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REFLECTIVE ESSAY

Enacting boundaries or building bridges? Language and engagement in food-energy-water systems science

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Abstract

Scientific study of issues at the nexus of food–energy–water systems (FEWS) requires grappling with multifaceted, "wicked" problems. FEWS involve interactions occurring directly and indirectly across complex and overlapping spatial and temporal scales; they are also imbued with diverse and sometimes conflicting meanings for the human and more-than-human beings that live within them. In this paper, we consider the role of language in the dynamics of boundary work, recognizing that the language often used in stakeholder and community engagement intended to address FEWS science and decision-making constructs boundaries and limits diverse and inclusive participation. In contrast, some language systems provide opportunities to build bridges rather than boundaries in engagement. Based on our experiences with engagement in FEWS science and with Indigenous knowledges and languages, we consider examples of the role of language in reflecting worldviews, values, practices, and interactions in FEWS science and engagement. We particularly focus on Indigenous knowledges from Anishinaabe and the language of Anishinaabemowin, contrasting languages of boundaries and bridges through concrete examples. These examples are used to unpack the argument of this work, which is that scientific research aiming to engage FEWS issues in working landscapes requires grappling with embedded, practical understandings. This perspective demonstrates the importance of grappling with the role of language in creating boundaries or bridges, while recognizing that training in engagement may not critically reflect on the role of language in limiting diversity and inclusivity in engagement efforts. Leaving this reflexive consideration of language unexamined may unknowingly perpetuate boundaries rather than building bridges, thus limiting the effectiveness of engagement that is intended to address wicked problems in working landscapes.

Keywords FEWS science · Indigenous knowledges · Stakeholder engagement · Community engagement · Anishinaabe language

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1 Introduction

The contemporary world is rife with "wicked" problems, that is, complex entanglements linking human activity, ecological systems health and disturbances, resilience, and vulnerabilities in constructed environments. Human decision making regarding how to relate to water and land systems while meeting the needs and comforts of the human species has profound impacts on the earth's systems and on other beings. Many of these decisions involve relationships that link scientific research, human-lived experience and practice, and the use of landscapes for human activity.

Scientists and decision makers sometimes use engagement with 'stakeholders' and 'communities' (both defined and described below) as part of their processes for gaining knowledge, developing participatory and subsequent management activities, and assessing outcomes of those activities. Scientists and decision makers engaging with individuals and communities to inform knowledge production and decision making for entities doing research on and application of science through engagement often reflect on the outcomes, barriers, and potential best practices for engagement (see Kliskey et al. 2021). However, literature on 'stakeholder' or 'community' engagement rarely seeks to explicitly address cultural diversity, meaning the incorporation of diverse ways of knowing the world, framing a problem, or approaching potential solutions that may be grounded in diverse identities and experiences among culturally defined social groups. Further, the literature on best practices in stakeholder or community engagement is limited to insights from narrowly defined perspectives that shape the formulation of a research problem or the potential range of solutions. Even search terms make it hard to learn from those exploring approaches and knowledge outside of narrow definitions of 'engagement' (for example, Indigenous ecological knowledges may not appear when searching for food-energy-water systems (FEWS) nexus research, despite the clear relevance).[1] This is also true for incorporation of Indigenous knowledges in health and medicine, where language presents a barrier to inclusion (Redvers and Blondin 2020, p. 5 of 21). Yet search terms are just one narrow example of how word choice, language in its written as well as spoken form, reflects a wider, broader frame of reference and relevance.

In this paper, we explore the key role of language in determining the potential for engagement across culturally and linguistically diverse contexts. This work contributes to the larger research agenda advanced in this special issue (Eaton et al. 2022; this issue) by centering language as creating either bridges or barriers to inclusivity in engagement. Engagement intersects with issues of JEDI (justice, equity, diversity, and inclusion)[2] in every stage of the engagement process (including design, implementation, analysis, evaluation, and follow-up); explicit attentiveness to language is one way to consider the impact of engagement on dynamics of inclusion or exclusion. We argue that words and phrases work directly to include some and exclude others' participation in science and decision making more broadly. We focus specifically on the role of language in shaping and being shaped by worldviews and discuss specifically how Indigenous languages such as Anishinaabemowin reflect important but divergent meanings associated with relationships to land and water and pathways to a good life (Meighan 2021, p. 1; Chiblow and Meighan 2021 p. 2). We argue that language is a key window into the world created in human minds (and reflected in/reflected of the landscape) as individuals and as culturally diverse social groups. As Noodin in *Gikinomaagemin Gichigaming* (2019b, p. 220) states, "[T]he differences between languages create new perspectives from which to view the world around us." The language that scientists and decision makers use matters. Language can serve to confine or broaden the forms and structures of engagement as well as limit or expand access to engagement. Ultimately, language is a tool of power and, as such, selectively allocates power. Thus, it is essential to recognize that language can perpetuate (and actively guard) structures of power, particularly those that serve to circumscribe effective engagement (referring to meaningful involvement in a process). Understanding language as a representation of worldview (Basso 1996, p. 144) and how language works to determine participation and engagement across diverse worldviews is essential for researchers and decision makers to acknowledge. More equitable, inclusive, and culturally responsive research and decision-making requires expanding our understandings of boundary work in science (Gieryn 1999) to consider how language operates as a tool in boundary work. This boundary work operates across globally

[1] FEWS nexus research is intended to capture the intersections across the food, energy, water sectors and to recognize their indirect (nexus) effects on one another. This conceptualization emerged in recent years across funding agencies and research groups, and it continues to perpetuate a framing that suggests that earth systems provide resources for human use rather than supporting relationships with their own inherent rights to exist, although the framing has been successfully utilized to advance collaborative work with Tribal Nations in the US context (see Chief et al. 2021).

[2] JEDI has emerged recently as an acronym intended to capture the complex dynamics of inclusion and exclusion that impact organizations and scientific activity of many kinds. Engagement with issues of JEDI involves acknowledging that science plays a role in either perpetuating or working to ameliorate injustices, inequities, and a lack of diversity and inclusion in positions of power and influence.

diverse contexts and thus this work has international relevance for engagement research.

As just one example, consider the impacts that human entanglements in food, energy, and water systems have on the wellbeing of the more-than-human beings inhabiting the earth. In the ontology of the Indigenous nations of the Anishinaabeg, the Three Fires Confederacy of Ojibwa, Odawa, and Potawatomi peoples in the Great Lakes region, these living beings that are not human are our older, wiser teachers, given that, evolutionarily, they have more experience than we do in sustaining life on earth across space and time (Balint et al. 2011; Head 2019; Peters and Tarpey 2019). Also consider that, for the Anishinaabeg, water and land are gifts from creation and providers of life through food, energy, and wellbeing (Schelly et al. 2021, p. 2). Further, the language that is used to describe how humans rely on the earth for the wellbeing provided by energy, for example, is inextricably linked to how we humans think about the earth (Awāsis 2020). There are multiple ethical frameworks that can be used to examine, assess, and address socio-ecological challenges in just ways; in this special issue, Pham (2022, Forthcoming), for example, reviews various ethical principles and applies them to climate change adaptation decision making. Pham's review indicates that Indigenous ethics are based on an epistemology that recognizes care and empathy in relationships across human and more-than-human communities. However, terms such as care and empathy are not commonly used to motivate participation in engagement processes that aim to address decision making for socio-ecological challenges. Using specific examples based on our own experiences with engagement, we explore how diverse ways of knowing can be included in engagement through attentiveness to the role of language as either building bridges or enacting boundaries that shape participation in FEW science and decision making.

