



Applying Principles of Diversity, Equity, Inclusion, Justice and Accessibility (DEIJA) to Invasive Species Research, Management, and Engagement

Workshop Report

Applying Principles of Diversity, Equity, Justice and Accessibility (DEIJA) to Invasive Species Research, Management, and Engagement

Workshop Final Report



Prepared by: Gadfly Stratton, PhD

**Contributors: Amber Hubbard, Ashley Kiley,
Megan Weber, Travis Wilson, and Anonymous Participants**



People, Passion, Experience: Pathways to Success

Conference Hosts



Workshop Sponsors



UNIVERSITY OF MINNESOTA
EXTENSION

Executive Summary

The 'Applying Principles of Diversity, Equity, Inclusion, Justice and Accessibility (DEIJA) to Invasive Species Research, Management, and Engagement' Workshop was facilitated by Gadfly Stratton and hosted by the Invasive Plants Association of Wisconsin, the Midwest Invasive Plant Network, and the Minnesota Invasive Species Advisory Council in Duluth, Minnesota during the Upper Midwest Invasive Species Conference (UMISC) on November 12, 2024. Funding for the workshop was sponsored by University of Minnesota Extension and the European Frog-bit Collaborative.

During this half-day, in-person facilitated workshop, participants came together to learn from each other's experiences with DEIJA and to collaboratively identify specific principles, objectives, and actionable commitments for the future. The topics discussed during the workshop included:

- ➡ Impacts of invasive species in local communities
- ➡ Why do DEIJA matter?
- ➡ Experiences with microaggressions
- ➡ Retention and the 'leaky pipeline'
- ➡ Decolonizing science
- ➡ Shared principles
- ➡ Commitments to action

Definitions

Diversity: a measure of representation within a community or population that includes identity, background, lived experience, culture, and many more

Equity: the promotion of fairness and justice for each individual that considers historical, social, systemic, and structural issues that impact experience and individual needs

Inclusion: the creation of an environment where everyone shares a sense of belonging, is treated with respect, and is able to fully participate

Justice: An approach which seeks to identify the root causes of inequity and resolve them

Accessibility: giving equitable access to everyone along the continuum of human ability and experience including the physical environment, access to content, and representation

Microaggression: brief or commonplace verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative slights and insults to the target person or group

Microassault: Verbal or nonverbal attack meant to harm the victim

Microinsult: Rude comments intended to demean the victim

Microinvalidation: Comments that exclude or negate the experiences of the victim

Introduction

A commitment to advocacy for diversity, equity, inclusion, justice, and accessibility are being increasingly recognized as vital to environmental fields because the impacts of environmental degradation are seldom equitably distributed. “Environmental degradation commonly disadvantages nonwhite communities and marginalized members of society, as evident in the inequitable distribution of resources, benefits, toxicants, and disease risks” (Harris et al. 2023). This is especially important when confronting the ecological, economic, social, agricultural, and public health impacts of invasive species. In particular, “the impacts of invasive species on community wellness, cultural and [I]ndigenous practices, and social traditions are notoriously difficult to quantify and/or document” (ISAC 2023).

A failure to recognize and respond to inequities in the invasive species field can negatively impact our ability to conduct outreach and engagement efforts. Many invasive species names, for example, are slurs for marginalized groups or disregard how those species are referred to by Indigenous communities creating a “cultural environment that is unwelcoming and non-inclusive” (ESA 2024). There is growing concern about “the parallels between anti-immigrant and anti-invasive species rhetoric” (Fink 2023), particularly when invasive species names often refer to places of origin shared with ethnic groups and have strong militaristic connotations (Janovsky and Larson 2019). Previous research has found that members of the public have been harmed or offended by the language used in invasive species discourse, and that invasive species terminology can have negative connotations toward ethnic groups from the same locations (Hackett et al. 2022).

In addition, there is “a pervasive culture of centering cisgender heterosexual men” in science, technology, engineering, and mathematics (STEM) fields (Miller et al. 2021), along with “rigid expectations of gender and sexuality” (Mattheis et al. 2020) and hostility toward the 2SLGBTQIA+ community (Cross et al. 2023). Within STEM, individuals who identify as 2SLGBTQIA+ are more likely to have less career opportunities, be paid less than their counterparts, experience devaluation of their scientific expertise, and are more likely to leave STEM entirely (Miller et al. 2021; Cech & Waidzunus 2021; Secor 2022). And these issues are further compounded when individuals have other intersecting identities, such as being a person of colour, or having a disability (Moreau et al. 2022).

