above), or call for a broader re-imagining of the power structures of the workplace (e.g., via unionization and broader protections for workers).

Regardless of our beliefs on policy, we must also recognize our common fallibility as humans and our propensity to make mistakes. None of us are perfect, and our identity is not a perfect proxy for our ability to lead compassionately and effectively. If we are all destined to sometimes fail in matters of field safety after being called to lead, then there must be some scope for our learning and reflection, and for us to repair our wrongs (e.g., communities of practice, coaching sessions, or restorative justice sessions). Silence and harsh penalties for errors also can be harmful, if there is no way for leaders to acknowledge, recover from, and repair their errors. We surely cannot tolerate some behaviors in the workplace, but we surely should help new leaders improve their policies when they are lacking.

23276096, 2023, 1, Downloaded from https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.2031, Wiley Online Library on [04/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Fundamentally, I think we need supervisors who make their fieldworkers' well-being a top priority through policies and best practices that explicitly consider and reduce the power dynamics inherent in fieldwork. We need a critical view of the values our predecessors have used to justify their actions. We also need more public conversations to better reckon with our failures and set better norms. And, most of all we need to acknowledge and then carry the moral burdens that exist when we send others into the field.

Acknowledgments

This piece is dedicated to a person important to me whose experience was described in the Introduction. I am grateful to the people who have trusted me in the field and to the mentors who have helped support my growth. Mette Bendixen, Stephanie Carlson, Kenzo Esquivel, Lars Iversen, Yesenia Valverde, and Charlotte Wang provided feedback on drafts. My writing time was supported by National Science Foundation grants DEB-2025282 and IOS-2140428 and USDA grant 2022-67019-36366.

Conflict of interest

I have no conflicts of interest to declare.

Author contribution

This is a single-author contribution.

Data availability

No data were collected for this study (i.e., theoretical, review, opinion, and editorial papers).

Literature Cited

Abeyta, A., A. M. Fernandes, R. C. Mahon, and T. E. Swanson. 2021. The true cost of field education is a barrier to diversifying geosciences. https://eartharxiv.org/repository/view/2091/

Atchison, C. J. 2021. Challenges of fieldwork for LGBTQ+ scientists. Nature Human Behaviour 5:1462.

Bell, R. E., and L. S. Koenig. 2017. Harassment in science is real. Science 358:1223.

Borges, J. L. 1949. El Aleph. Editorial Losada, Buenos Aires, Argentina.

Cantine, M. D. 2021. Dying to know: death during geological fieldwork. Sedimentary Record 19:5–14.

Clancy, K. B., R. G. Nelson, J. N. Rutherford, and K. Hinde. 2014. Survey of academic field experiences (SAFE): trainees report harassment and assault. PLoS ONE 9:e102172.