2 Theory and research in stakeholder and community engagement

Scientists and decision makers who engage with others can do so from multiple perspectives and motivations. Sometimes, engagement is required by regulatory processes or policy. Other times, engagement is perceived to improve acceptance of a proposed idea. Engagement can also be used to proactively co-produce the questions to be addressed and the ways to address them as well as to assess and refine findings.

Yet this description does not answer the question, who is being engaged? Even the terms stakeholder and community engagement illustrate different concepts of who should be engaged. These terms are not consistently defined even within literature on engagement, so we offer definitions here for clarity. Stakeholders are, most basically, those who have a stake. Dale et al. (2019, p. 1202) define 'stakeholders' as the "persons and groups that influence the activity or may be affected positively or negatively." Typically, stakeholders are those who are engaged because they have some professional, legal, economic, social, or otherwise identified-as-legitimate claim involved in the management or decision-making process or its outcomes. For example, management of federally owned land in the USA may involve engagement with ranchers, recreationists, and research ecologists who access that land for various purposes. Stakeholders are sometimes presumed to represent a collective community's identity or interests, such as when stakeholder advisory committees are used as a tool for stakeholder engagement in forest management decisions (McGurk et al. 2006; Robson and Rosenthal 2014; Nenko et al. 2019).

Community engagement and stakeholder engagement are often used interchangeably, while community may imply a broader and more inclusive process to involve individuals or groups who do not have a professional stake but who are nonetheless affected by decisions. Community engagement is often associated in the literature with community engaged research, which involves various degrees of working with communities to identify research problems, define research questions, and develop research processes (Kantamneni et al. 2019, chapter 7). The language of 'stakeholder' or 'community' denotes potentially very different groups to be engaged as well as implying a particular reason for the engagement. As discussed below, these terms can also delimit who is recognized and who is rendered invisible in engagement processes.

Recent efforts to synthesize best practices for stakeholder and community engagement in FEWS research (Kliskey et al. 2021) stress the importance of being attentive to the diversity of worldviews and cultural experiences represented by rights holders, stakeholders, and communities. Language plays a critical role in reflecting and reinforcing the context, culture, and power dynamics within engagement efforts, yet few studies explicitly address the role of language in representing (different) ways of understanding the world. Language can contribute to shaping the power-dynamics of inclusion and exclusion, and thus the diversity of representation, in engagement.

3 Positionality as/and methodological approach

3.1 Positionality

Prefacing positionality is critical to a good methodological approach (see Absolon and Willett 2005, p. 97; Lavallée 2009, p. 26). This manuscript is a result of eleven (11)

unique positionalities whose pathways have crossed and mingled at different times and places. Through ongoing dialogue with one another, we recognize our like-minded and shared commitment to center equitable community engagement in research of many kinds. As authors of this manuscript from seven (7) different institutions, we have diverse roles and responsibilities in academia, our communities, and to each other. Our individual and collective energy are within socio-ecological research and action yet our approaches to this work are quite distinct. We are mentored by and learn from the communities we serve. We also mentor each other so that together, we may strengthen good practices of engagement. Here, each of us briefly shares a unique positionality that as a whole, contributes to the shared voice in this manuscript. Our aim is that our experiences and expertise might inform others' professional and personal growth in university–community partnership research.

I am Val Gagnon, an early career human dimensions assistant professor (she, her, ki, kin), and a naturalized US citizen and Korean adoptee, who lives and works within the homelands of the Ojibwa people. My knowledge is informed by Lake Superior fishers, the lands and waters, and more-than-human beings who call the Keweenaw home and have done so since time immemorial. With interdisciplinary expertise in environmental policy, Indigenous food sovereignty and community-engaged research, I focus on the socio-cultural and socio-ecological impacts of legacy toxic compounds and the policies intended to address them, particularly on fishing communities. My research, teaching, and service center on elevating Indigenous peoples and knowledge, facilitating equitable research practice and design, and guiding partnerships that prioritize the protection and restoration of land and life in the Great Lakes region.

I am Chelsea Schelly, a descendant of settler colonizers who now lives and works within the ancestral and contemporary homelands of the Anishinaabe, an Ojibwe Tribal Nation now called the Keweenaw Bay Indian Community. As a scholar and a human, it is important that I continually seek opportunities to learn from the human and more-than-human communities with whom I share the spaces where I dwell. As a learner and a scholar, my aim is to engage in relationships that can promote technological transitions that decrease exploitation and increase regeneration for human and more-than-human communities.

I am Will Lytle, a director of research and sustainability living in the homelands of the Nez Perce. My contributions to this work were developed on Ojibwa and Potawatomi land with input from several indigenous knowledge holders. The role that roots me to this work is the vocation of listening to the voices and harmonic choruses of the biotic and abiotic world. This listening compels the recognition of the animacy and agency of all, regardless of their scale. I have been taught, the nature of nature is change. Through such lessons I derive my occupation of transformational leadership, whereby I explore pathways toward different types of worlds that favor different types of relationships.

I am Andy (Anaru) Kliskey, a co-director of an interdisciplinary research center in the Pacific Northwest, my homeland is Aotearoa—New Zealand, I am a naturalized US citizen, and live and work within the homelands of the Nez Perce and Coeur d'Alene peoples. My interdisciplinary and transdisciplinary expertise is in human response to environmental change. I approach research and education from multiple scientific disciplines and multiple ways of knowing with a focus on how these can be brought together.

I am Virginia Dale, a landscape ecologist and white settler whose family came to Tennessee in 1797, and who lives and works on lands that are the traditional territory of the Tsoyaha peoples (Yuchi and Muscogee Creek) and the Tsalagi peoples (now the Eastern Band of Cherokee Indians, Cherokee Nation of Oklahoma, and United Keetoowah Band of Cherokee Indians). My formal interdisciplinary education began as an undergraduate student and culminated in earning a PhD in mathematical ecology from the University of Washington. My informal education came from my study of landscape ecology, which is a subfield of ecology that examines the patterns and interactions between communities that make up relatively large areas. I have conducted research in the Brazilian Amazon, Panama, Guatemala, Mexico, Southeast Asia, and the USA.

I am Anna-Marie Marshall, a descendant of immigrants to the USA who arrived early in the twentieth century. I now work on the ancestral homelands of the Peoria, Kaskaskia, Piankashaw, Wea, Miami, Mascoutin, Odawa, Sauk, Mesquaki, Kickapoo, Potawatomi, Ojibwe, and Chickasaw Nations, where the University of Illinois, Urbana-Champaign is situated. The goal of my research is to find ways through law and other forms of governance to promote a just and healthy environment.

I am Luis F. Rodriguez, a first generation descendant of immigrants to the USA from Puerto Rico who were previously descended from the mixture of what remained after the native population of Tainos were assimilated by their initial colonizers and the Africans they brought with them. Today I work on the native lands of Peoria, Kaskaskia, Piankashaw, Wea, Miami, Mascoutin, Odawa, Sauk, Mesquaki, Kickapoo, Potawatomi, Ojibwe, and Chickasaw Nations. A significant portion of my research and teaching today seeks to enhance the design of disaster resilient infrastructures for underserved populations in Puerto Rico.

I am Paula Williams, a descendant of settler colonizers now living and working within the ancestral and contemporary homelands of the Dena'ina Athabascan peoples. I work from Alaska as a Research Scientist for the Center for Resilient Communities at the University of Idaho. My interdisciplinary and transdisciplinary experience is interactions

among the human and environmental systems, with a passion for incorporating values and needs of local human and more-than-human communities.

