

## EDITORIAL

### **Land education: Indigenous, post-colonial, and decolonizing perspectives on place and environmental education research**

The land is always stalking people. The land makes people live right.  
The land looks after us. The land looks after people.  
-Annie Peaches quoted in Basso, *Wisdom Sits in Places*, 1995

This special issue features new empirical and conceptual studies that suggest a range of considerations and practices of land education. In examining and articulating land education, the authors in the issue discuss both the role of Indigenous cosmologies in practices of land education, as well as the necessity of centering historical and current contexts of colonization in education on and in relation to land. In particular, the issue focuses on land education in relation to settler colonial territories: that is, in territory that is Indigenous and which has been and continues to be subject to the forces of colonization through land-based settlement (e.g. the US, Australia, and Brazil). The articles in the special issue delineate how the ongoing colonization of land and peoples are in fact embedded within educators' and researchers' practices and understandings of (environmental) education around the globe. Thus, the audience for this special issue includes all practitioners and researchers concerned with education and, in this venue, specifically those concerned with environment and education.

The special issue also arises as a conversation in relation to the building momentum of place-based education, including how it has been mobilized within the field of environmental education. In part inspired by a recognition that the specifics of geography and community matter for how (environmental) education can and should be engaged, place-based forms of education are steadily evolving with increasing curricular uptake and empirical research. Many authors in the current collection, however, draw attention to concerns with place-based and other forms of environmental education that position themselves as culturally or politically neutral while perpetuating forms of European universalism (Mignolo 2003) and settler colonialism, including understandings of Indigenous peoples as repositories of static forms of cultural knowledge (Friedel 2011).

In this introductory essay we will elaborate on these themes after providing an overview of the nine pieces included in the issue. The articles in this collection were selected from among those that were submitted in response to an open call for articles on the topic of 'Land education: Indigenous, post-colonial, and decolonizing perspectives on place and environmental education research.' The majority of articles are written on or in relation to land located in the US (e.g. New York, Illinois, Virginia, Hawaii, California, Alaska, and cross-state), as well as one paper about Australia and one about Brazil. Authors cross nations in their origins, locations, and writing focus. Many of the articles' authors belong to Indigenous nations

(Ojibwe, Lakota, Choctaw, Little Shell Band of Chippewa-Cree, Miami, Diné, including others). In other cases, authors based in Canada write mainly about events in Alaska (Korteweg and Oakley); authors writing on the Australian curriculum reside in Australia and Canada (Whitehouse et al.); authors writing about an African-centered curriculum write in the context of the US (Engel Di-Mauro and Carroll).

While topical themes of similarity and divergence crisscross the articles, the first half of the issue features articles on the possibilities of land education in relation to particular disciplinary and formal education domains: of K-12 social studies education (Calderon), K-12 science education (Bang et al.), K-12 cross-curricular education (Whitehouse et al.), and Africana Studies and Geography post-secondary education courses (Engel di-Mauro and Carroll). The remaining articles focus on education more generally and/or in relation to popular and non-formal contexts, and are grouped together because they offer more specific examples of land education pedagogy at work: through historical analysis (McCoy), food sovereignty (Meyer), social mapping (Sato et al.), critical cartography and ethnography (Paper-son), and film analysis (Korteweg and Oakley). The range of research and teaching methodologies represented here is also of note – including social mapping, critical cartography, ethnography, historical analysis, community-based design research, document and film analysis, and conceptual essay, and will be discussed further towards the end of the introduction.

Though some may attempt to dismiss discussions of settler colonialism as overly concerned with the past, settler colonialism is important to analyze because it ‘relies upon assumptions about other cultures that are alive and well in the most powerful societies in the contemporary world’ (Hinkson 2012, 1). As Indigenous (Eve Tuck) and non-Indigenous (Kate McCoy and Marcia McKenzie) co-editors of the issue, writing from settler colonial countries of the US and Canada, we embarked on editing this special issue because of our commitment to the issues discussed herein. Bridging fields and considerations of settler colonial studies, Indigenous studies, and environmental education is a challenging but necessary task, and we appreciate the work of the authors and readers of this issue towards furthering the important considerations and practices discussed in this collection. As Calderon (this issue) outlines, the intersections of environmentalism and Indigenous rights have long been articulated by Indigenous communities, scholars, activists, and allies, with recent global Indigenous social movements demanding broader dialog and action on these intersections. This issue contributes to these intentions, suggesting why and how education, including environmental education, might better account for the history, present, and future by attending to its embedded issues of colonialism and Indigenous rights and sovereignty.

### **Overview of the articles**

The first four articles of the special issue discuss and provide examples of land education in the context of K-12 education (social studies education, science education, and cross-curricular), post-secondary education, and community-based education. In the first article, ‘Speaking back to Manifest Destinies: a land education-based approach to critical curriculum inquiry,’ Dolores Calderon suggests how land education can move place-based education forward, ‘especially its potential for centering indigeneity and confronting educational forms of settler colonialism’

(24). She outlines how through the US social studies curriculum, K-12 schooling transmits a settler colonial land ethic and suggests that a limitation of much place-based education has been a lack of meaningful engagement of such colonial legacies in education, including through conceptualizations of place. Land education, according to Calderon, should involve an analysis of territoriality and settler colonialism; center Indigenous realities (e.g. include a history of the land as Indigenous, require that Indigenous peoples lead discussions regarding land education in communities, and be infused with Indigenous metaphysics); and destabilize the focus on local (i.e. acknowledge how global histories and broader ideologies shape the local). Building on the language of ‘decolonization’ and ‘reinhabitation’ used in much recent place-based work (Gruenewald 2003), Calderon emphasizes that ‘land education takes up what place-based education fails to consider: the ways in which place is foundational to settler colonialism’ (33). She suggests that environmental education has an overdue responsibility to make visible and begin to address the assumptions of settler colonialism within the field.