Introduction

Similarly, women are more likely to also have negative experiences in STEM. These fields often hold stereotypical ideologies which rigidly distinguish between “masculine instrumentalism and feminine expressiveness” (Cech 2013). Technical skills tend to be viewed as inherently masculine and are more valued and more highly paid than social skills which are viewed as more feminine (Leyva 2017; Faulkner 2015). Women also commonly experience gendered microaggressions in STEM, such as sexual objectification, being expected to adopt stereotypical support roles rather than leadership roles, being assumed she does not belong because of her gender, and having her ideas ignored but later accepted when repeated by a man (Yang and Carroll 2016; Sekaquaptewa 2019)

For those who identify as Black, Indigenous, or people of colour (BIPOC), their sense of belonging in STEM has been shown to drop from neutral to negative between graduate school and mid-late career (Graham et al. 2022.). When these folks end up leaving STEM, it is often blamed on a so-called “leaky pipeline”, in which some folks simply ‘leak’ out of the field through some passive process. However, scholars have argued that the concept of the “leaky pipeline” is a fantasy used to avoid identifying the root systemic issues prevalent in STEM, instead blaming the loss of people from marginalized communities on ‘lack of interest’ (Ijoma et al. 2021). However, the “leaky pipeline” is known to ‘leak’ most for underrepresented minorities (Estrada 2017). What this demonstrates is that DEIJA principles are needed in order to not only make space for people from marginalized communities, but to ensure that they are respected and valued within those spaces for their contributions. “Simply admitting an underrepresented minority student is not enough if that student feels unwelcome, unheard, and unvalued” (Puritty et al. 2017).

These examples of the prevailing attitudes within STEM and the experiences of marginalized groups in those species demonstrate that a lack of commitment to DEIJA principles and actions can make it much more difficult for us to recruit students and workers into the invasive species field, to retain those we do recruit long-term, and to see folks from marginalized communities in positions of leadership. This limits the pool of people we have available to do this important environmental work, as well our ability to promote our work to the public and encourage their participation.

This workshop was held with the intention of discovering UMISC community members’ experiences with marginalization, their motivations for supporting DEIJA principles, and drafting a set of actionable goals to improve the field going forward.

Results

During the workshop, participants engaged in honest and difficult discussions with the goal of sharing their experiences with each other for the purpose of co-developing objectives and actionable goals for the future (Figure 1).



Figure 1: Word cloud illustrating the words describing diversity, equity, inclusion, justice, and accessibility (DEIJA) shared by workshop participants

The first half of the workshop involved discussion of foundational topics, including the impacts of invasive species, why DEIJA matter, issues with retention, microaggressions, and decolonization of science. The themes which emerged during these discussions were:

- 🐟 Accessibility
- 🐟 Decolonization
- 🐟 Environmental impacts
- 🐟 Inclusive language
- 🐟 Mixed messaging
- 🐟 Power
- 🐟 Safety
- 🐟 Sexism and misogyny

What are the impacts of invasive species in your community?

Participants discussed the impacts invasive species have had on their communities, and the three themes which emerged were Environmental Impacts, Messaging, and Power (Table 1). Participants shared their feelings of loss for ecosystems which have been permanently altered by invasive species, as well as concerns for future invasions and impacts to come. They shared frustrations with the language used in discussing invasive species. In particular, they voiced concerns that public stakeholders may be confused by terminology used by managers and apply negative connotations to native species that share attributes with invasives (e.g. believing that all aquatic vegetation is invasive or requires removal). Finally, participants discussed issues of power, particularly questions of who is and who is not empowered to manage invasive species, the power of the law in regulating invasive species, and unequal power dynamics that often intersect with invasive species' environmental impacts (e.g. landowners were perceived as only supporting invasive species management when the species was present on their property).

Why do diversity, equity, inclusion, justice, and accessibility matter?