I am Michael Waasegiizhig Price, the son of a survivor of the Indian residential schools of Ontario, Canada. I have dedicated my life and talents to the revitalization of Anishinaabemowin, my ancestral language, and to the recovery of Indigenous perspectives and traditions that were nearly eradicated by colonization. I have spent most of my career working for the tribally controlled community colleges of Minnesota as both a science instructor and an administrator. After many years of service with Native communities, I have found my niche in life in working with the Great Lakes Indian Fish and Wildlife Commission headquartered in Odanah, Wisconsin. Although this was a career choice that required relocation, I find myself now living in near proximity to one of the most sacred sites of all Anishinaabe country, Madeline Island. My career journey has also been a spiritual journey, for me, they are one in the same.

I am Liz Redd, a descendent of both settler colonizers and those colonized in the USA and Britain who now works within the original unceded lands of the Shoshone and Bannock peoples. Being adopted and raised in England in my early years, and later reconnecting with multi-ethnic family from Oklahoma and the American southeast has shaped my understanding of culture, language, and the value of often erased heritages and informs my scholarship of Native American sovereignty, language reclamation, and cultural revitalization. My research focuses on the intersection of Native American language ideologies, rights and education and research ethics in support of Indigenous research sovereignty and equitable relations.

I am Margaret Ann O'Donnell Noodin. I was born in Greeley, Colorado and grew up in Chaska, Minnesota then attended college in Minneapolis. I have been blessed with many mentors and teachers including the vibrant eco-system my relatives have taught me to appreciate in my half century of life so far. I am grateful for the harvesting and gathering I have learned to do including sugar bush, gardening, wiigwaas harvest, berry processing, and wild ricing. I am a former bow-hunter and have caught and cleaned muskrats. I have made and taught others to make hand drums and songs. I have dedicated my time on earth to learning and teaching the languages of my ancestors. I can speak both western and eastern Anishinaabemowin, which some would call Ojibwe and Odawa and have been speaking these languages since my early twenties when I had the opportunity to sit with fluent elders in Minnesota, Wisconsin, Michigan, Manitoba, and Ontario. I currently have basic knowledge of Potawatomi, Menominee, Oneida, Ho-Chunk, Irish, and French. I am not enrolled in any nation but have connections to Grand Portage and Mille Lacs Ojibwe Ojibwe nations and the cities of St. Cloud, Montreal and Donegal. My ancestors' names include: O'Donnell, Orr, Hill, Bernard, Bean, Lavallee, and Monplaisir. Those who have placed me on public lists because they wish to know more details about my ancestry and teachers should contact me directly. As an indigenous language poet, I am currently Vice-President of InNaPo where I work to support poets who are citizens of native nations. I am also the Co-Director of Celtic Studies and Associate Dean of the Humanities at the University of Wisconsin, Milwaukee. *Ningikenadaan nindenewemaganag nisidawininawiwaad miinwaa ishkwaa akiing maajaayaan mii dash nindanikobijiganag wii-bizindawiwaad nagomoyaan Gaagige-minawaanigoziwining*.

4 Methodological approach

To explore and illustrate the importance of language in shaping power dynamics in the engagement process, we draw insights from both Anishinaabemowin, the language of the Anishinaabeg in the Great Lakes, and English language meanings and worldviews that contrast with Anishinaabemowin understandings. Importantly, there are many other Indigenous language diasporas that reflect other geographic areas. Various geographies, and the perspectives and practices within them, shape and appear in different languages (Noodin 2019b, p. 220). As such, Anishinaabemowin is a diversely rich and flexible vocabulary describing physical and ideological relations, and all their complexities, across a diverse geographic landscape. At the time of this writing, one hundred forty-one (141) distinct Anishinaabeg sovereign nations have been acknowledged to inhabit the region as rights-holders in both the USA and Canada (see Fig. 1, Ojibwe.net 2021)[3] meaning that complexities are confounded across regions and from region to region. Each example we share here is explicitly place-based, as the lessons drawn from language frameworks are symbolic and representative of different worlds and ecologies. This means that each place and people group is likely to have different ways to engage, as well as different ways to define and address larger wicked problems. For example, in Mayan cultures of Central America, the kapok tree (*Ceiba pentandra*) symbolizes the universe, for its roots reach the underworld, its trunk is the middle world where the humans live, and its branches represent the upper world or heaven (Knowlton and

[3] The 'Map of Our Sound' is a living collection that aims to include all Anishinaabeg nations in the USA and Canada, including federal- and state-recognized groups as well as those who may be actively seeking legal recognition or are currently not recognized by a federal or state government. The intention as a 'living' collection is to be inclusive of all Anishinaabeg, and as such, viewers of the Map are encouraged to submit their knowledge of missing information on/of Anishinaabeg nations.