The second article by Megan Bang, Lawrence Curley, Adam Kessel, Ananda Marin, Eli Suzukovich III, and George Strack is titled ‘Muskrat theories, tobacco in the streets, and living Chicago as Indigenous land.’ Framed in relation to science education as environmental education, Bang and colleagues offer powerful descriptions and examples of ‘urban Indigenous land-based pedagogies’ (39). The authors advocate for the necessity of science education given current socio-scientific realities (such as climate change) that are shaping the land and the lives that the land supports, including those of both Indigenous and non-Indigenous peoples. They propose science education as a site of potential transformation due to its relationships to epistemologies and ontologies of land and Indigenous futurity. They suggest, however, that achieving this potential requires ‘desettling dynamics of settler colonialism that remain quietly buried in educational environments that engage learning about, with and in the land and all of its dwellers’ (39). Questioning the possibilities for Indigenous peoples in current forms of place-based education, Bang et al. express concerns about the reification of western intellectual traditions. Their article, in contrast, describes the theoretical and practical tools they developed to collaborate with Native youth, families, and community members in relation to urban science and environmental learning environments in order to (re)story Chicago as Indigenous lands. Informed by the work of Smith (1999), Bang and her co-authors aspire to ‘work within a methodological paradigm of decolonization’ (39) in undertaking community-based design research. The article does important theoretical work in enacting critical readings of place-based education that are informed by settler colonial studies, establishing Indigenous presence in urban educational contexts, and disrupting settler zero point epistemologies – those epistemologies that deny other perspectives and truths – in environmental education.

Changing continents with ‘Sea Country: navigating Indigenous and colonial ontologies in Australian environmental education,’ authors Hilary Whitehouse, Felecia Watkin Lui, Juanita Sellwood, Mary Jeanne Barrett, and Philemon Chigeza analyze the positioning of Torres Strait Sea Country and Torres Strait *Ailan Kastom* (Island Custom) in relation to Australian K-12 environmental education curriculum and practice. Importantly, this paper identifies the ways that sea is part of ‘land,’ and also embedded within cosmology and history (Styres, Haig-Brown, and Blimkie 2013). The authors provide a rich description of Indigenous Torres Strait Islanders’ understandings of ‘Sea Country,’ as not categorized by a binary

opposition between ‘people’ and ‘environment,’ but rather as a totality of complex relationships. Likewise, *Ailan Kaston*, or native title derived from customary law, sets out particular relationships of connection with and care for the sea. The article describes how colonial settlement, supported by the ‘legal fiction of *terra nullius*’ (61), introduced the concept of the sea as a public commons and the related impacts on relationships and the ‘management’ of the area. Turning to the pedagogical implications of and for Sea Country, the second half of the article exposes the ways that Indigenous cosmology is simultaneously supported and ignored in the cross-curricular priorities in the first 11 years of the Australian national school curriculum, including in the ‘Sustainability’ priority area.

Focusing on post-secondary level classrooms in the US, Salvatore Engel-Di Mauro and Karanja Keita Carroll offer ‘An African-centered approach to land education.’ The paper discusses the role of the ‘native-slave-settler triad’ in the settlement of the US and other settler colonial contexts (Wolfe 2006) and outlines the necessity of also examining the history of chattel slaves (mostly from Africa) who were kept landless and made into property along with Indigenous land as part of the settlement process in the US and elsewhere. Offering examples of place-based and environmental education that the authors find problematic, they suggest that ‘Eurocentrism must be exploded at its roots,’ with African-centered environmental education curricula making contributions in this respect. They utilize examples from Africana Studies and Geography to illustrate the contributions an African-centered approach can make to land education in the context of college-level environmental education. Such an approach, the authors argue, promotes an integrative view of nature and people, histories, power relations, and community that can challenge settler colonial assumptions that undergird much of environmental education.

The second half of the special issue is comprised of five articles that enact land education through various types of analyses in particular locations. Kate McCoy’s article, ‘Manifesting Destiny: a land education analysis of settler colonialism in Jamestown, VA USA,’ maps the discursive and material relations that produce(d) Manifest Destiny and the settler colonial triad in the US. The paper outlines how discourses arising from the emerging modernism of seventeenth-century Protestant Christianity articulated a new interpretation of the creation story, calling for human dominion over the earth and its creatures. These and other discourses, McCoy suggests, joined with the practices the English created as they established capitalist enterprise in what they called Jamestown, Virginia. Such enterprise included growing commercial tobacco for export, creating the material conditions and justifications for taking Indigenous land and introducing slavery. These discourses, practices, and relations, McCoy argues, established the settler colonial triad in the English colonies that became known as the US. Settlers still undertake large-scale monoculture and environmental degradation in areas around the globe and continue to cover their tracks using Manifest Destiny – in discourse, practice, and relation – in the contemporary name of ‘development’ to justify settler colonialism past and present. McCoy’s study exemplifies how historical analysis of settler colonialism in the US can inform land education and environmental education.