During this discussion, participants shared why diversity, equity, inclusion, justice, and accessibility were important to them. The two themes which emerged were Inclusive language, and Power (Table 2). Participants shared their concerns that exclusionary language may make some groups of people unwilling to participate in management efforts in their community due to feeling unwelcome, or even unsafe. They emphasized that we need everyone who is willing to help with the environmental challenge of invasive species and should therefore aim to be as inclusive with language as possible. They also described the vagueness of directives to interact with a generalized "public", but that to be effective communicators they need to know who exactly the "public" in their community is. Finally, they said it was important that they be given the training and skills to interact with different groups of people appropriately to improve their engagement efforts.

Theme	Examples
Environmental Impacts	Use and enjoyment of lands and waters harmfully impacted
	Natural medicines may be less available
	We miss the environments that existed in our youth
	Lag time from detection to response exacerbates impacts
Mixed messaging	The way we talk about invasives can affect perceptions of native species
	"Aquatic vegetation" has negative connotations for stakeholders
	Often unclear if action being taken or just being considered
Power	Conflict between communities and managers
	Who has final authority to manage?
	What is legally allowed?
	Impacts are distributed unequally
	Property owners often only concerned if their own property is invaded

Table 1: Participant responses to the question “What are the impacts of invasive species in your community”, organized by theme, with examples

Theme	Examples
Inclusive language	Exclusionary language may make some groups unwilling to participate in management
	We need everyone, we don't want to exclude anyone
	We need to know who the public is that we are engaging with
	We need the training and skills to interact with different groups appropriately
Power	North America's colonial history
	Addressing justice and injustice
	What if some people don't want to give up their power?
	Giving underserved communities a voice

Table 2: Participant responses to the question “Why does diversity, equity, inclusion, justice, and accessibility matter to us?”, organized by theme, with examples

Retention and the “leaky pipeline”

During this discussion, participants explored their perspectives on the “leaky pipeline” in the invasive species field. The three themes which emerged were Accessibility, Power, and Safety (Table 3).

Participants explained that in some cases we may miss out on having members of underserved communities join our field because their communities do not have the same resources available to them as more privileged communities. They recommended that this could be alleviated by bringing our work out to those specific communities, rather than hoping a few make it through the “leaky pipeline” to us. They described the ways in which marginalized folks in their own workplaces and schools are expected to self-advocate with little institutional support. The reasons for that lack of support were often explained to them as a lack of resources available to do so, and so the recommendation from the group was for institutions to begin budgeting the resources to support marginalized folks, regardless of whether they can readily identify someone who currently needs it, so the resources and support will be available when needed.

Participants raised safety concerns as a potential barrier to recruitment and retention in invasive species fields. Often it was assumed that everyone has the same base level of training and experience, but folks from different backgrounds may have different skills and experiences and so may be less safe in new situations if they are not trained. Some types of training that the group considered important were never given to them officially, such as how to go out into the community and interact with the public safely. Others expressed concern that they were not trained regarding cultural competency, or other ways of learning what different needs other groups may have, and that this training should be available to them. Participants also voiced a preference for workplaces to have ways to share concerns about their needs without being made to feel ashamed or like a burden, and that anonymous methods of voicing concerns or requesting resources in the workplaces could be a solution. Finally, participants emphasized that people often do not feel safe in the workplace, the field, or out in the community due to racism and misogyny, and that must be taken seriously moving forward.

Theme	Examples
Accessibility	Underserved communities may not have access to the same educational or natural resources
	We need to begin to bring our work to the community, rather than waiting for them to come to us
Power	Marginalized people are often left to self-advocate
	Marginalized groups need more official support
	Budgeting resources must happen ahead of time so people will have support when they need it
Safety	Training and experience is often assumed, but different walks of life will have different skills and experience
	Some kinds of training is never officially given, such as how to go out in the community safely
	We must begin teaching about the needs of different groups of people so their training can meet their needs
	We should foster an environment where feel they can share needs without feeling like a burden, or shameful
	Create anonymous methods of sharing People often do not feel safe due to racism and misogyny and that must be taken seriously

Table 3: Participant responses to the discussion of retention and the “leaky pipeline problem”, organized by theme, with examples

Microaggressions

During this discussion, participants shared their experiences with microaggressions in the workplace or classroom. This included experiences with microaggressions directed at themselves, as well as those they had witnessed being directed at members of other marginalized groups. The themes which emerged included Power, Safety, and Sexism and misogyny (Table 4).