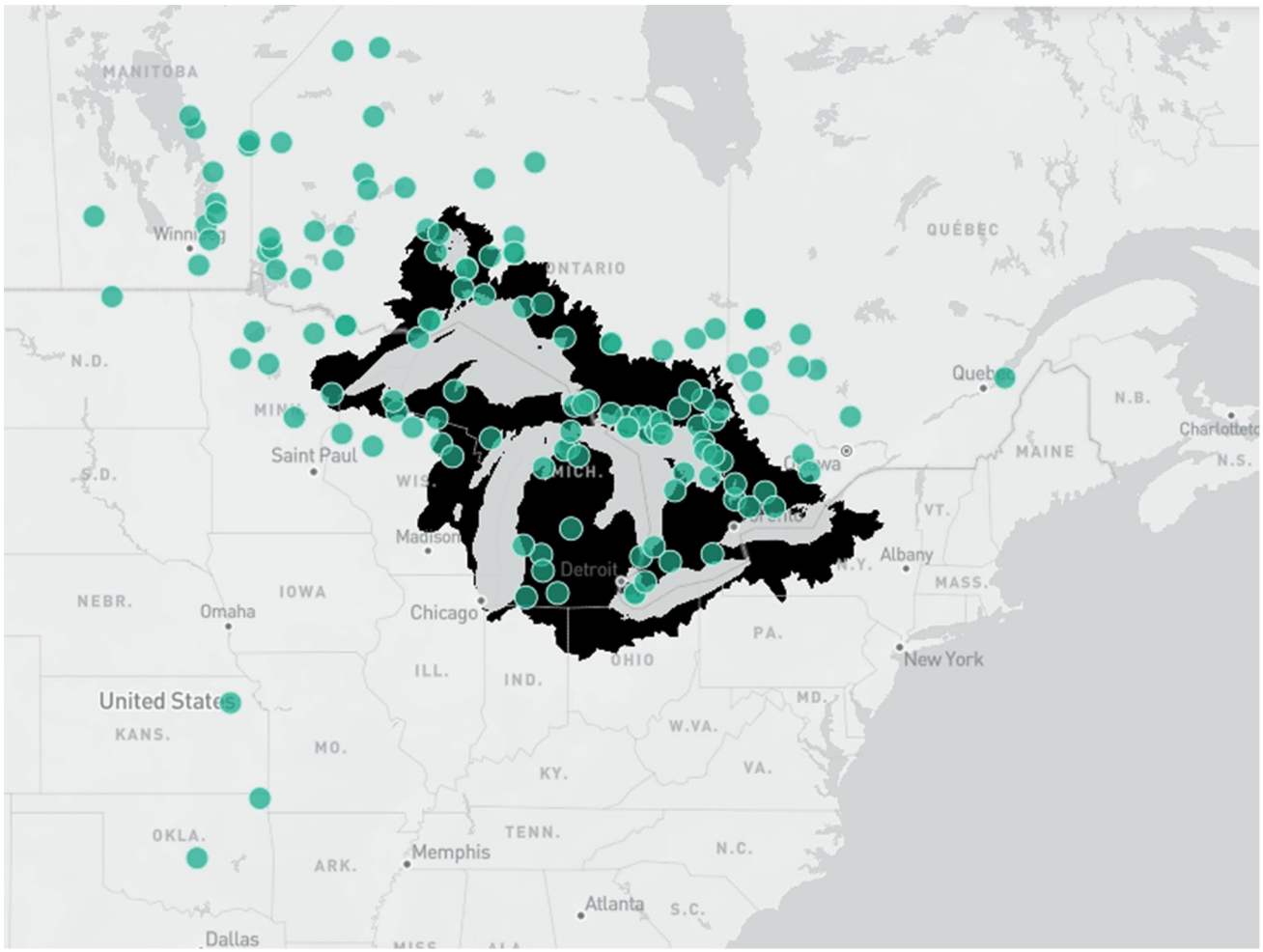

Fig. 1 Anishinaabewakiing—Anishinaabe Territory. This is a representation of all Anishinaabe Nations and their position in relation to the Great Lakes Watershed in the year 2021. Source map created by https://ojibwe.net/nations-map/ (2021). Used with permission by Margaret A. Noodin

Vail 2010; Matthews and Garber 2004). There are at least 29 Mayan languages spoken by 6 million people, and all Mayan languages have borrowed from each other and from Spanish. Studying Indigenous agricultural systems in the Highlands of Guatemala (Kline et al. 2020; Dale et al. 2020) required that questions designed to foster local engagement be translated into the local Mayan dialect, Mam, and had to be developed based on awareness of traditional agricultural practices in the region.

Collaborations with Indigenous peoples requires attention to relationships with place and linguistic diversity as well as recognition of inherent sovereignty and rights to self-governance (Lukawiecki et al. 2019, p. 6, see also von der Porten et al. 2016) and an active effort to promote co-ownership of the engagement process. Principles of co-ownership extend to collaborative development of the language used in engagement processes. In this paper, our goal is to encourage scientists and practitioners to critically reflect on the role of language in shaping the dynamics of participation in ways that either limit or expand diversity and inclusivity in engagement processes. Language works as a tool of boundary work in the sense of the concept introduced by Gieryn (1999) to give credibility to certain kinds of science and certain actors within science; as such, language used in engagement can often operate to construct boundaries around participation, delineating exclusion. Using teachings offered by Anishinaabemowin and other examples from our own experiences, we posit that language can be used to build bridges, honor relationships, and enhance inclusivity, diversity, sense of belonging, and meaningful engagement.

The arguments in this paper are developed based on Indigenous scholarship, knowledge gained through author

experiences, and articulation of best practices in stakeholder and community engagement. As an author team, we are familiar with best practices from both existing literature and our own experiences with engagement. We use our own engagement experiences[4] to unpack our argument about the role of language and rely on Indigenous scholarship and insights from Anishinaabemowin shared by language speakers and Indigenous knowledge holders. We write as professionals who engage with stakeholders and communities in our research and as learners who are in deep gratitude to the participants and experts who have shared their wisdom with us directly through engagement processes.

5 Findings and reflection

Language plays a key role in how human beings conceptualize and engage with FEWS. The dominant language in FEWS science (by which we mean the English language and scientific terminology associated with FEWS) determines who participates and, moreover, creates barriers to including FEWS meanings and understandings in Indigenous knowledge systems and practices. Scientists and decision makers who engage individuals and communities can address these barriers by attending to the role of language in determining who participates, how participation occurs, and what forms it takes. In reflecting on our experiences and the insights offered to us by knowledge holders, participants, and existing literature, we discuss three examples meant to examine the role of language in constructing either boundaries or bridges. We start by considering teachings provided in Anishinaabemowin and the worldview it represents as divergent from dominant FEWS science narratives. Anishinaabemowin is focused on relationships, connections, and the autonomy of all beings and the natural world (Noodin 2018), worldviews that are reflected in linguistic patterns that emphasize the concept of building bridges. We also consider the difference between community and stakeholder engagement as terminology that shapes design and practice and the role of metaphor in restricting the framing of problems and potential solutions. These examples are intended to provide opportunities for reflection regarding the role of language in constructing boundaries in FEWS science and the potential for language to instead reflect worldviews that emphasize building bridges, attend to connections and relationships, and integrate diversity and complexity into FEWS engagement.

[4] The case study examples and reflections compiled throughout this manuscript are a part of several unique long term engagements across diverse locations and people groups. The authors have included specific references to additional case study scholarship so that readers may access the literature and methodology from which these cases are informed by and founded on.

5.1 Engagement and Anishinaabemowin, or how language reflects ontological diversity

Anishinaabemowin is an Algonquian language with several dialects traditionally and still spoken in eastern and central Canada, the Great Lakes region and northern plains of the USA, and as the result of early nineteenth century US removal policies, in the states of Oklahoma and Kansas. According to census data, Anishinaabemowin is currently spoken by an estimated 28,130 speakers in Canada (Statistics Canada 2017) and 8371 in the USA (US Census Bureau 2011). Despite the number of speakers, however, revitalizing Anishinaabemowin is currently a major priority throughout the region (Aanjibimaadizing 2021). According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) (2010), Anishinaabemowin, including Ojibwe, Ottawa, and Potawatomi, are all currently vulnerable, or endangered, depending on the community. Like many Native and First Nations languages, language has been greatly impacted by forced assimilation policies, including residential school attendance.

The critical status of diverse languages (and thus the impending loss of diverse knowledge systems connected to these place-based languages) is recognized as a global issue: the United Nations has declared 2022–2032 as the International Decade of Indigenous Languages (UNESCO 2021). As we use Anishinaabemowin examples to unpack our argument, we also recognize the broader relevance for many language systems, including Indigenous languages: languages reveal and perpetuate worldviews, and the English language dominates science across the globe. When English language speakers enter any linguistically diverse space for engagement, they are imposing particular worldviews that may or may not be inclusive. To enact bridges requires that the concepts used in engagement are translated into linguistically appropriate concepts based on particular place-based ontologies. The English language cannot be representative of the global diverse ontology that exists in reality.

Anishinaabemowin is a polysynthetic language, meaning that words contain many morphemes, or bits of meaning, often built around verbs, and include grammatical marking. One interesting feature of the language is its grammatical noun class system, often called ‘gender’ in other languages, based on animacy. Nouns are either animate or inanimate. Demonstrative pronouns (e.g., ‘this’ and ‘those’) must agree with the noun’s animacy class, as must verbs. Since nouns are often not necessary in sentences, animacy often relies only on the verb. Anishinaabemowin animate nouns include people, animals, and spirits, as well as some

natural or ceremonial objects, such as 'months,' 'tobacco,' 'pipe,' 'kettle,' 'gold,' 'shell,' and some plants, especially trees and parts of trees (Black 1969, p. 178). There are many examples of nouns in the animate category without ceremonial significance such as 'apple,' 'car,' and 'bread' in some dialects, and any metal. Although there are nouns for some objects as inanimate, animacy can be specific to place and a people group.

