

Inclusive and just fieldwork in conservation science: a way forward

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Glossary

Fieldwork = the act of observation, data collection, or implementing conservation activities in real-world environments

DEIJ = Diversity, Equity, Inclusion, and Justice

In-country conservationist = person affiliated with a governmental or non-governmental institution or university and doing conservation fieldwork or practices in their home country/institution. The local conservationist is not necessarily local to the area where the conservation fieldwork is being done, in contrast to the people in the local community.

Outgoing conservationist = person affiliated with governmental or non-governmental institution or university and doing conservation fieldwork or practices outside their home country/institution.

Local community = group of people who were born, grew up, work, and/or have a common cultural and historical heritage, living in or nearby the area where the conservation fieldwork is being done (Agrawal & Gibson 1999).

Global South = group of countries based on characteristics of socioeconomics and politics, comprising Africa, Latin America and the Caribbean, Asia excluding Israel, Japan, and South Korea, and Oceania excluding Australia and New Zealand. We note that the dichotomic division into Global South and North does not capture the variation within the groups and contains negative connotations via the indications of the 'whiteness' of wealth (Khan et al. 2022).

Global North = group of countries based on characteristics of socioeconomics and politics, comprising Northern America and Europe, Israel, Japan, South Korea, Australia, and New Zealand. We note that the dichotomic division into Global South and North does not capture the variation within the groups and contains negative connotations via the indications of the 'whiteness' of wealth (Khan et al. 2022).

Purpose of this document

The current fieldwork practices in conservation lack many aspects of diversity, equity, inclusion, and justice. This document aims to outline issues and solutions related to inclusion in conservation fieldwork and provide information to all conservation scientists and practitioners conducting fieldwork. Some issues and solutions are relevant regardless of who does fieldwork and where. However, the relevance of some issues and solutions is context-dependent, such that for example the issues may differ depending on whether the outgoing conservationist comes from Global South or Global North. This document is also intended for the Society for Conservation Biology Europe Region (hereafter, SCB Europe) to set standards for the activities that the society supports.

The content of this way-forward document originates from a lunch discussion organized at [the 7th European Congress of Conservation Biology](#) in Bologna, Italy in June 2024. The Diversity, Equity, Inclusion, and Justice (DEIJ) Committee of SCB Europe organized the open lunch session to discuss the various issues in conservation fieldwork with a solution-oriented approach. Approximately, 15 people participated in the session. The discussion was afterwards formulated into this document with additional context and literature by a core group of people including some of the discussion participants and a wider group of conservationists based in Europe (see author list).

Why should we consider DEIJ in conservation fieldwork?

It is essential to consider inclusivity and justice in conservation fieldwork for several reasons. Firstly, the fieldwork and the subsequent conservation decision-making have direct consequences for the local community in the area where the fieldwork is conducted. Secondly, there are strong global political and financial interests in biodiversity and climate crisis mitigations but the costs of conservation are distributed unevenly. Thirdly, conservationists involved in the scientific work and the practical implementation of the conservation actions should represent a diverse group of people to ensure best possible outcomes socio-economically and ecologically. However, the community of scientists and practitioners that comprise professional conservationists is well known to be lacking in diversity, and this has implications for who participates in conservation science, and how different perspectives and values inform the decisions made. There is a lot of work to do to make the discipline of conservation more inclusive both within the professional sphere and when working with others who do not count themselves as conservationists.