Participants identified challenges in pointing out when microaggressions have occurred because the perpetrator will often respond as though they are being victimized or will fixate on how they are being “blamed”, rather than welcoming the information. They also described difficulties they have encountered relating to power dynamics when they are working, but those they are engaging with are not. For example, an individual doing fieldwork or community outreach is working and has particular professional expectations for their behaviour. However, the community members they encounter are not at work, and are instead at leisure on their free time and are therefore not similarly constrained by expectations to behave professionally. This can put employees in a difficult situation due to the power imbalance or put them in situations where people are behaving in a discriminatory or otherwise unprofessional manner while they are nonetheless at work.

Participants were concerned that these experiences also raise safety concerns, as people doing invasive species work or studies should feel safe while they do so. Participants expressed that support should be offered to participants sharing that they have experienced microaggressions. In particular, they emphasized that victims should always be asked whether and how they would like to be involved in the resolution of the issue. Some participants felt that they would not feel safe or comfortable continuing to “rehash” the initial harmful situation, while others felt it would give them a sense of empowerment to play a role in the resolution. In addition, allies were called upon to speak up for marginalized colleagues when they are safe and able to do so.

Sexism and misogyny in the invasive species field was something frequently experienced or witnessed by participants. Women reported receiving comments about how it was “inappropriate” for them to be conducting field work or other physical labour. Some described feeling uncomfortable or unsafe when members of the public would approach them to tell them they should not be doing this kind of work without a man present, and some reported receiving complaints to their workplace that women were being “allowed” to conduct this work. Within their workplaces, women described experiences with gendered microaggressions such as groups of women being referred to as “the ladies” rather than by their names, or of their opinions being given lesser weight than those of men in the workplace, even when those men were less experienced or in less senior positions. As well, women who received promotions reported receiving increased resistance, “pushback”, or skepticism regarding their capabilities from men in the workplace. Finally, participants noted that current invasive species work culture is very “guy-oriented” with focuses on the experiences and perspectives of men. Participants recommended being more open to non-traditional pathways into this field, and more open to different sets of skills and experiences as vital to invasive species work as a way to encourage people to broaden their idea of who does or does not belong in this field. Finally, participants stated that there is a need for training on the need to separate one’s personal beliefs and preferences from their position, because someone having the personal belief that women should not be doing field work is not something women should need to hear about while doing field work.

Theme	Examples
Power	People often respond to being told they behaved inappropriately by acting victimized rather than ceasing the microaggression
	Must detach personal opinions or views from position in the workplace
	Different contexts create different power dynamics, e.g. you are at work, but the public are at leisure
	Those who appear younger are taken less seriously
Safety	People need a space where they can feel safe
	Support must be offered when something happens
	Always ask whether the victim wishes to be involved
	Allies who feel safe doing so should speak up and push for change, as those impacted may feel unsafe doing so
Sexism and misogyny	Women receive comments that it is not appropriate for them to do field work
	Groups of women approached in the field by men thinking they should do their job for them
	Being referred to as "the ladies" rather than their names
	The opinions of men are given more weight and value
	Women reported resistance and pushback from male colleagues after receiving promotions
	Current invasive species work culture is very male-oriented
	Need to be more open to other pathways into the field

Table 4: Participant responses during the discussion of microaggressions, organized by theme, with examples

Decolonizing Science

During the discussion on the importance of decolonizing and Indigenizing science, the themes which emerged were Accessibility, Inclusive language, and Power (Table 5). Participants explained that the reporting mechanisms used by organizations or government departments for prevention and management of invasive species often do not automatically share their information with Indigenous Nations. They felt it was important that this information be shared as widely as possible with the public, but in particular that it should be shared with Indigenous Nations. This was explained as due to a respect for Indigenous peoples' rights to manage their traditional territories, as well as a desire to not simply extract data from Indigenous lands without sharing it. Participants emphasized a need to shift the language we use to be more inclusive of Indigenous perspectives and move away from the colonial and militaristic connotations of words like "invasive". Rather, they encouraged referring to species as local or non-local beings, and to describing those species based on their relationships and interactions with ecosystems and communities. Finally, participants expressed a desire to move beyond simply giving land acknowledgements at the beginning of an event. Participants asked how we can honour stolen land and honour our colonial history. A recommendation which emerged during this discussion was to build sharing and reporting information to Indigenous Nations into the training received by those in the field.