This linguistic framing of a worldview is especially salient to the study of ecology. As an example, Kimmerer, an ecologist and a Potawatomi citizen and learner of Potawatomi, a regional dialect of Anishinaabemowin,[5] describes her awakening to the power of animacy in the study of Anishinaabemowin Potawatomi verbs:

> A bay is a noun only if water is dead. When bay is a noun, it is defined by humans, trapped between its shores and contained by the word. But the verb *wiikegama*—to be a bay—releases the water from bondage and lets it live. "To be a bay" holds the wonder that, for this moment, the living water has decided to shelter itself between these shores, conversing with cedar roots and a flock of baby mergansers. Because it could do otherwise—become a stream or an ocean or a waterfall, and there are verbs for that, too. To be a hill, to be a sandy beach, to be a Saturday, all are possible verbs in a world where everything is alive. Water, land, and even a day, the language a mirror for seeing the animacy of the world, the life that pulses through all things, through pines and nuthatches and mushrooms (2017: 131).

Through our experiences as knowledge holders and as scientists learning from Anishinaabe knowledge holders through engagement, we have gained insights from Anishinaabemowin that are relevant to engagement practices. In translating between English and Anishinaabemowin, words often lose context and meaning. Terms do not translate easily, and some not at all, and thus fall short of Anishinaabe knowledge and understandings (Noodin 2019a, p. 124). For example, in Anishinaabemowin, the term 're-search' (the combination of 're-' (again), and 'search' (to seek for), implies a meaning 'to seek again/continually') conveys Indigenous ways of searching—seeking and gathering knowledge from an Indigenous perspective, "journeys of learning, being, and doing," (Absolon 2012, p. 10) in which the researcher, inquiry, and approach undergo transformation throughout, and as a result of, the journey of searching. The word 'research' in Anishinaabemowin is *nanda-nisidotawin*,[6] meaning "way of seeking understanding." The researcher, *gaa-nanda-nisidotang,* translates to "he/she/they[7] who seeks understanding." This reveals that the nature of being a re-searcher extends to a diverse community of knowledge holders, and is inclusive of the teachings passed through the generations of being Anishinaabe. Moreover, Anishinaabemowin includes terms associated with different enactments and embodiments of 'knowledge[8]' as that which is not simply something "known," but rather has been *given*; knowledge is a synthesis of Anishinaabe daily practices stemming from Anishinaabe identity, described as a "way of being" (Makoons-Geniusz 2009, p. 11). In short, language reflects diverse ontologies and thus cannot always be translated easily or articulated equitably; language exposes the incommensurable nature of ontologies. Here, we provide selected stories of English terms that expose incongruencies in community engaged FEWs research.

Two of the most common English terms associated with the management and policy of the natural world are "resource" and "environment," and, until recently, Anishinaabemowin had no single words that easily translated their meanings. Consider this conversation that occurred at the Great Lakes Indian Fish and Wildlife Commission (GLIFWC), an eleven-member Tribal Nation intertribal agency in Odanah, WI. The GLIFWC Anishinaabemowin teacher at that time shared a story that reveals important implications for translation and interpretation between different ontologies (see Gagnon 2016 for the full case study on institutional toxic risk practices).

> A few years ago… our [GLIFWC] director asked me, "How would you say 'environmental protection' in Ojibwa?" So I thought for a moment and began to

[5] While some speakers would classify Potawatomi as a dialect of Anishinaabemowin, others may classify different dialects as different languages.

[6] The Anishinaabemowin terms and translations of 'research' (and associated terms) were explored through Author 1 conversations with Denise Cadeau, Anishinaabe Studies Department Chair for the Keweenaw Bay Ojibwa Community College. Translations and meanings between English and Anishinaabemowin can also be found online from The Ojibwe People's Dictionary, https://ojibwe.lib.umn.edu/.

[7] Because Anishinaabemowin pronouns are gender neutral, the English translation cannot be equivalent but instead, refers to the suite of pronouns individuals may identify with as English speakers. The term *gaa-nanda-nisidotang* refers to one person other than the person speaking or the person listening.

[8] In *Our Knowledge is Not Primitive*, Makoons-Geniusz (2009:11) describes Anishinaabemowin terms associated with knowledge: *Anishinaabe-gikendaasowin,* "knowledge, information, and the synthesis of our personal teachings." *Anishinaabe-inaadiziwin,* "Anishinaabe psychology, way of being." *Anishinaabe-izhitwaawin,* "Anishinaabe culture, teachings, customs, history." *Aadizookaanan,* "traditional legends, ceremonies." *Dibaajimowinan,* "teachings, ordinary stories, personal stories, histories.".

> explain some complications in translating his request. First, for the word "environment," I'd interpret closest to "natural resources," but there is no Ojibwa word for "resources," resource is domination. There is no resource, only 'source.' We wouldn't say "water is a resource," "you are a resource," that doesn't make sense. 'Sources' are relational, indicating a relationship. We would say "water is a source;" "you are a source…," that makes sense. So 'environmental protection' would be, *Mii wenji-bimaadiziyaan*, which means "protecting the source of my life." Or you could say, *wenji-bimaadiziyang*[9] – This is the source of *our* life.

When asked a follow-up question: "What does this mean in terms of the EPA? How would you say 'Environmental Protection Agency' in Anishinaabemowin?" the teacher responded:

> Well, *ganawendan* means 'protect,' 'to look after,' but based on what the EPA is charged with, I would use a stronger word, I would use 'guard,' which is a command, *gizhaadan*. So, the EPA would be *gezhaadaming wenji bimaadiziyang*, interpreted as 'Those who guard the source of our life.'

Language differences are a matter of linguistic forms *and* semantics. Noun-based languages, such as English, require nouns to describe reality. Concepts like 'natural resources' define the static elements of ecology that are useful to human beings. Verb-based languages, such as Anishinaabemowin, require action verbs to describe reality. Thus, phrases like *'Mii wenji-bimaadiziyaang'* define the active and ongoing processes of why we are alive. Anishinaabemowin expands the context and meaning and often is inclusive of relationships and responsibilities that are not captured in associated English language words. Language definitions, translations, and interpretations are not interchangeable terms but, instead, provide greater understanding of diverse ontologies.

Other examples can be drawn between English words and Anishinaabemowin understandings. In a 2021 virtual talk centered on Justice for the Land, Anishinaabe scholar Robin Wall Kimmerer drew attention to Anishinaabemowin translations of the English word 'we.' Anishinaabeg understand both an inclusive (*giinawind,* we including the listener) and an exclusive (*niinawind,* we except for the listener) form of we, which have considerable implications for interpreting who is 'we' in "We the People" referenced in the US Constitution. In celebration of Indigenous Peoples Day, five Anishinaabe panelists spoke about their work and daily life centered in water protection, social justice, and celebrating Indigenous lands, water, and life. Dr. Margaret Noodin, Anishinaabe scholar and Anishinaabemowin teacher, shared teachings about the English term 'lake' and Anishinaabemowin understandings that are lost with translation:

> I've told one story often to remind people that we have a different way of thinking when we're using Anishinaabemowin. A good example is we often learn how to say to one another, *gizaagi'in*, 'I love you.' And it's also important to know how to say *nizaagi'idiz*, because *nizaagi'idiz* is 'I love myself,' and I hope all our youth grow up knowing to love themselves. I think when you have that kind of love for yourself and for others, it allows you to connect to the world and take care of it. A 'lake' is *zaaga'igan* so the *zaagi*, that idea of *zaagi,* such as *zaagijigaabaw* and *zaagimok* [terms associated with being in relation to a lake], all these words that have *zaagi* in it means there's an opening. So when we think of the most important thing in our world that centers who we are, the Anishinaabek, we think of the lakes. The big opening on the earth where the water is open to us and connects with the land, that connects with our concept of love. So if you just say 'love' in English, it doesn't make you think of a lake, it doesn't make you think of an opening, it doesn't make you think of a way that you form relationships by being open. There's just so many lessons in our language, and if we lose our language, we lose all those lessons.