Conservation science and practice have been limited by reductionist thinking and the sectoral approach of conservationists, scientists and other practitioners. There is a need for transformative change in the context of diversity, equity, inclusion and justice in conservation fieldwork as well as conservation implementation. Yet, conservationists everywhere in the world continue conducting research and biodiversity conservation in a reductionist and sectoral manner (Amel et al., 2017; Maas et al. 2021; Bocci 2023), suffering from colonial legacy and Eurocentric knowledge systems (Collins et al., 2021). Sectoral and reductionists' views are normative and lack a sense of 'the whole', care and conviviality (Holling et al 2002; Arora et al 2020), and lead to biodiversity conservation approaches that fail to anticipate important links between policy change, power asymmetries, equity, and diversity (Holling and Meffe 1996; Neimark et al. 2019; Walters et al. 2021). Under such conditions, policy/decision makers, managers, experts and scientists assume the position of power, extract knowledge from others for their own benefit, and mask the involvement of the local communities and other actors (i.e., "parachute science"; Mustalahti et al. 2020; Gram-Hanssen et al. 2022; de Vos and Schwartz 2022). More specifically, because of such views and power asymmetries, conservationists and their allies often neglect local communities and their livelihoods, knowledge and cultures (Arora 2019, Lyver et al. 2019, Fernández-Llamazares et al. 2021) or accuse them of being enemies of biodiversity (Collins et al., 2021; Bocci 2023). In doing so, sectoral and reductionist approaches fail to promote true participation, adaptive, inclusive and integrative governance in conservation, and reduce trust and

collaboration between conservationists from the Global North and the Global South, and between conservationists and local communities (Fazey et al. 2020; Visseren-Hamakers et al. 2021; Fougères et al, 2022; Shumi et al. 2024). It is therefore time to change the design, intent, and practices in conservation, including those related to fieldwork. Figure 1 shows the different stages of a project and fieldwork cycle that allow for engagement and inclusion of different people/actors to ensure power, inclusion and diversity issues are addressed.

In particular, the inclusion of local communities in the different stages of planning and executing conservation fieldwork is vital. Equitable participation of Indigenous peoples and local communities in conservation research is crucial for fostering more effective and inclusive environmental stewardship (Nerwing et al. 2024). It is increasingly acknowledged that Indigenous knowledge, rights-based approaches, and community involvement must be at the core of conservation practices (Convention on Biological Diversity 2022). Therefore, local communities should be involved not just as informants but as active partners throughout the research process, from problem definition to the dissemination of findings (Newing et al. 2024). This shift ensures that research aligns with the priorities and knowledge systems of these communities, promoting co-ownership of both the process and its outcomes. The broad principles for good participatory research practice highlight the importance of early dialogue with communities, consideration of power dynamics, flexible and modular approaches to participation, and respect for Indigenous peoples' intellectual property rights. They also underscore the need for long-term engagement, ethical considerations, and the integration of local knowledge with scientific evidence to ensure that conservation research supports both global biodiversity goals and local community needs (Newing et al. 2024). These principles will guide researchers in fostering equity and inclusivity.

Ethical considerations should be made when planning fieldwork (Figure 1). These considerations include:

- From an ethical perspective, what are the reasons and benefits for doing the fieldwork in the planned location?
- How can the fieldwork and the related project involve and lead to true two-way knowledge transfer and mutual collaboration between the outgoing and in-country conservationists and the local community?
- Will the planned project bring the results of the fieldwork back to the local community and generate impacts/actions that benefit the local community?
- Do the local communities have a true opportunity to choose to participate or not participate in or oppose the project?
- How does the planned project avoid reproducing parachute-science practices and exploiting local communities and in-country conservationists?
- Is the local community appropriately informed about the scientific relevance, methodology, and potential local impact of the fieldwork?