In ‘Hoea Ea: land education and food sovereignty in Hawaii,’ Manulani Meyer uses photographs and accompanying narratives to share two land education efforts in the Hawaiian Islands. In the Limahui valley in the *ahupua’a* of *Hā’ena* on the island of Kauai, the ancient Hawaiian staple food taro (*lo’i kalo*) is being grown utilizing traditional land, methods, and management practices (established

700–1000 years ago). It is used to sustainably feed a large population and honor taro's cosmological role in Hawaiian origin stories. Meyer describes the methods used and their importance, highlighting the threat of encroachment as profit-driven systems close in. The second photograph depicts the Kaiāo Youth Community Garden in Hilo Ho'ea, as part of a food sovereignty movement in Hawaii. She describes the history and aims of the project as it works to promote a native Hawaiian view of land and sustenance as land education.

A social mapping methodology for land education research and practice in settler colonial Brazil is articulated by Michèle Sato, Regina Silva, and Michelle Jaber in their article 'Between the remnants of colonialism and the insurgence of self-narrative in constructing participatory social maps: towards a land education methodology.' Sato and colleagues discuss maps as weapons of imperialism, but also as tools that can be used to better understand settler colonialism, including its ongoing effects on vulnerable communities. The article reports on a large-scale empirical study undertaken with 239 participants from diverse groups from the Mato Grosso Region in Brazil, a territory initially colonized by the Portuguese. Study data were gathered through interviews, discussions of mapped results, photo and video material, and participant observation, using a process of iterative mapping of participants' self-narratives. The authors suggest that this process is a powerful tool for land education in that it allows the mapping of social identities, 'recognizing land as an epistemological basis for understanding people's lives' (108). They use the methodology to map the identities of vulnerable groups and the social and environmental conflicts that affect them, in efforts to render these groups and the challenges they face visible. In doing so, the project aims to contribute to responsive and participatory land and environmental policy, and provides an example of social mapping as environmental education.

In 'A ghetto land pedagogy: an antidote for settler environmentalism,' Paperson draws on ethnographic research and historical analysis to provide a 'critical cartography' of the San Francisco Bay area of California. Weaving together stories of the histories of Indigenous land and settlement, Paperson provides an unsettling land education that examines the San Quentin prison, student responses to an Urban Ecology lesson, and an analysis of the 2011 Occupy movement. Paperson characterizes the settler view of 'ghetto' land as *terra sacer*, the contemporary mutation of the colonial fiction of *terra nullius* or empty land that justifies the doctrine of colonial discovery. *Terra sacer* is theorized as simultaneously sacred and accursed land, ripe for re-settling through gentrification, the way paved in part by environmental education that aims toward settler sustainability. In contrast, Paperson outlines the ways that storied land can serve as 'an important connecting node between Indigenous struggle and black resistance' (126), and through the vignettes shared, outlines how youth and communities enact agency and resistance in the face of settler (and environmentalist) assumptions of land and occupation. Critiquing the language of 'reinhabitation' used in place-based education, Paperson works to exemplify the ways in which 'decolonization is not just symbolic; its material core is repatriation of native life and land, which is incommensurable with settler re-inhabitation of native land' (124).

Finally, Lisa Korteweg and Jan Oakley critically analyze the eco-heroic quest as depicted in Hollywood movies in their article 'Eco-heroes out of place and relations: decolonizing the narratives of *Into the Wild* and *Grizzly Man* through Land education.' This kind of criticism, at the intersection of post-colonial/decolonizing

methodologies and Indigenous studies, gestures toward a land education critical of such representations and attentive to Indigenous stories and teachings of land already in place in order to interrupt settler fantasies of becoming native. They propose to offer a counter-narrative of how environmental education might enter into more respectful relations with Indigenous peoples in protecting Indigenous lands. The paper also elaborates the ways in which ‘environmental damage to the land/animals (through resource extraction, animal extinction, land clearance, and pollution) [is] intertwined inextricably with socio cultural genocide to the Indigenous peoples of the land’ (132). The conflicting representations of the films’ protagonists as offering both examples of ‘good inhabitation’ of place and at other times of being ‘dangerously out of place’ suggests the tensions in the aspirations of ‘rehabitation through environmental place-based theories’ on and in relation to Indigenous land (140).

### **Key contributions of the collection: descriptions and departures**

Having provided a preliminary introduction to the various contributions of the issue, we now turn to drawing out further some of the key issues that are raised in the articles. In particular, we elaborate on settler colonial studies as discussed in the articles as central to land education, meanings of ‘land’ as mobilized in the issue, the agency in old and new movements to recognize land and Indigenous claims to land, and the role of naming as part of land education. We conclude with sections addressing the question ‘Why land education?’ in relation to place-based and environmental education, and discussing modes and methodologies of what counts as environmental education research.

### ***Land and settler colonialism***

Theories of colonialism have largely focused on what is sometimes called exogenous domination (Veracini 2011), exploitation colonialism, or external colonialism – three names for the same form. In this form of colonization, small numbers of colonizers go to a new place in order to dominate a local labor force to harvest resources to send back to the metropole, for example the spice and opium trade that impelled the colonization of India by several different European empires. Exploitation colonialism, its nature, consequences, endgame, and post-possibilities have been the focus of (what would become) the field of post-colonial studies for the past 50 years.