Consider other ecological concepts such as revitalization, restoration, and reclamation, which link to the *Biskaabiiyang* research approach (Geniusz 2009, p. 8). Building on an approach first developed by Maori scholars and thinkers (see Smith 1999), Anishinaabe students with the help of elders established the Indigenous Knowledge/ Philosophy Program of the Seven Generations Education Institute in the Treaty Three area, also known as present-day Ontario, Canada. Translating to "returning to ourselves" (Geniusz 2009, p.12), *biskaabiiyang* may be the most accurate term to explain Anishinaabe ontology related to revitalization, restoration, and reclamation. Genuisz explains that the survival of the Anishinaabe requires that researchers acknowledge their own positionality in research and research environments. Foremost to scholars engaged in the biskaabiiyang research approach is the recognition of the way colonial frameworks and associated languages shape lives and landscapes, especially how we see, think, and have relations with others. Relevant to the primary concern here is to choose approaches, and related languages, that do not reinforce boundaries but instead build bridges with diverse knowledge holders.

Biskaabiiyang methodologies can provide common ground for dialogue and engagement. However, it is crucial to recognize diversity in objectives and priorities for

[9] To Anishinaabemowin teachers [Author Name] and [Author Name], the phrase reads 'This is why I am alive,' and/or 'This is why/ the reason I am living.'.

research within Anishinaabe communities and prioritizing Anishinaabe teachings and ways of being to serve the interests of and be meaningful for communities (Geniusz 2009, p. 52). Anishinaabe systems of knowledge are contextual, and 'returning to ourselves' is not intended to instruct people to live and be as in history, but instead, return to—or revitalize, restore, and reclaim—an Anishinaabe ontology in the present. In doing so, ways of knowing and being are connected to those of many generations (Geniusz 2009, p. 76–78), building bridges, instead of distinctions, from the past to the present.

In the direct context of FEWS research, specific incongruencies were revealed in this next example concerning FEWS terminology (see Lytle 2021 for the full case study on household FEW consumption). In 2018, a focus group at the first Anishinaabe Racial Justice Conference in Baraga, Michigan, highlighted problems in language translations and showcased how colonized knowledge contributed to a research methodology. Prior to focus group dialogue, preliminary themes from initial household interview data from 44 suburban households in the Great Lakes Region were presented. The participating households were primarily white, upper middle class, and interested in the environment. The focus group was asked to compare, contrast, and share their thoughts on the FEWS themes presented. The people participating in the focus group were, based on observational data, more diverse in age, race, and socioeconomic status than the household interview participants. This created a scenario to see how white interpretations of environmental responsibility compared with Indigenous knowledges (see, for example, McGregor et al. 2010). Focus group participants quickly highlighted 'nexus' relationships and emphasized holistic understandings that expanded beyond the food, energy, and water nexus to include, for example, human relationships with the more-than-human beings who also rely on the earth for their life and wellbeing. In the initial household interviews, it was common for individuals to prioritize a single resource of the FEW nexus, such as the mother had a strong interest in eating organic while the father always made sure to turn off the lights and the children focused on not running the water while brushing teeth. Ongoing discussions with Anishinaabe participants suggest their engagement with environmentally responsible behaviors incorporates lessons from the wide diversity of Indigenous frames that continue to hold relevance despite centuries of attempts at their erasure. These frameworks bridge balance across FEW sectors and understandings of indirect impacts of consumption.

A powerful theme emerged in the focus group about broad and personal relationships that are embedded in the unique characteristics of Anishinaabemowin, which guide cultural norms. Connecting with the language differences and how Indigenous frames can relate to the nexus thinking, one participant said, "even framing this in terms of resources of water, food, and energy, I think that that word [resource] implies that we are to use it. It sort of erases the necessity to have a relationship with it. And I think that really limits our ability to understand how the systems work, and even have a desire to participate in how they interact in our lives, and what they mean to us." As previously stated, Anishinaabemowin is a verb-based language. It relies heavily on verbs as descriptors, connecting the subject and direct object of a sentence in a strong relationship. In Anishinaabemowin, it is rarely food, rarely water, rarely energy; instead, things are always in relation, so that it is not "food" but "fish caught from the river," not "water" but "water carried in a birch bark basket from a stream." This language builds and supports Indigenous frames of relationships with food, energy, and water, accompanied by cultural norms about the appropriate uses, treatment, and stewardship of those relations.

Verb-based language rather than noun-based language may help to impart social norms and context for healthier relationships among beings on the planet because they more explicitly attend to the reality of relationality among humans, more-than-human beings, and the planet they cooperatively inhabit. Verb-based languages may restrict the aggregation and compression of beings used in provisioning or extractive practices. In the literature of western ontologies, food, energy, and water are accepted as compressed terms, allowing for use of these resources. The dominant ontologies are premised on the stratification of the market and supply chain, allowing capital to be produced as a consequence of lost relationality. Only by having products and meanings changing hands and forms very quickly do humans obscure their responsibilities and accountability to our relations. The dominating system creates profit from poor translations. Yet food is never just food; it is a variety of organisms, from cows to carrots and corn that gave or lost their lives to nourish humans. If food is thought of relationally rather than as commodities whose value is set in dollars, contexts and networks are revealed. Low quality junk food, heavily processed food, and food waste become recognizable as disrespectful to our embeddedness. As described in the focus group, humans get to decide what relationships we foster. Do we build relationships with lawnmowers as we pay for gas and repairs; relationships premised on currency, pride, control, etc.? Or do we build relationships with landscapes, the biotic and abiotic communities that share our home space; relationships premised on intrinsic values, growth, etc.? The morality of our decisions can be recognized by which relationships we invest in, and their destructive or productive impact on other relationships. When designing research, it is important to prioritize engagement with diverse groups and to do so in ways that allow for bridges rather than enacting barriers.

5.2 Stakeholder vs community engagement, or how language shapes design and practice

Having provided some teachings from Anishinaabe worldviews as reflected in Anishinaabemowin, we shift to consider other place- and people-based examples in plain English. English is the dominant language in FEWS engagement and language can operate as a dimension of boundary work, the actively but not necessarily conscious ways in which scientists, decision makers, and the institutions of science and decision-making construct boundaries around who gets to participate and whose knowledge counts in science and decision making (Gieryn 1999, p. 1–35). In conducting research that involves engagement or designing opportunities for input for management or decision making, the involvement of either 'stakeholders' or 'communities' has implications for research design or design of participatory processes. Although the terms are often used interchangeably, they denote different potential approaches to engagement and who is to be engaged. For example, in 'stakeholder engagement' involving decision making for agricultural land uses, agricultural laborers and urban eaters are not always considered stakeholders, although both are clearly impacted by decisions regarding agricultural land management. While laborers and consumers are part of the wider community of those impacted by agricultural decisions, they are not often represented by stakeholders in engagement processes.

Som Castellano and Mook (2022, forthcoming) also show in their paper within this special issue how including or excluding the language of demographics shape design and practice; published research in the field of agrifood studies that include data from engagement processes rarely report on the demographics of participants in terms of gender and race/ethnicity. When demographics are reported, they reveal that white men continue to be overrepresented in participatory processes. When race/ethnicity is reported, it is often because the engagement processes targeted a particular group, such as Indigenous communities. So, rather than being used to consider whether engagement is creating opportunities for participation among diverse groups, even racial/ethnic categories are being used to create boundaries around who is considered a legitimate participant in particular kinds of engagement processes. As they suggest, even the framing of engagement processes can operate as a boundary object to limit engagement, as researchers make implicit decisions about the relevance of their work for whom as researchers design, and thus implement, their engagement processes.