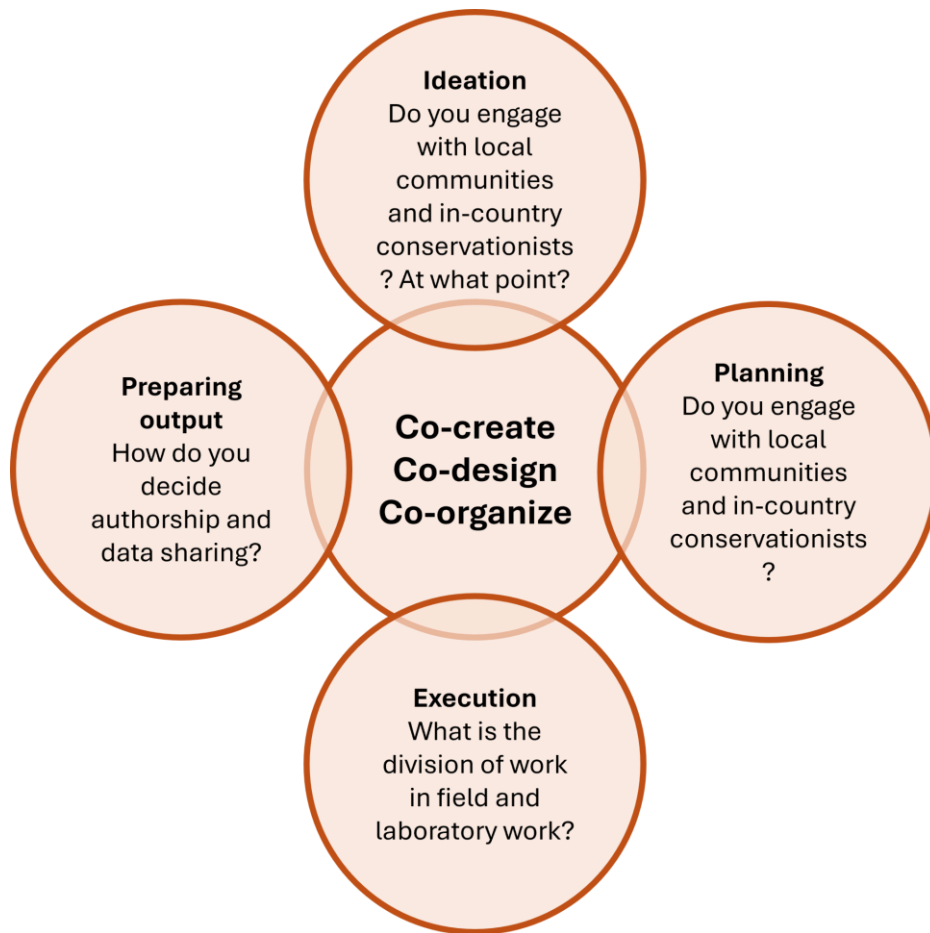


Figure 1. A framework illustrating the interplay of different phases of engagement to be taken into consideration before, during and after a project and fieldwork implementation to ensure efficient co-creation and delivery of scientific outcomes. Developed by Margaret Owuor.

Identified issues and solutions

In this section, we identify issues related to diversity, equity, inclusion, and justice in conservation fieldwork. We focus especially on issues that prevent conservationists from participating in conservation fieldwork and relate to most dimensions of the academic wheel of privilege (Table 1; Figure 2). There are different privileges in the (academic) world that affect people's opportunities to participate in conservation fieldwork, how safe they feel doing so, and how their contributions are valued and recognised. For each issue, we suggest ways forward and these solutions cover actions at different scales, from individuals, institutions, academia, and the entire society.