It has only been in the last two decades that *settler* colonialism has been more comprehensively theorized, mostly via the emergence of the field of settler colonial studies. As already indicated, *settler* colonialism is a form of colonization in which outsiders come to land inhabited by Indigenous peoples and claim it as their own new home (see also Hinkson 2012). Subsequent generations of settlers come to the settler nation-state for many reasons, under many circumstances – but at the heart of all of those rationales is the need for space and land. This form is distinct from the exploitation colonialism that has been so deeply theorized in post-colonial studies, because, in settler colonialism, settlers come to the new land seeking land and resources, not (necessarily) labor (Wolfe 2011). Though there are many important parallels and connections between these forms of colonialism, especially as settler colonial nation-states also occupy and colonize other lands, there are important



differences to be teased apart (see also Hinkson 2012). For example, Veracini (2011) observes that exploitation colonizers and settler colonizers want very different things: the exploitation colonizer says to the Indigenous person, ‘you, work for me,’ whereas the settler colonizer – because land is the primary pursuit – says to the Indigenous person, ‘you, go away’ (1). Of course, in reality, settler colonizers communicate an amalgamation of these messages to Indigenous peoples; Veracini observes that the accumulating sentiment may be more like, ‘you, work for me while we wait for you to disappear,’ or ‘you, move on so you can work for me,’ but the base intention of settlers has been to disappear Indigenous peoples from the land to make it available for settlement (2).

One of the notable characteristics of settler colonial states is the refusal to recognize themselves as such, requiring a continual disavowal of history, Indigenous peoples’ resistance to settlement, Indigenous peoples’ claims to stolen land, and how settler colonialism is indeed ongoing, not an event contained in the past. Settler colonialism is made invisible within settler societies, and uses institutional apparatuses to ‘cover its tracks’ (Veracini 2011). For example, most non-Indigenous people living in settler societies, if they think of colonizers and/or settlers at all, think of Captain James Cook, Christopher Columbus, colonies, and forts (Donald 2012; see Hinkson 2012 for a discussion of the colonization of Australia). They think of colonization as something that happened in the distant past, as perhaps the unfortunate birthpangs of a new nation. They do not consider the fact that they live on land that has been stolen, or ceded through broken treaties, or to which Indigenous peoples claim a pre-existing ontological and cosmological relationship.<sup>1</sup> They do not consider themselves to be implicated in the continued settlement and occupation of unceded Indigenous land. Indeed, settler colonial societies ‘cover’ the ‘tracks’ of settler colonialism by narrating colonization as temporally located elsewhere, not here and now (Veracini 2011).

Another of the general characteristics of settler societies is that settlers are located at the top and at the center of all typologies – as simultaneously most superior and most normal (Tuck and Yang 2012). These typologies include settler/Indigenous, but also the hegemony of settlers over non-Indigenous workers. These hierarchies are established through force, policy, law, and ideology, and are so embedded that they become naturalized. Morgensen (2011) theorizes settler colonialism as biopower, observing that ‘the biopolitics of settler colonialism arose in the Americas by perpetuating African diasporic subjugation and Indigenous elimination simultaneously,’ (57). Thus, in several contexts, settler colonialism has simultaneously taken form as ‘Slave estates’ (Spillers 2003; Wilderson 2010) requiring the forced labor of stolen peoples on stolen land. In these cases, settlement require[d/s] the labor of chattel slaves and guest workers, who must be kept landless and estranged from their homelands. For example, as detailed in Kate McCoy’s article in this special issue, Tsenecommacah peoples were killed, displaced, and otherwise removed from areas surrounding colonies in Virginia, as Black men and women were brought from Africa to be bought and sold to labor the land. Indeed, as discussed in several of the articles in the issue (Engel-Di Mauro and Carroll, McCoy, Paperson), settler colonialism ‘works’ by making Indigenous land into property, and designating the bodies of slaves as property, or chattel (Tuck and Yang 2012). This same ‘triad’ dynamic continues to operate in North America and elsewhere in the working and living conditions of migrant workers (Byrd 2011; Patel 2012).

A final general characteristic of settler colonialism is its attempt (and failure) to contain Indigenous agency and resistance. Indigenous peoples have refused settler encroachment, even while losing their lives and homelands. Writing about Aotearoa/New Zealand, Smith (2011) cites the long history of Maori resistance to settler invasion, describing the settler nation's need to 'continually code, decode, and re-code social norms and social spaces so as to secure a meaningful (read: *proprietary*) relationship to the territories and resources at stake' (112, parentheses original). Thus, when we theorize settler colonialism, we must attend to it as both an ongoing and incomplete project, with internal contradictions, cracks and fissures through which Indigenous life and knowledge have persisted and thrived despite settlement.

In attending to these conditions of settler colonialism, land education calls into question educational practices and theories that justify settler occupation of stolen land, or encourage the replacement of Indigenous peoples and relations to land with settlers and relations to property. The articles in this special issue instead seek to intervene upon settler colonialist narratives of land by refusing accounts of the past, present, and future that are only accountable to settler futurities. That is, in land education settler futurities are dislocated as the central referent for the effectiveness of an interpretation, the viability of a theory, or the possibility of reinvisionings or reimaginations. Instead, land education is accountable to Indigenous futurities, as is discussed further below.