Theme	Examples
Accessibility	Reporting mechanisms for invasive species often not shared with Indigenous Nations
	Need to build sharing information into the reporting structures
	Need to co-develop training on how to share information appropriately
Inclusive language	Refer to local vs nonlocal beings, rather than ascribing "invasive" intent
	Describe interactions with communities and ecosystems and specific impacts
	"Invasive" language as colonial, militaristic, and negative
Power	Need to go beyond land acknowledgements
	How do we honour stolen land?
	Need to make institutions and the way they operate transparent and accessible to Indigenous Nations

Table 5: Participant responses during the discussion of decolonizing science, organized by theme, with examples

Commitments

For the second half of the workshop, participants worked to co-create a commitment to DEIJA principles, with specific goals and objectives they would like to achieve in the short and long term.

Principles

The principles adopted by the workshop participants were Advocacy (Table 6), Creating opportunities (Table 7), Creating resources (Table 8), Improving accessibility (Table 9), and Increasing diversity (Table 10).

Advocacy

Participants emphasized a need for active rather than passive engagement. They saw a need for specific, actionable goals and objectives, rather than a pattern they described of organizations simply putting some DEIJA links on a website. They saw a lack of DEIJA spaces in workplaces, and recommended the creation of groups or clubs, as well as workshops or coffee hours for different identity groups. They also said it was important for organizations to take on that advocacy work of making sure these spaces and opportunities are made available, rather than requiring marginalized communities to take on that additional labour. Participants also expressed a desire for training in cultural competency, and particularly for training that introduces practitioners to the diverse cultural practices of their communities, so that they model, engage with the public in a way that is appropriate and respectful. Finally, they agreed it was important to be a role model, when possible, both as an individual and an organization. That can be as simple as shifting to more inclusive language, as well as sharing your DEIJA efforts and results with others so that other groups and individuals can learn from your successes and failures going forward.

Principle	Objective	Recommendation
Advocacy	Active engagement	Create actionable goals and objectives, rather than lists of links on a website
	Foster safe spaces for engagement	Organize workshops, coffee hours, clubs, and other official organizations or events for marginalized groups
	Institutional advocacy	Safe spaces must be made available by the organization, rather than requiring extra labour from the marginalized
	Promote cultural sensitivity	Provide training that gives awareness of diverse cultural practices
	Be a role model	Can be individual or organizational
		Use more inclusive language intentionally
		Share your work and results so that others can follow your path

Table 6: Participant responses during discussion of principles they wish to commit to, Part 1: Advocacy

Principles

Creating opportunities

Participants expressed concerns that currently there are not always equal opportunities to learn about and engage with the natural environment. Marginalized communities, for example, tend to have less access to green spaces, as well as to the financial means to travel to access those spaces outside of their communities. Participants recommended making sure that an affordable means of transportation is available for accessing local trails, parks, or invasive species engagement events. In addition, participants also expressed a need for opportunities to learn more about DEIJA. They expressed frustration with the fact that often these learning opportunities must be done on someone’s spare time, making it functionally an optional ‘extra’ that is not perceived as being of value to their organization. This also means that those with additional work, home, or family responsibilities may be unable to access these training opportunities. Instead, they recommended that DEIJA learning and training must be conducted as paid work and must be considered an integral part of invasive species work and not an optional ‘extra’.

Principle	Objective	Recommendation
Creating opportunities	Ensure access to green spaces	Ensure transportation is available to trails, parks, events
	Ensure access to learning opportunities	DEIJA learning opportunities should be paid, during work-hours
		DEIJA learning should be considered part of your job, not an optional 'extra'

Table 7: Participant responses during discussion of principles they wish to commit to, Part 2: Creating opportunities

Principles

Creating resources

Participants identified a need to share resources, particularly around DEIJA best-practices. They believed it would be helpful to them or their organizations to have access to guidance on how to make spaces more inclusive or accessible. They also felt that this would be of benefit to individuals or smaller organizations who can learn from those previous experiences and not need to “reinvent the wheel”. Participants also recommended that when getting started in DEIJA work, it can be important to first work to identify the needs of your local community. Having resources which identify those needs can give you a place to start, and then once those needs are being addressed, you can broaden your focus over time. An example which was provided was of a community where socioeconomic factors and extreme poverty were a high priority, so solutions that focus on mitigating economic hardships or access issues are an early priority, which will then expand to include other issues.