23276096, 2023, 1, Downloaded from https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.2031, Wiley Online Library on [04/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Cooper, M. D. 2000. Towards a model of safety culture. Safety Science 36:111–136.
Cronin, M. R., et al. 2021. Anti-racist interventions to transform ecology, evolution and conservation biology departments. Nature Ecology & Evolution 5:1213–1223.
Editorial. 1914. The proposed union of scientific workers. Science 40:208–209.
Editorial. 2017. Harassment, a field study. Nature Ecology & Evolution 1:1787–1788.
Featherstone, B., and K. Morris. 2012. Feminist ethics of care. Pages 341–354 *in* The sage handbook of social work. SAGE Publications, London, UK.
Flowers, S. K., K. O'Connell, and V. M. McDermott. 2021. Crafting field station and marine lab communities for undergraduate diversity, equity, and inclusion. The Bulletin of the Ecological Society of America 102:e01908.
Greene, S., K. Ashley, E. M. Dunne, K. Edgar, S. Giles, and E. Hanson. 2020. Toilet stops in the field: an educational primer and recommended best practices for field-based teaching. https://doi.org/10.31219/osf.io/gnhj2
Johnson, S. K. 2019. Leaking talent: how people of color are pushed out of environmental organizations. Diverse Green. https://diversegreen.org/wp-content/uploads/2021/01/Green_2.0_Retention_Report.pdf
Kelly, A., and K. Yarincik. 2021. Report of the workshop to promote safety in field sciences. Workshop to Promote Safety in Field Sciences (SIFS), Virtual. Zenodo. https://doi.org/10.5281/zenodo.5604956
Langen, T. A., J. L. Beach, J. T. Boulerice, L. W. Halstrom, A. R. Lamb, and A. M. Ross. 2022. How to be a professional ecological field technician or an effective supervisor of them. Bulletin of the Ecological Society of America 103:1–23.
Leeth, J. D., and J. Ruser. 2006. Safety segregation: the importance of gender, race, and ethnicity on workplace risk. Journal of Economic Inequality 4:123–152.
Macrosystems Ecology Laboratory. 2022. Safety planning and policy document templates. Macrosystems Ecology Laboratory. https://benjaminblonder.org/equity-safety
Marín-Spiotta, E., A. Mattheis, C. Bell, J. Maertens, R. T. Barnes, A. A. Berhe, M. G. Hastings, B. B. Schneider, and B. M. Williams. 2022. A critical feminist approach from the geosciences to transform workplace climate in partnership with professional associations. Advance Journal 3:33663.
McGill, B. M., et al. 2021. You are welcome here: a practical guide to diversity, equity, and inclusion for undergraduates embarking on an ecological research experience. Ecology and Evolution 11:3636–3645.
Nelkin, D. 1983. Workers at risk. Science 222:125.
Nelson, R. G., J. N. Rutherford, K. Hinde, and K. B. Clancy. 2017. Signaling safety: characterizing fieldwork experiences and their implications for career trajectories. American Anthropologist 119:710–722.
Okun, T., and K. Jones. 2000. White supremacy culture. *Dismantling racism: a workbook for social change groups, Durham, NC: Change Work*. http://www.dismantlingracism.org/Dismantling_Racism/liNKs_files/whitesupcul09.pdf
Race, A. I., R. S. Beltran, and E. S. Zavaleta. 2021. How an early, inclusive field course can build persistence in ecology and evolutionary biology. Integrative and Comparative Biology 61:957–968.
Ramírez-Castañeda, V., et al. 2022. A set of principles and practical suggestions for equitable fieldwork in biology. Proceedings of the National Academy of Sciences USA 119:e2122667119.

23276096, 2023, 1, Downloaded from https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.2031, Wiley Online Library on [04/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Rudd, L. F., et al. 2021. Overcoming racism in the twin spheres of conservation science and practice. Proceedings of the Royal Society B: Biological Sciences 288:20211871.

Stokes, A., A. D. Feig, C. L. Atchison, and B. Gilley. 2019. Making geoscience fieldwork inclusive and accessible for students with disabilities. Geosphere 15:1809–1825.

Toone, T. A., S. J. Ahler, J. E. Larson, J. C. Luong, F. Martínez-Baena, C. A. Ordóñez-Parra, M. C. Silva, and I. B. C. van der Ouderaa. 2022. Inclusive restoration: ten recommendations to support LGBTQ+ researchers in restoration science. Restoration Ecology e13743.

Tuck, E., and K. W. Yang. 2012. Decolonization is not a metaphor. Decolonization Indigenity, Education & Society 1:1–40.

Van Ness, D., and K. H. Strong. 2014. Restoring justice: an introduction to restorative justice. Routledge, London, UK.

Whipple, S., G. Bowser, R. Harvey, and N. S. Roberts. 2021. The field experience as a potential barrier to underrepresented minority student participation in ecological sciences. Bulletin of the Ecological Society of America 102:1–11.

Zalisko, B. 2019. Our next generation of scientists, exploited. *Union of Concerned Scientists Blog*. https://blog.ucsusa.org/science-blogger/next-generation-scientists-exploited/.

23276096, 2023, 1, Downloaded from https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.2031, Wiley Online Library on [04/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License