(physical and psychological), including vulnerable or underrepresented groups (woman/LGBTQA +/PoC researchers)	fieldwork exposes a person from an underrepresented group to harassment that is driven by power discrepancies. Fieldwork teams predominantly composed of individuals from non-marginalised groups.	codes of conduct for pre/during/post fieldwork dynamics, audit and control the effectiveness of anti-harassment and anti-discrimination protocol. Have signposted reporting systems in place at research institutions, centers and stations. Develop anonymous pre-fieldwork surveys for participants to share their concerns. Allow fieldwork participants to influence accommodation practicalities (prioritize single-occupancy sleeping conditions) and consider the safety conditions of bathroom breaks. Prioritise the safety of marginalised participants over the convenience of non-marginalised participants.	Matsuda 2023; Kamran et al. 2023; Lundin & Bombaci 2022
Sexuality			
Security and harassment (physical and psychological), including vulnerable or under-represented groups (woman/LGBTQA +/PoC researchers)	Little personal space during fieldwork exposes a person from an under-represented group to harassment that is driven by power discrepancies. Fieldwork teams predominantly composed of individuals from non-marginalised groups.	Develop standardized codes of conduct for pre/during/post fieldwork dynamics, audit and control the effectiveness of anti-harassment and anti-discrimination protocols. Have signposted reporting systems in place at research institutions, centers and stations. Develop anonymous pre-fieldwork surveys for participants to share their concerns. Allow fieldwork participants to influence accommodation practicalities and prioritize single-occupancy sleeping conditions. Prioritise the safety of marginalised participants over the convenience of non-marginalised participants.	Cronin et al. 2021; 2024; Matsuda 2023
Race/skin colour			
Security and harassment (physical and psychological), including vulnerable or underrepresented groups (woman/LGBTQA +/PoC researchers)	Little personal space during fieldwork exposes a person from an underrepresented group to harassment that is driven by power discrepancies. Fieldwork teams predominantly composed of individuals from non-marginalised groups.	Develop standardized codes of conduct for pre/during/post fieldwork dynamics, audit and control the effectiveness of anti-harassment and anti-discrimination protocols. Have signposted reporting systems in place at research institutions, centers and stations. Develop anonymous pre-fieldwork surveys for participants to share their concerns. Allow fieldwork participants to influence accommodation practicalities and prioritize single-occupancy sleeping conditions. Prioritise the safety of marginalised participants over the convenience of non-marginalised participants.	Cronin et al. 2021, Cronin et al. 2024, Matsuda 2023
Discrimination and violence towards PoC researchers in outdoor spaces	Border police suspects and questions a PoC scientist during fieldwork.	Include related risks to the risk assessment document. PI supports the scientist in planning and provides organization identifying clothes. Conduct fieldwork with a colleague. Carry institutional photo identification and support letter from the organization/supervisor.	Demery & Pipkin 2021, Troutman 2023; Ramírez-Castañeda et al. 2022
Neuro-diversity			

Needs of neurodivergent people are not accommodated in fieldwork planning	Person with ADHD needs their medication for fieldwork but the medication is banned in the fieldwork location.	Plan fieldwork well in advance, check regulations about your medications in the country, share the plan with all participants, and provide information about how working conditions can be adjusted to accommodate neurodivergence without forcing neurodivergent people to reveal their diagnoses.	Péter 2023
Intense socialization associated with fieldwork	People on the autism spectrum get anxiety from the unpredictability and expectations of intense socialization associated with fieldwork.	Share clear details of fieldwork with participants (incl. about group work), assign mentors to students, and ensure regular and scheduled breaks (incl. time without work in the evenings).	Kingsbury et al. 2020; Guldberg 2020
Mental health			
Phobias	A student does not apply for a fieldwork internship because of fear of spiders.	More experienced conservationists share their challenges openly. Identify different tasks that minimise exposure to phobia triggers. Have a plan prepared on how to react if the student has a panic attack. Be open to talk about phobias.	Birnie & Grant 2001
Anxiety	Anxiety of social situations prevents students from participating in a field course.	Share clear details of fieldwork with participants (incl. about group work), assign mentors to students, and ensure regular and scheduled breaks (incl. time without work in the evenings). Allow time for debriefs on how the day/trip was and discuss ways to improve the following day/field course.	Hendricks et al. 2017; Lawrence and Dowey 2021
Lack of emotional and cultural safety in the field	Fieldwork may be isolating, particularly for researchers belonging to marginalised groups	Implement protocols that take into account mental health, cultural safety, and trauma-informed methodologies, especially when operating in conflict-affected or historically colonised regions.	
(Dis)ability			
Disabilities or health problems	Physical disability prevents hiking in the mountains.	Map fieldwork tasks and fieldwork team skills in advance to assign most suitable roles, e.g., collecting samples, processing samples, and interacting with local people.	Kosanec et al. 2018
Body size			
Larger body size	Fieldwork equipment is not designed to be used by people with larger bodies. Fieldwork is physically	Provide fieldwork equipment that is usable for all team members. Provide accommodating additional equipment when needed. Speak respectfully about bodies, weight and physical abilities. If adjustments to fieldwork practicalities are really needed (but do not automatically assume so), map fieldwork tasks and fieldwork team skills in advance to assign most	Jokinen & Caretta 2016