Southern Idaho exemplifies divergences in perspectives among stakeholders and communities regarding water rights under the doctrine of prior appropriation in the American West (Kliskey et al. 2022, under review). A stakeholder advisory group was developed to support the sustained co-production of knowledges for solutions to water, nutrient, and energy use and re-use. The acknowledgement of the senior and dominant tribal water rights pertaining to the Upper Snake River basin was, in some instances, cast as detrimental to water management under anticipated severe drought conditions. In some quarters of the predominantly Euro-American farming community, any water that was not diverted for irrigation to support the agricultural sector or stored in reservoirs or the aquifer during the off-season was considered wasted. Stakeholders representing the perspective of water rights as a primarily consumptive, economic value supported contradictory management than the Tribal Nations communities, who place emphasis on in-stream benefits of water in support of life-sustaining and biocentric values.

In Puerto Rico, recovering from Hurricane Maria has been an ongoing struggle at the intersection of FEWS. 'Stakeholders' in this process include government officials in the US federal government and Puerto Rican government as well as the corporations that dominate public utilities, food production, and the energy sector. However, given that these relationships have been forged in colonialism, the knowledge and needs of local communities are often an afterthought at best (Garcia-Lopez 2018; Stabelin et al. 2022, under review). Effective disaster recovery requires wider community engagement practices. Caras con Causa, a non-profit organization in Puerto Rico that specializes in STEM education and community development, has been a collaborative partner in FEWS projects that enhance the capacity of the local community to generate knowledge—in both Spanish and English—for adults and children. These projects have included maps of crowd-sourced information describing the status of local infrastructure and availability of disaster relief resources and a database of published articles that could support efforts to secure funding for future projects. Frequent consultation and deliberation—in Spanish, English, and widely spoken forms of Spanglish—have afforded Caras considerable control in the design of the research process and the nature of the outcomes (Stabelin et al. 2022, under review).

Defining stakeholders and communities in engagement work can create tensions based on complicated socio-political histories and identities (see Gagnon 2016; Gagnon and Ravindran 2022, under review) as well as divergent ontologies (Schelly et al. 2021). Instead, we advocate for shifting to the language of rights holders and knowledge holders. Rights holders in the context of FEWS engagement include basic human rights of all people as well as the rights of all more-than-human beings who retain inherent rights within a particular landscape or ecological system (Johnston 1976, 2003; Pember 2021). Many times, those who hold these rights are simultaneously the keepers and practitioners of knowledge particular to and connected to responsibilities

to place. While the global impact of management decisions implies a cosmopolitan and post-human understanding of rights holders that may not be fully achievable in engagement, the language aids in highlighting the bridges among us. This shift is consistent with our argument, that words matter in both reflecting and reinforcing worldviews. Focusing on rights holders and knowledge holders provides an opportunity for those who use engagement to critically reflect on who is included or excluded from engagement processes and how to be more inclusive and less hierarchical in engagement and decision making. Importantly, rights holders and knowledge holders work to build bridges and enhance diverse engagement.

However, which terms and language are appropriate for engagement will likely depend on the preferences, roles, and expectations of the group engaged. Rather than advocating for a "one-term-fits-all" approach to the language of engagement, researchers and practitioners can adopt culturally responsive approaches in which terms are negotiated in close collaboration with local knowledge partners. With the Anishinaabe, for example, using rights holders can illustrate recognition of treaty negotiated rights retained by the Ojibwa, Odawa, and Potawatomi bands in the USA. Using knowledge holders can also demonstrate acknowledgement of Indigenous peoples as the original knowledge holders in a place. For many Indigenous "communities" in the USA and Canada, the preferred term is 'Nation' because it indexes the sovereign political status rather than equating the status of the group with other groups who do not have sovereign status in relation to the federal government (see CMTED 2021, p. 13, for an example). For other groups, however, such as Indigenous groups who hold state but not Federal recognition in the USA, the term 'Nation' may serve to highlight their liminal status. Similarly, 'rights-holder' may alienate individuals who may have descendancy from a group but not citizenship, a situation that is not uncommon for many Indigenous peoples who must choose one Nation out of the many they may descend from for the purposes of official enrollment as a citizen. These examples highlight the need to carefully consider and consult with partners familiar with the engaged group in negotiating language choices particular to places and people groups.

5.3 Checking our metaphors, or how language frames problems and solutions

In this section, we consider some of the metaphors and language choices commonly used to describe engagement and collaborative research and decision making. The goal is to illustrate how language itself sets a framing for engagement that determines the bounds of participation and serves to restrain the inclusivity of diverse perspectives and worldviews. These metaphors and the precise language choices of engagement may, we argue, predetermine the ability of engagement to be fully inclusive and thus are also capable of redistributing rather than reinforcing existing power dynamics.

First, consider the liberal use of the metaphor, "A seat at the table." As a metaphor situated within the context of decision making, it also portrays a particular way of making decisions. But we must ask, where is the 'table,' and whose table is it anyway? Who gets to set the table? And the big question, why a table? A seat at the table reflects engagement and decision making as originating in the priorities of decision makers; the table is literally defined/framed. Thus, the table becomes a place for decisions or a place for persuasion only. A seat may be offered by appointment, by invitation, by mandate, by job responsibility/role; if the table belongs to the decision makers and they've already set the table, having a seat does not constitute meaningful engagement. In this special issue, Smith et al. (2022, forthcoming) report on an innovative method to enhance participation and improve outcomes using mediated modeling as an engagement tool. Yet there are important considerations regarding both the structure of participation (such as a public meeting, public comment period, or mediated modeling) as well as the language used in engagement that shape who participates and how participation is valued among diverse groups. Furthermore, their work suggests that certain forms of engagement, which are linked to certain vocabularies, operate as boundary objects to shape dynamics of inclusion and exclusion. A modeling exercise may appeal to professional environmental scientists, but a workshop using modeling may operate to exclude participation from those who don't use the language of modeling to think about problems or their potential solutions. These examples serve as a reminder of the work by Rongerude and Sandoval (2016, chapter 14) who question the very concept of a stakeholder 'table' and argue that deliberative processes need to be taken to the 'street' where marginalized populations can be offered a voice, a deliberative approach to be inclusive as marginalized groups are frequently neglected in engagement processes as well as writing on/about engagement (Bendsten et al. 2021, p. 7).

The alternative is to prioritize the use of language that describes the co-creation of shared spaces of/for dialogue. In centering dialogue, listening is equitable to speaking, and genuine listening means listening first to understand, and not to respond. It is important to note that when desiring to engage with rural and/or Indigenous communities, 'street' may not be the relevant place. The relevant places to engage will be specific to a place and a people group, and this knowledge can only be known by knowing place and the people or by asking the people in a particular place. We argue that offering an ear to listen, rather than a seat to sit or the street to meet, may be a more powerful metaphor for

meaningful engagement. Clearly the priority for building bridges, and the more appropriate metaphor, is to offer ears to listen, to be in dialogue no matter the relevant place for engagement.

As with most languages, words in English are made up of smaller parts, called morphemes. In English, the roots of many words come from Latin and Greek, as in the word 'university,' which is a combination of the Latin roots *uni* 'one,' and *veritas*, 'truth.' The implied meaning of 'one truth' has clear implications in terms of boundary work, exclusion, and perpetuation of existing structures and relations of power. Similarly, we can consider the implied meanings of the terms 'outreach' and 'inreach.' 'Outreach' implies action emerging from an external agency and directed toward a community. 'Inreach' on the other hand, implies action emerging from within a community, perhaps in collaboration with an external agency, and directed at that communities' members. Though there is no agreed-upon definition of 'in-reach,' only modest research about this term and practice, and no consensus on the purposes of in-reach, 'inreach' has been applied to institutional and community-based programs and project-based intervention and prevention strategies in health, education, and social services (e.g., Corsane 2006; Fitzgerald 2000; Yabroff et al. 2001). For these reasons, we have created a working definition of 'inreach' as reaching within ourselves and our community to connect with, relate to, and draw from each other's knowledge systems, skill sets, and cultural practices. We, like previous scholars, advocate for distinctions between inreach and outreach and their integration in research and practice (Fitzgerald 2000, p. 67).