Principle	Objective	Recommendation
Creating resources	Reference guides	How to make events more inclusive/accessible
		Can take burden off individuals or smaller organizations
	Identify the needs of your community	Prioritize those needs to begin with, then expand to include others

Table 8: Participant responses during discussion of principles they wish to commit to, Part 3: Creating resources

Principles

Improving accessibility

Participants expressed a desire to ensure that resources on invasive species prevention and management, as well as related DEIIA topics, were made available in as many languages as possible. In addition, they explained that information about invasive species management and engagement should be advertised in less traditional locations in the interest of expanding who has access to that information. For example, promoting an invasive species outreach session not just at parks or boat launches, but at local libraries and grocery stores, to ensure more diverse groups who may lack access to those other spaces will have ways of getting that information.

Principle	Objective	Recommendation
Improving accessibility	Make information readily available	Translate materials into as many languages as possible
		Advertise information and events in novel locations
	Prioritize relationship building	Make the time to enable public input and consultation

Table 9: Participant responses during discussion of principles they wish to commit to, Part 4: Improving accessibility

Principles

Increasing diversity

Workshop participants explained that career opportunities specifically created for members of marginalized communities or with a DEIJA focus tend to be short-term contract positions. Participants emphasized that organizations that state a commitment to long-term change must commit to supporting these efforts in the long-term with long-term or permanent positions. They further recommended that these positions must not be seen as disposable, but that if DEIJA is truly a commitment that is important to the organization, then these positions must be valued by the organization and compensated appropriately. This is especially important given that many of these positions are occupied by members of marginalized communities, so taking on DEIJA labour should not put them at further disadvantage.

Regarding the work of making workplaces more diverse, participants recommended conducting active outreach, rather than waiting for the “leaky pipeline” to bring one to you. They emphasized a need for increased appreciation of difference in terms of background and experience. They expressed a need to move beyond the more traditional pathways to environmental work, such as biology majors, and look to other kinds of educational or lived experiences to further broaden the diversity of perspectives in the workplace. Participants also discussed the need to expand our audiences when we talk about invasive species issues. While outreach is often done with students, particularly biology students, in the interest of encouraging them to consider joining the invasive species field, other groups like retirees may also have an interest in prevention or management of invasive species. Finally, participants discussed the need to recognize historical legacies when we engage with marginalized communities, and Indigenous Nations in particular. This is especially important for those communities which have seen historical mistreatment by scientists and misuse of their data. Participants agreed that effort must be put toward reconciliation and rebuilding trust through the active forging of new relationships.

Principle	Objective	Recommendation
Increasing diversity	Long-term change	Opportunities for marginalized groups must be long-term positions
	Appreciation of value	Opportunities for marginalized groups must be viewed as important to the organization
	Active outreach	Do not wait for a diverse group to find you, go out and look for them
	Appreciation of difference	Consider backgrounds and experience from that is less traditional (i.e. not just biology majors)
	Expand your audience	Consider outreach not only with students, but also other groups with interest in the environment
	Recognize historical legacies	Effort must be put toward reconciliation and rebuilding trust

Table 10: Participant responses during discussion of principles they wish to commit to, Part 5: Increasing diversity

Take Action!

The group also collaboratively developed some actionable goals they wished to commit to both as next steps to be taken in the short term, and over the long term.

Continued improvement of accessibility

- 🐟 Need to determine how to reduce barriers and improve access while keeping natural ecosystems as undisturbed as possible
- 🐟 Trails and parks with difficult paths may need to be updated/modified
- 🐟 Balance natural environment with public access
- 🐟 Focus on areas that can be most readily or easily adapted, acknowledging that some trails or parks may not be able to be accessed by those with mobility needs
- 🐟 Having at least some that are accessible means there are natural spaces available to those with disabilities
- 🐟 Create accessibility information available and posted for trails and parks
- 🐟 A possible model is [Parks Canada](#), which provides information on trail surface, grade, obstacles, slope, and available rest areas

Keep accessibility in mind

- 🐟 New technologies may be helpful for increasing accessibility
- 🐟 Sometimes technologies are adopted because they are new and exciting, but without considering whether everyone is able to use them
- 🐟 If they will make things more difficult for some groups of people, there needs to be an alternative available before moving forward
- 🐟 Can everyone actually use this? Is this technology actually serving a need?

Take Action!