	demanding.	suitable roles, e.g., collecting samples, processing samples, interacting with local people. Talk in advance about how demanding the fieldwork will be with the participants.	
Religion and culture			
Ethnocentrism and lack of respect for local customs	Outgoing conservationists are often not sufficiently aware of local customs, leading to unintentional disrespect or cultural misjudgments.	Outgoing conservationists should take the time to inform themselves about local customs prior to starting the fieldwork. They should understand the culture they are entering and how that might interact with their identity in comparison to the social norms they are accustomed to. They should respect local customs even if they do not necessarily align with their own values.	British Ecological Society 2023; Ramírez-Castañeda et al. 2022
Field worker is not welcome and/or safe at field location because of their religion	Hate symbols are displayed at or near the field site.	Engage in fieldwork with another person, when possible. When this is not possible, have a point of contact who is aware of your whereabouts and expected schedule on a given day. Modify project or adjust distribution of field sites among team members.	Demery & Pipkin 2021
Citizenship			
Not enough collaboration with in-country researchers	Even interns from the Global North can be more easily 'heard' than for example prominent Global South in-country researchers.	Acknowledge the expertise of Global South conservationists, two-way improvement of attitudes towards collaboration needed from both global north and global south conservationists, mindset from the beginning to engage in active collaboration. Collaboration beyond established gatekeepers to ensure wider inclusion of in-country conservationists (search online databases for relevant collaborators). Find out which projects are already ongoing and find synergies with in-country researchers rather than establishing a separate fieldwork setup – this is particularly important when considering long-term projects to sustain benefit-sharing and avoid dependency cycles.	Seidler et al. (2021), Chin et al. 2019
Global South researchers face additional barriers when doing fieldwork in Global North or South	Global South researcher working in Global North country (needing visa/residence permit) so traveling for fieldwork in other Global North country or to Global South can be difficult when fieldwork timing is not flexible	Allow flexible project timelines (visa applications), provide clear information on local permits and policies, and provide sufficient funding (not just reimbursement). Facilitate the participation of Global South researchers in scientific conferences to present their fieldwork-based research, with special attention to funding and visa application. Change mindsets: it is rather established for someone from the Global North to conduct research in an exotic location but not the other way around. Global North institutions should be prepared to fund visa applications of Global South researchers. Encourage discussion about academic mobility privileges.	Owusu-Gyamfi 2024, Dixit 2021

Language			
Inclusion of local communities is challenging without common language	Outgoing researcher does not speak the local language and cannot explain project aims to local people.	Include in-country researchers/practitioners/managers/community leaders in the development of the project, so that they can communicate the work planned in an early stage to the local community in the same language and trust could be generated. Encourage local participants to also have ethical and honest conduct. Researchers with long-duration projects in a specific area start learning the language.	Haelewaters et al. 2021
Structural disadvantages for non-native English speakers	Preparation of funding application, presentations, reports and scientific publications of the fieldwork takes more time for a non-native English speaker. Non-native English speakers may miss opportunities to disseminate work and receive less recognition than peers.	Allow using AI tools for polishing the English writing. Prepare fieldwork manuals in multiple languages when possible. Provide English editing or find “buddies” to support non-native English speakers for writing grant proposals and articles. Promote double-blind practices in application and manuscript review processes to ensure decisions based on quality of science. Allow pre-recording or translation services during oral presentations at international conferences conducted in English.	Amano & Berdejo-Espinola 2024, Amano et al. 2023
Current wealth			
Challenging financial situation	Financial situation does not allow paying fieldwork expenses in advance and getting them reimbursed later. Early career researcher from low-income area has insufficient funding for a field assistant, having to work alone and for longer periods.	Allow paying the expenses from institutional accounts directly. Support fieldwork budgets that need extra funding for assistants and any inconvenient event that prevents data collection.	Carlin et al. 2024
Fieldwork equipment costs	A student cannot afford buying hiking shoes for fieldwork.	Provide general supplies of fieldwork equipment, consider whether it is necessary to require special equipment at all, establish equipment loan/exchange system for students, do not link grades to acquiring equipment.	
Unpaid internships and volunteer work	Only students from wealthy backgrounds can	Pay all fieldwork assistants and interns. Plan expenses related to internship when applying for grants.	Jensen et al., 2021, Ramírez-Castañeda et al.