### ***Land and Indigenous cosmologies***

A second key consideration of the special issue that we want to highlight is how 'land' is understood and engaged in the articles of the collection. These understandings and practices draw on long and vibrant trajectories of Indigenous practice and theory that understand land as encompassing all of the earth, including the urban, and as much more than just the material. In this section, we discuss these considerations of land as they link to Indigenous cosmology and land education.

'Land' is used in the special issue as shorthand for land, water, air, and subterranean earth – for example, in discussions of wetlands (Bang et al.) and Sea Country (Whitehorse et al.). Among Indigenous peoples, relationships to land and place are diverse, specific, and un-generalizable (Lowan 2009):

Every cultural group established their relations to [their place] over time. Whether that place is in the desert, a mountain valley, or along a seashore, it is in the context of natural community, and through that understanding they established an educational process that was practical, ultimately ecological, and spiritual. In this way they sought and found their life. (Cajete 1994, 113, as cited in Lowan 2009, 47)

'Land' is imbued with these long relationships and, as we discuss below, the pedagogies and knowledges that have emerged from those relationships.

Significantly, authors in the collection also include the urban in their understandings and practices of land. Land and land education are not considered to occur only outside cities, or in 'green spaces' within the urban. Rather, several articles focus specifically on urban land, making the case for the need for pedagogies that examine and experience the urban as storied Indigenous land. In (re)storying Chicago as Indigenous land through 'urban Indigenous land-based pedagogies,'



Bang and colleagues write, ‘A critical dimension of the work was making visible settler colonial constructions of urban lands as ceded and no longer Indigenous’ (39). Likewise, Paperson (this issue) focuses on the urban context in his discussion of ‘ghetto colonialism’ as an active specialization of settler colonialism in North America and as an important focus for land education.

As Styres, Haig-Brown, and Blimkie (2013) recently articulated in discussing a ‘pedagogy of Land,’ (echoing Cajete 1994; Lowan 2009) ‘land’ refers not just to the materiality of land, but also its ‘spiritual, emotional, and intellectual aspects’ (37). These scholars choose to signify consideration of these aspects in their capitalization of Land (as do Korteweg and Oakley; and Engel-Di Mauro and Carroll, this issue) and indicate they build on the work of Styres and Zinga (2013) in this respect:

We have chosen to capitalize Land when we are referring to it as a proper name indicating a primary relationship rather than when used in a more general sense. For us, land (the more general term) refers to landscapes as a fixed geographical and physical space that includes earth, rocks, and waterways; whereas, ‘Land’ (the proper name) extends beyond a material fixed space. Land is a spiritually infused place grounded in interconnected and interdependent relationships, cultural positioning, and is highly contextualized. (300–301)

Thus, the word ‘land’ is also used in this special issue to convey these interwoven dimensions.

Relational pedagogies of land are not new, as Bang and colleagues discuss in their article in this issue. They write,

Indigenous scholars have focused much attention on relationships between land, epistemology and importantly, ontology. Places produce and teach particular ways of thinking about and being in the world. They tell us the way things are, even when they operate pedagogically beneath a conscious level (44).

Or, in other words, land can be considered as a teacher and conduit of memory (Brooks 2008; Wilson 2005), in that it ‘both remembers life and its loss and serves itself as a mnemonic device that triggers the ethics of relationality with the sacred geographies that constitute Indigenous peoples’ histories’ (Byrd 2011, 118).

Relationships to land are familial, intimate, intergenerational, and instructive. For example, special issue contributor Manulani Aluli Meyer writes elsewhere,

Land is our mother. *This is not a metaphor.* For the Native Hawaiians speaking of knowledge, land was the central theme that drew forth all others. You came from a place. You grew in a place and you had a relationship with a place. *This is an epistemological idea* ... One does not simply learn about land, we learn best *from* land. (2008, 219, italics original; ellipses inserted)

Land teaches and can be considered as first teacher (Styres, Haig-Brown, and Blimkie 2013). Yup’ik scholar Angayuqaq Oscar Kawagley writes that for Yupiaq people, land and nature are ‘metaphysic’ and pedagogical:

It is through direct interaction with the environment that the Yupiaq people learn. What they learn is mediated by the cultural cognitive map. The map consists of those ‘truths’ that have been proven over a long period of time. As the Yupiaq people

interact with nature, they carefully observe to find pattern or order where there might otherwise appear to be chaos. (2010a, 88)

He continues, ‘It was meaningless for Yupiaq to count, measure, and weigh, for their wisdom transcended the quantification of things to recognize a qualitative level whereby the spiritual, natural, and human worlds were inextricably interconnected’ (90). Kawagley’s rendering of Yupiaq relations to land braids together the cosmological, pedagogical, pragmatic, and spiritual.