Similarly, when examining the impact of English language terminology and use on engagement within groups, we can also consider the use of 'knowledge' in the singular as reflective of a particular worldview. Although some may consider pluralizing 'knowledges' to be invalid grammar, this usage is commonplace within Native American communities and in educational contexts. Pluralizing 'knowledges' entails a shift to considering the validity of multiple knowledge systems, epistemologies, and ways of engaging with the world, which, in turn, reflects the diversity of perspectives and approaches present within both academic, practitioner, and engaged groups. The differences in meaning and perspective implied by the two terms 'knowledge' and 'knowledges' illustrates language usage's potential impacts on successful engagement with group members. In the same vein, the use of 'non-' (such as 'non-scientist' or 'non-scientific,' 'non-expert,' 'non-human,' 'non-Indigenous,' 'non-Native,' etc.), as 'non-' connotes exclusion and othering, assigning a label denoting what something is *not* rather than what *is* or who they *are*. Using such terms implies a particular "lack of" quality and may imply an assertion of power assuming uniform norms. For example, distinguishing 'expert' from 'non-expert' implies a lack of expertise rather than a different type of expertise. In considering these examples, our goal is to simply show that language choices matter. Rather, using terms like 'experts,' implies respect for diverse expertise that group members bring to collaborative projects. In reflecting and reinforcing understandings of the world, language can operate to construct and reinforce boundaries or to instead build bridges, highlight connections and relationships, and make FEWS engagement more meaningful, inclusive, and impactful.

Language usage changes, and should change, to reflect changing norms. Some terms lose their utility while others change in meaning; sometimes, new terms arise. This is no less true of the language choices that researchers and practitioners make which periodically change to reflect evolving norms in research and practice. Thus, engaging with communities requires attention to, consideration of, and adapting to the language choices and related meanings of groups. A first step in reevaluating language use toward building bridges with and within groups is to reflect on our language choices and the potential tensions and unintended consequences inherent to language and diverse groups. Importantly, step one necessitates humility and curiosity (i.e., do a little homework), and when in doubt, ask. A second step would be deliberate efforts to engage in dialogue while attending to the language usage of others. This can be accomplished in consultation with key community leaders and members, and/or consultants during proposal planning and development, particularly within cooperative negotiations of creating a shared purpose, goals, and protocols for example. At the same time, these negotiations are opportunities to learn each other's expectations, including the language that facilitates establishing and maintaining good relationships. Much as we would translate the language of a consent form into language accessible to a group, we must also consider translating the often-alienating language of our disciplines into language that connects and respects rather than objectifies and marginalizes.

6 Concluding thoughts

Citizen participation is described by Arnstein (1969, p. 216) as a democratic process that should build and distribute power throughout the citizenry, whereby citizens are able to change social institutions to better serve them. In addition to participation, citizens must have what they need to successfully implement initiatives to improve institutions (Arnstein 1969, p. 224). Another paper within this special issue, Church et al. (2022, forthcoming) indicate that knowledge co-production in engagement processes requires time, money, and participant commitments that may not be tenable; however, their empirical assessment suggests that engagement processes can enhance community adaptive

capacity if they are grounded in community input to research design and an understanding of available community assets, without requiring intensive commitments from community participants. Relationship building, within and/or beyond collaborative research design processes with communities, may offer a chance for partners to build capacities while also learning about the capacities of others. However, relationships are built in shared places and through use of shared language, and the dominant language used in FEWS science and decision making operates to construct boundaries that often limits diverse and inclusive participation.

As we contemplate the role of language in reflecting and reinforcing worldviews and in constructing either boundaries or bridges, we find it imperative that researchers and practitioners who use engagement to produce findings and inform decision making consider how their own language choices may perpetuate systems of power and limit inclusivity in ways that prevent diversity in perspectives, people, and positions included in engagement. Considering the role of language in enacting boundaries or bridges should occur throughout the engagement process, including the prioritization of culturally relevant (Indigenous) languages to frame scientific concepts (David-Chavez and Gavin 2018 p. 13, see also Krupnik 2010) and distribution of findings in linguistically appropriate and accessible materials (David-Chavez and Gavin 2018 p. 4).

We argue that the role of language is important not only for those who engage in linguistically diverse communities (such as engagement with Indigenous peoples and knowledges) but also for all professionals who depend on engagement to do good work. In this special issue, Linemann and Alter (2022, forthcoming) also advocate for epistemological pluralism, particularly in extension activities aimed at enhancing urban community resilience. They too recognize the key role that language plays in signaling exclusion, even if unintentionally, but within the context of extension professionals working in urban communities. Healy and Booth (2022, forthcoming), also in this special issue, advocate for formal training in engagement and reflect on their own experiences with educating future practitioners about engagement. As our work suggests, considerations of language are an essential element of any formal training program that aims to enhance diverse inclusion in engagement. By recognizing how language can construct boundaries between inclusion and exclusion in both physical and ideological ways, professionals, particularly those with focused training, may be able to proactively and deliberately choose language and terms that build bridges between diverse groups and kinds of communities, and/or different worldviews.

When thinking and speaking in terms of group engagement, there is not one term that provides uniform acceptability and relevance. For many Anishinaabeg Tribal Nations, rights holders and knowledge holders provide a more inclusive approach than terms such as stakeholder or community. Language that embodies and represents the earth as a dynamic and living system composed of sovereign entities in reciprocal relationships is more inclusive than language that refers to resources passively for human management, use, and disposal. Casual choices about metaphors and terms used in research are impactful and worth critical reflection.

As articulated by Eaton et al. (2022, forthcoming) in this special issue, engagement and research on engagement can be improved with explicit attentiveness to issues of justice, equity, diversity, and inclusion (JEDI), ethics, practice, contexts, processes, and outcomes. In terms of JEDI, this paper argues that language is itself a tool that can be used to solidify structures of power or to build bridges that flatten hierarchies between professional engagers and those they seek to engage. As the predominant language across many scientific fields, English perpetuates implicit assumptions about the passivity of the world and human domination of it (Meighan 2021). English dominates scientific fields across the globe, but Indigenous languages are globally diverse and tied to place-based meanings, so this insight will bring new perspectives and practices of international significance. Language is a reflection of deeply held worldviews regarding the nature of reality (ontologies) and beliefs about how humans access truths (epistemology), and attentiveness to ethics reminds us as engagers to think about how our work can moves toward more respectful and inclusive of diverse ontologies and epistemologies. Language plays a particularly important role in the processes of engagement. Future research exploring different ways of incorporating linguistic diversity in engagement processes, and how this incorporation impacts engagement processes and outcomes, can help further refine the role of language in shaping equitable, ethical engagement.

Above all, we encourage engagers to remember that language is a tool of power, and reflexivity regarding language use is essential for strengthening best practices in meaningful engagement. Deliberate thought and care in language choice can build bridges that seek to flatten hierarchies, address social justice and inequity, and provide opportunities for diverse and inclusive engagement that works toward the restoration of land and life for all of earths' inhabitants.

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Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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