	apply for an unpaid internship and gain fieldwork experience. Unpaid or pay-to-work field experiences can prohibit participation of racial and ethnic minority student		2022
Caring duties			
Extensive time away is not possible for those with caring duties	Parents with a small child cannot work outside daycare opening hours.	Plan fieldwork days such that they follow regular working hours or plan fieldwork well in advance to allow finding alternative solutions for caring duties. Identify fieldwork tasks that can be performed by those people that cannot join the work for extensive time periods. Consider whether fieldwork needs to be conducted far away or could it be conducted nearby to avoid excess traveling time.	Ward Jones & Bendixen 2022; Lozano & Sánchez 2023
Funding/ resources			
Limited funding does not allow incorporating DEIJ in fieldwork practices	One-season project funding does not cover planning of aspects beyond fieldwork practicalities.	Plan well ahead to ensure the possibility of including in-country researchers and people to the project. Funding systems need to consider new criteria: 1. allow longer project implementation time to include local communities due to infrastructure and communication challenges and to develop methodology together with the local communities, 2. allocate funding specifically for true two-way knowledge exchange of outgoing conservationists, in-country conservationists, and local community, including funds for translation, co-production and local dissemination efforts, 3. establish small grants specifically targeted to improve the DEIJ aspects of existing fieldwork projects, including seed grants aimed at facilitating community-led field initiatives, 4. increase transparency of how grant money is allocated among project participants to increase accountability.	British Ecological Society 2023
Career stage			
Obtaining funding for conservation work.	Early career researchers or young independent researchers (without affiliations) are not considered for big grants.	Include early career conservationists with proven research/conservation capabilities in the applications. Collaboration beyond established gatekeepers to ensure wider inclusion of in-country conservationists. Search online databases to find collaborators.	
Unethical practices	Volunteers work	Be considerate of who are paid for their work and	Palmerim 2024

around volunteer work	for a lengthy period on a research project but are not credited in the subsequent published research.	who are included as volunteers. Be aware of biases when deciding whether a volunteer should be credited with co-authorship or acknowledgement.	
Institution			
Institutions lacking DEIJ practices	A university has an outdated ethics protocol.	Call on institutions to update their guidelines to include the recognition and ethical use of local and Indigenous knowledge, and the equitable sharing of benefits derived from that knowledge, which has been stipulated in the Convention on Biological Diversity. Call on institutions to organize training in ethical and inclusive fieldwork. To promote inclusivity in general, establish specialized liaison roles, allocate resources for diversity initiatives, and enhance support for international conservationists. Call on institutions to establish long-term, equitable partnerships with communities rather than transient project-based collaborations. Incorporate DEIJ metrics in institutional assessments and reporting processes.	Archer et al. 2022; Valdez et al. 2024
Asymmetries in collaboration between institutions in Global North and Global South	Institutions in Global North hold the funding and power in research collaborations.	Funders and global institutions must actively shift power by supporting Global South researchers to lead funding proposals, set research priorities, and access the infrastructure needed to conduct high-quality research.	Ocampo-Ariza et al., 2023
Formal education			
Power dynamics related to the level of education	In fieldwork planning, views of a conservationist with PhD degree are valued over those of a local inhabitant without a formal degree.	Be aware of negative biases that link level of education with knowledge and intelligence. Conduct fieldwork planning in a platform that allows equal contributions of all participants and ensure that such platform does not require institutional/academic knowledge of for example scientific articles. Ensure that knowledge systems and approaches outside of Western science are valued and included through emphasis on shared leadership of research and by considering equitable co-authorship and intellectual property rights.	Ramírez-Castañeda et al. (2022), Salomon et al. (2012)