Relationships to land within Indigenous frameworks are not between owner and property, as typified in settler societies. As discussed in McCoy’s paper in this issue, property is an enabling concept in a settler colonial framework, with property and property ownership being individualized. Instead, land is collective. Bang et al. invoke Burkhart’s (2004) revision of Descartes’ insistence, ‘I think, therefore I am,’ to ‘We are, therefore I am,’ to express the saliency of collectivity in Indigenous life and knowledge systems (this issue, 44). Bang et al. continue,

Similarly, we might imagine that ontology of place-based paradigms is something like ‘I am, therefore place is,’ in contrast, the ontology of land-based pedagogies might be summarized as ‘Land is, therefore we are.’ (45)

Clearly, Bang et al. differentiate place-based education from land education because of the ontologies that animate them. Understandings of collectivity and shared (though not necessarily synchronous) relations to land are core attributes of land education. Further – and this is not a romantic point – the *land-we* ontology articulated by Bang et al. is incommensurable with notions of ownership that are so integral to notions of property.

Styres, Haig-Brown, and Blimkie (2013), Meyer (2008), and Kawagley (2010a) and others also warn against understandings of Indigenous knowledge of land as static or performable. Calderon (this issue) emphasizes embracing protocols ‘that are mindful of how Indigenous knowledge has been co-opted and omitted’ (28), including for example expectations that Indigenous peoples lead discussions on land education. This mindfulness of co-option also entails an acknowledgment that Indigenous identities and knowledge are not static, and that non-Indigenous desires for performances of ‘authentic’ Indigeneity are also problematic. Friedel (2011) outlines this concern well in her paper on ‘urban Native youth’s cultured responses to Western place-based learning’ in western Canada. The youth in the study resisted the stereotypes and expectations of the white educators for them to ‘get back to nature,’ instead holding fast to their own desires for social experiences and connections, wanting to ‘to learn to be Aboriginal without being in the woods’ (535). Friedel (2011) writes:

Of the pernicious representations of Indigeneity today, none is more equivocal than the trope of ‘the Ecological Indian.’ Borne from nineteenth-century romantic primitivism, this White construction (Bird 1996) has become a prevalent signifier in the environmental realm, an ideal to which Canadians and others look today for a critique of Western institutions (534).

As this point suggests, mindfulness of non-Indigenous desires to access assumed Indigenous knowledge also needs to extend to a mindfulness of non-Indigenous desires to adopt or use such knowledge (e.g. critiques of the formulations and uses

of ‘traditional ecological knowledge,’ as in Agrawal 2002). This is difficult terrain in working both with Indigenous and non-Indigenous learners: to acknowledge and include Indigenous knowledge and perspectives but in non-determined ways that do not stereotype Indigenous knowledge or identities. The creative resistance of students and instructors are perhaps the best teachers in walking this path (Bang this issue; Paperson this issue; Friedel 2011; Styres, Haig-Brown, and Blimkie 2013).

### ***Land and agency: Indigenous land rights and social movements***

In addition to elaborating on the special issue themes of settler colonialism and Indigenous cosmologies in relation to land, we also want to highlight the themes of agency and resistance in relation to land education and environmental education more broadly. The role of agency in environmental education can be manifested at the level of participating students (e.g. Paperson’s discussion of youth resistance to educators’ expectations of white middle-class environmentalism or as in Friedel’s 2011 study discussed above), and a number of articles in the issue suggest forms of land education that are participatory and open-ended in ways that aim to center participant input and agency (e.g. Bang et al.; Sato, Silva and Jaber; Whitehouse et al.).

Articles in the special issue also highlight and exemplify agency and resistance through forms of land education that explicitly address settler colonialism in relation to futurities of Indigenous land and life. Discussing ‘organizing rooted in storytelling,’ Paperson provides a land-based ethnography of past and present Indigenous resistance to colonialism in the San Francisco Bay area. In contrast to narrations of ‘Indian resistance ... as a lost cause of a vanishing race and dying culture’ (125), Paperson highlights past and present circumstances of resistance as land education curriculum. Likewise, Sato, Silva, and Jaber (this issue) offer as land education the mapping and distribution of the stories of land-based exploitation and resistance within the Mato Grosso Region of Brazil. Thus, countering the ‘institutionalization of territoriality in settler colonialism’ (Calderon this issue, 30), authors in the special issue offer compelling articulations and examples of agency towards more ethical relations on and with land.

This work builds on existing trajectories of Indigenous resistance and movement building. Describing a 1970 meeting of Indigenous scholars at Princeton, Cook-Lynn (1997) writes that the participants asserted the foremost concerns of the then-emerging field of Native American Studies as the ‘defense of Indigenous land and rights’ (9). Participants emphasized the ‘*endogenous* study of First Nations cultures and history,’ (11, italics original) that is, the study of Indigenous lives and issues by Indigenous peoples. Smith (1999/2013), Wilson (2008), Kovach (2010), and Chilisa (2011) describe corresponding central commitments within Indigenous studies emerging in New Zealand, Australia, Canada, and Botswana. Likewise, the intersections of environmentalism and Indigenous rights have long been articulated by Indigenous communities, activists and allies (Calderon, this issue). As discussed in several of the articles, *Idle No More* and prior global Indigenous social movements have intensified the demands from Indigenous communities and allies for dialog and action on Indigenous land rights and sovereignty. Paperson theorizes how these very concepts of rights, sovereignty, and justice take on significantly divergent inflections in Indigenous movements and lexicons than in settler colonial

lexicons: ‘Aboriginal sovereignty is different from state sovereignty because it embraces diversity and focuses on inclusivity rather than exclusivity (Watson 2007, 20, as quoted in Paperson, 123). As part of, and allied with, these trajectories and movements, this special issue on land education prioritizes Indigenous theorizing, Indigenous land rights, and Indigenous sovereignty.