Have timelines and deadlines for DEIJA projects

- 🐟 Useful to enable people to take action in a reasonable time frame
- 🐟 Helps to ensure people will be able to actually make use of the end product
- 🐟 However, may make people focus on end products to the exclusion of the group they are helping

Compiling and sharing data

- 🐟 Enables sharing of both positive and negative impacts
- 🐟 Allows others to continue your work and build upon what you have already done for continuous improvement
- 🐟 Include specific steps taken and outcomes
- 🐟 Allows us to see the positive changes as they occur

Make resources available in more languages

- 🐟 Enables a larger and more diverse audience access to vital information about invasive species or DEIJA initiatives
- 🐟 Also important to tailor language used to the audience being addressed
- 🐟 i.e. less technical jargon for the public or children, focused on the needs of the community,

Take Action!

Advocate for marginalized groups within your organization or community

- 🐟 If a group does not appear to be a priority in your organization, explain why they should be
- 🐟 Advocate for the spaces they use to be present and accessible
- 🐟 Advocate for greater accessibility, and translation into multiple languages
- 🐟 Encourage the use of translation apps to facilitate communication

Open up requirements for entry-level positions

- 🐟 Be open to considering life experiences
- 🐟 e.g. someone may have decades of experience fishing, harvesting, acting as a guide, etc.
- 🐟 Those skills have value, regardless of whether the person has a certificate or prior job title

Actions participants would like to see for the next UMISC

- 🐟 Not so much overlap in topics related to EDIJA at the same time
- 🐟 e.g. the “Inclusive Language” talk is being held during this workshop
- 🐟 Prioritize EDIJA by not having big, exciting events like field trips all held at the same time as an EDIJA focused session
- 🐟 Participants believed many more may have attended this workshop if it did not mean missing one-of-a-kind fieldtrips
- 🐟 Create an EDIJA session
- 🐟 Include talks from other organizations who can share their successes and failures
- 🐟 Present the results of report from this workshop
- 🐟 Attendees also commit to sharing the report, and sharing their experiences and resources with their networks

Conclusions

The results of this workshop demonstrate a strong commitment on the part of participants toward the implementation of DEIJA principles in their workplaces and communities. In addition, this workshop has revealed several key areas that represent important areas on which to focus moving forward. The themes which emerged during workshop discussions accessibility and Accessibility, Decolonization, Environmental impacts, Inclusive language, Mixed messaging, Power, Safety, and Sexism and misogyny.

It is notable that most participants described experiences with sexism and misogyny in their workplaces, and this was often closely linked with their feelings of safety both at work and in the community. This should be of concern to those in the invasive species field, though perhaps not a surprise, and efforts should be taken to address those concerns as well as the others raised in this report. Similarly, participants raised concerns about accessibility at numerous points during the workshop. Participants demonstrated a nuanced understanding of accessibility and expressed a desire for their work and for the broader natural environment to be made as accessible as possible to as many groups of people as possible.

Participants co-created a list of several objectives they have for the future, both at the individual and organizational level, along with examples of concrete actions that could be taken to achieve those goals. These goals and recommended actions should be valuable insights to tailor DEIJA efforts at UMISC in both the short and long term in order to serve the needs of their community. They should also be of value to other organizations and individuals involved in invasive species fields, who may also wish to consider implementing the actions recommended in this report.