We also go beyond the academic wheel of privilege to identify issues and solutions related to, for example, local communities and volunteer work (Table 2). The issues and solutions identified in this section particularly include those that can be addressed directly by conservationists in academic institutions. We also note that the list of issues is not exhaustive and should be updated regularly in the future.

Table 2. Issues beyond the academic wheel of privilege preventing participation in conservation and suggested ways to address the issues.

Issue preventing participation	Example	Suggested ways forward	References
Not enough collaboration within research team	Fieldwork leader is not aware that a local people group or team member can identify the locally present bird or plant species.	Identify strengths in the research team and locally available biodiversity related experiences and practices to allow everyone to participate in the way they can. Strengths can for example relate to species identification, knowledge of local culture and language, hiking and camping experience, organizational skills, and team building.	Picot & Grasham 2022
Not enough collaboration with local communities	Research project is conducted with the permission of a governmental office without informing local communities.	Mindset from the beginning to engage in active collaboration. Accept that building trust, true involvement, and decolonization take time. Account for cultural differences: people might be shy locally to interact with external researchers but that does not mean that they do not want to collaborate. Researchers and funders should make short-term projects into longer-term projects with continuation and legacy is key to efficiency: passing on information allows building on existing trust in local communities and using scarce funding more efficiently (no restarting every time). Consider accessing local communities directly rather than via in-country researchers or leaders or government assigned development agents. Consider how you speak to and interact with marginalised indigenous people and local communities to develop a sense of belonging.	Newing et al. 2024
Not all deserving parties receive appropriate credit or benefit for their contributions to the research and practice	People from local communities help with field site selection, species identification and adjusting the plan to the local conditions but do not get the opportunity to contribute to the scientific output.	Be aware of biases when deciding whether a fieldworker/volunteer/early-career researcher/local community member should be credited with co-authorship or acknowledgement. When planning the fieldwork, consider how it could benefit local communities, actors, and rightholders. Be aware of inherent biases against Global South conservationists and recognize contributions of project collaborators in relation to their knowledge, skills and experience, not to their country of origin.	Palmerim 2024, Archer et al. 2022; Ramírez-Castañeda et al. 2022

Role of scientific societies in making fieldwork more inclusive and just

Scientific societies should take an active role in advancing inclusion and justice in scientific work. Scientific societies organize conferences, award research grants and awards, and publish articles in society-owned journals. All these platforms could set higher standards of inclusion and justice by communicating to contributing scientists the importance of DEIJ as well as rewarding scientists who pay attention to DEIJ in their work. Conservation societies have an additional special role given that conservation practices are included in their work and conservation has been done in a colonialistic way for a long time (Cumming et al., 2023). That is, practical conservation is included in the role and agenda of conservation societies, including SCB Europe. Therefore, encouragement in all concrete actions organized by the society can have an effect also on the conservation practice. We acknowledge that decolonizing science takes time and funding. In this decolonization process, the scientific societies can set an example of code-of-conduct and allocate funding to include a diverse set of conservationists and

local communities in the conservation projects involving fieldwork. For example, British Ecological Society has developed guidelines for inclusive fieldwork (BES 2023).

References and further reading

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Acknowledgements

Melissa Cronin for insightful suggestions.