### ***The significance of naming: language, thought, and land***

Yup’ik scholar Angayuqaq Oscar Kawagley said often that Mother Nature has a culture, and it is a Native culture (2010b). Connecting language and land, Rasmussen and Akulukjuk (2009) insist that when discussing environmental education, the crucial question is, *what language does the environment speak?* ‘In Nunavut,’ the authors say, ‘the land speaks Inuktitut’ (285). By this they mean that the land and sea have ‘evolved’ an Indigenous language to communicate with and through human beings, a language that ‘grew in [an] area over thousands of years of interaction between the elements and the human and plant and animal beings’ (285). Noting that this point is likely obvious to Indigenous readers, they go on to assure those who view it as a ‘dislocated phenomenon’ that language is not something developed in isolation in human brains, but in relationship to land and water (285).

In an example of the intimate relationships between land, language, and thought from Alaska, Iñupiaq scholar Edna Ahgeak MacLean speaks to life in a world that would appear to outsiders as barren and frozen:

People use their language to organize their reality. Iñupiaq and Yup’ik cultures are based on dependence on the land and sea. Hunting, and therefore a nomadic way of life has persisted. The sea and land that people depend on for their sustenance are almost totally devoid of landmarks. These languages have therefore developed an elaborate set of demonstrative pronouns and adverbs that are used to direct the listener’s attention quickly to the nature and location of an object. In place of landmarks, words serve as indicators about proximity, visibility, or vertical position and implies whether the object is inside or outside, moving or not moving, long or short. For example, Inupiaq has at least 22 stems that are used to form demonstrative pronouns in eight different cases and demonstrative adverbs in four cases. American English has two demonstrative pronouns [this and that] (plural forms these and those), with their respective adverbs here and there. (MacLean 2010, 49)

In a recent interview, Anishinaabe writer Gerald Vizenor asserted that language is among the most powerful forms of Indigenous resistance (Vizenor, Tuck, and Yang 2014). Many generations of Indigenous intellectuals have insisted on the power of words to make change and ensure self-determination and well-being (Deloria 1969; Smith 1999/2013), and along with Kawagley, MacLean, Rasmussen, and Akulukjuk, we see this power as derived from the rootedness of (Indigenous) languages in land.

All of the articles in this special issue are written in English, despite the limitations of the language that Indigenous authors have identified above (see also Chambers 2008). Indeed, ‘Native languages contain the map of the common pot’ – or the ‘hollowed out places’ formed by river intervales where Abenaki families lived in community – says Abenaki scholar Brooks (2008). ‘(B)ut writing in English is the means through which its boundaries have been maintained, asserted,

and reclaimed' (254). This is to say that the work of making space for, and recognizing the sovereignty of Indigenous knowledges and languages can be accomplished in English, even if nuanced and sophisticated renderings of land-based concepts are made more possible within Indigenous languages. Bang et al. (this issue) argue that language work is necessary to confront the reification of settler colonialism and Western intellectual traditions in place-based pedagogies (see also Bowers 2003). These reifications, according to Bang et al., are akin to zero point epistemologies which erase and disavow all other perspectives; they perform an epistemic violence on Indigenous knowledges, eclipsing Indigenous points of reference. Thus, the authors argue that a focus on language is required in order to 'rupture' the cognitive imperialism of the zero point of Eurocentric universalism and its rule over ontology and epistemology. Likewise, other authors in the special issue point to the necessity of disrupting the 'rhetorical power of European universalism' (Mignolo 2003 in Sato, Silva, and Jaber this issue, 104) or the 'cognitive imperialism' (Battiste 2000) embedded in the language and assumptions of many forms of (environmental) education. The significance of naming and language is evident across all nine of the articles in this special issue, and thus can be understood as an important feature of land education.

### ***Why 'land education'?***

Land education puts Indigenous epistemological and ontological accounts of land at the center, including Indigenous understandings of land, Indigenous language in relation to land, and Indigenous critiques of settler colonialism. It attends to constructions and storying of land and repatriation by Indigenous peoples, documenting and advancing Indigenous agency and land rights. We have highlighted these aspects of land education as they are built through and across many of the articles in this special issue, and suggest that these characteristics advance environmental education practice and research in important ways. In this section, we briefly outline some of the linkages in prior writing on these themes within (environmental) education, before turning to discuss in more depth how the characteristics of 'land education,' as discussed so far and as elaborated throughout the issue, relate to those of 'place-based education' as it has been evolving in the research literature to date.

Land education, as we have constructed it here, emphasizes educational research that engages acute analyses of settler colonialism as a structure, a set of relations and conditions. Certainly, work has been undertaken on colonialism and land in environmental education fora by Indigenous scholars. For example, the work of O'Riley and Cole (2009) has grappled with Indigenous and settler relationships to land and education in a Canadian context; Donald (2012) has theorized the centrality of the 'fort on frontier' as a signifier for the myth of civilization and modernity in the creation story of the Canadian nation-state; Le Grange (2009), Shava (2013), and others have written about colonialism and Indigenous knowledge in relation to environmental education research and practice in southern Africa.