References

- American Alliance of Museums. 2024. Definitions of Diversity, Equity, Accessibility, and Inclusion. <https://www.aam-us.org/programs/diversity-equity-accessibility-and-inclusion/facing-change-definitions/>
- Cech, E.A., 2013. Ideological wage inequalities? The technical/social dualism and the gender wage gap in engineering. *Social Forces*, 91(4), pp.1147-1182.
- Cech, E.A. and Waidzunus, T.J., 2021. Systemic inequalities for LGBTQ professionals in STEM. *Science advances*, 7(3), p.eabe0933.
- Cross, K.J., Farrell, S., Chavela, R. and Tsugawa, M., 2023. Queerness in science, technology, engineering, and mathematics (STEM): Insights and foresights from experienced lesbian, gay, bisexual, transgender, queer, and plus (LGBTQ+) advocates. *Journal of Diversity in Higher Education*.
- Entomological Society of America. 2024. Better Common Names Project. <https://www.entsoc.org/publications/common-names/better-common-names-project>
- Estrada, M., Burnett, M., Campbell, A.G., Campbell, P.B., Denetclaw, W.F., Gutiérrez, C.G., Hurtado, S., John, G.H., Matsui, J., McGee, R. and Okpodu, C.M., 2016. Improving underrepresented minority student persistence in STEM. *CBE—Life Sciences Education*, 15(3), p.es5.
- Faulkner, W., 2015. 'Nuts and Bolts and People' Gender Troubled Engineering Identities. *Engineering Identities, Epistemologies and Values: Engineering Education and Practice in Context*, Volume 2, pp.23-40.
- Fink, L., 2023. Alienated Species and Unsettled Ecologies: Locating "Redneck" Conservation in the Racial Discourse of "Asian" Carp Invasion. *American Quarterly*, 75(4), pp.821-845.
- Graham, J., Hodsdon, G., Busse, A. and Crosby, M.P., 2023. BIPOC voices in ocean sciences: A qualitative exploration of factors impacting career retention. *Journal of Geoscience Education*, 71(3), pp.369-387.
- Hackett, M., Hernandez, M. and Mrogenski, M., 2022. Common Names for Invasive Species Project. Portland State University.
- Harris, N.C., Wilkinson, C.E., Fleury, G. and Nhleko, Z.N., 2023. Responsibility, equity, justice, and inclusion in dynamic human-wildlife interactions. *Frontiers in Ecology and the Environment*, 21(8), pp.380-387.
- Ijoma, J.N., Sahn, M., Mack, K.N., Akam, E., Edwards, K.J., Wang, X., Surpur, A. and Henry, K.E., 2021. Visions by WIMIN: BIPOC representation matters. *Molecular Imaging and Biology*, pp.1-6.
- Invasive Species Advisory Committee. 2023. Underserved Communities and Invasive Species. <https://www.doi.gov/sites/default/files/documents/2024-02/isac-underserved-communities-white-paper-november-2023.pdf>
- Janovsky, R.M. and Larson, E.R., 2019. Does invasive species research use more militaristic language than other ecology and conservation biology literature?. *NeoBiota*, 44, pp.27-38.
- Land Trust Alliance. 2024. What do we mean by Diversity, Equity and Inclusion?. Framework and Resources for Change Toolkit. <https://landtrustalliance.org/resources/framework-for-change/what-do-we-mean>
- Leyva, L.A., 2017. Unpacking the male superiority myth and masculinization of mathematics at the intersections: A review of research on gender in mathematics education. *Journal for Research in Mathematics Education*, 48(4), pp.397-433.
- Mattheis, A., De Arellano, D.C.R. and Yoder, J.B., 2020. A model of queer STEM identity in the workplace. *Journal of homosexuality*.
- Miller, R.A., Vaccaro, A., Kimball, E.W. and Forester, R., 2021. "It's dude culture": Students with minoritized identities of sexuality and/or gender navigating STEM majors. *Journal of Diversity in Higher Education*, 14(3), p.340.
- Puritty, C., Strickland, L.R., Alia, E., Blonder, B., Klein, E., Kohl, M.T., McGee, E., Quintana, M., Ridley, R.E., Tellman, B. and Gerber, L.R., 2017. Without inclusion, diversity initiatives may not be enough. *Science*, 357(6356), pp.1101-1102.
- Sekaquaptewa, D., 2019. Gender-based microaggressions in STEM settings. *NCID Currents*, 1(1).
- Secor, K., 2022. Underrepresentation in STEM: Analyzing the Plight of Female, Racial Minority, and LGBTQIA+ Individuals in the United States and Offering Recommendations for Improvement. *Racial Minority, and LGBTQIA+ Individuals in the United States and Offering Recommendations for Improvement* (June 29, 2022).
- Sue, D.W., Capodilupo, C.M., Torino, G.C., Bucceri, J.M., Holder, A., Nadal, K.L. and Esquilin, M., 2007. Racial microaggressions in everyday life: implications for clinical practice. *American psychologist*, 62(4), p.271.
- University of Toronto. 2019. Equity, Diversity and Inclusion. Division of the Vice-President, Research & Innovation. <https://research.utoronto.ca/equity-diversity-inclusion/equity-diversity-inclusion>
- Yang, Y. and Carroll, D.W., 2016. Understanding female STEM faculty experiences of subtle gender bias from microaggressions perspective.