Other work by Indigenous and non-Indigenous scholars has taken up a focus on decolonization in relation to environmental education, but typically not with a critique of how colonialism in many contexts has involved settlement and displacement as part of the land-based structure of colonialism in settler colonial contexts. For example, Chambers (2008), learning from collaborations with several First

Nations communities in Northwest Territories in Canada, writes that there are four dimensions of a ‘curriculum of place.’ They include (as section headings):

- (1) A curriculum of place calls for a different sense of time.
- (2) A curriculum of place is enskillment.
- (3) A curriculum of place calls for an ‘education of attention’.
- (4) A curriculum of place is a wayfinding.

Together, these dimensions try to teach and learn how more than one people might call a place home (215). A curriculum of place is configured to redress settlement and determine a shared (long) future. Chambers quotes Andy Blackwater, a Kainai elder, who said ‘The Blackfoot are not going anywhere; the newcomers are not going anywhere; now the same peg anchors the tips of both’ (in Chambers 2008, 125). Chambers continues, ‘It is not the grudge but the grief that matters, and what we are going to do about it’ (125).

In contrast to Chambers’ aims of a curriculum of place, articles in a 2012 special issue of the *Canadian Journal of Environmental Education on Decolonizing + Indigenizing: Moving Environmental Education Towards Reconciliation* (edited by Lisa Korteweg and Connie Russell) trouble notions of a shared future that is not preceded by a process of decolonization. Articles in the issue warn against temptations to try to ‘skip ahead’ to ‘some neutralized ahistorical, guilt-free, pain-free, “romanticized” version of environmental education’ (Korteweg and Russell 2012, 8). The articles in the special issue belie the seduction of claiming Indigenous land as ‘our’ (settlers’) ‘special places’ where feeling connected to the natural world is possible; they also contravene claims that ‘gifted/enlightened non-Indigenous environmental or outdoor educators are the chosen ones to learn and pass on Indigenous knowledge and traditions’ (Korteweg and Russell 2012, 8). Korteweg and Russell emphasize the importance of decolonization and ‘Indigenizing’ – ‘actively recognizing, centring, validating, and honouring Indigenous rights, values, epistemologies or worldviews, knowledge, language, and the stories of the people of the Land’ (7) in environmental education toward reconstituting a shared future, or perhaps parallel futures, for settlers and Indigenous peoples.<sup>2</sup>

The aforementioned works withstanding, it is rare to find explicit discussions of settler colonialism, decolonization, and Indigenous conceptualizations of land within environmental education research. Much of the work in environmental education research that is most conversant or related to what authors in this special issue are distinguishing as land education is described under the banner of ‘place-based education,’ so it makes sense to speak to how and why, at least for now, land education is distinct from place-based education. Our hope, of course, is that place-based education practitioners and researchers take more seriously and address more explicitly the contexts of settler colonialism, the conditions and diversely articulated aims of decolonization, and the epistemologically and ontologically distinct understandings of land lived by Indigenous peoples. Toward this end, we now attend to some of the shared ground and departures between place-based education and land education.

One of the core occupations of place-based education is facilitating meaningful relationships to place. Indeed, because of human-caused carbon emissions and other dangers to climate and planetary stability, this work is necessary in part to cultivate the humility needed to ensure the *future* of places (see Gruenewald and Smith



2008, xix). Alan Gussow describes place as ‘a piece of the whole environment which has been claimed by feelings’ (quoted in Knapp 2008, 5). Gruenewald observes,

For the most part, place-based educators use the term ‘place’ synonymously with ‘community.’ Indeed, both place-based and community-based educators advocate using diverse communities as ‘texts’ for curriculum development and engaging teachers and learners in direct experience and inquiry projects that lead to democratic participation and social action within the local environment. (2008, 143)

Gruenewald continues by noting that an important distinction between place-based education and community-based education is that place-based education is intentionally non-anthropocentric. Further, he clarifies, place-based education is committed to attending to what social and cultural theories overlook, including the land, natural environment, and non-human world (2008, 143).

The praxes of place-based education have forwarded important discussions that would otherwise have been silenced, particularly the works of David Greenwood/Gruenewald and others who have invoked descriptions of a critical pedagogy of place to attend to the need for decolonization and anti-oppression. Yet, though earnest in attempts to acknowledge colonial histories of particular places, the place-based and broader environmental education literature has replicated some of the very problematic assumptions and imperatives of settler colonialism (see Bang et al.; Calderon this issue). This collection draws readers’ attention to these issues not to point fingers, but to underscore the need for works in land education that examine currents of settler colonialism as they course through environmental education and research. That is, the articles in this issue outline concerns about desires toward settler emplacement that are often embedded in environmental education and research (see discussions in Bang et al.: Calderon; Engel-Di Mauro and Carroll; Paperson this issue).

“‘Settler’ is a way to describe colonizers that highlights their desires to be emplaced on Indigenous land’ (Morgensen 2009, 157). Settler emplacement, in Morgensen’s analysis, is the desire to resolve the experience of dis-location implicit in living on stolen land. A core strategy of emplacement is the discursive and literal replacement of the Native by the settler, evident in laws and policies such as eminent domain (and similar constructs), manifest destiny, property rights, and removals, but also in boarding schools, sustained and broken treaties, adoptions, and resulting ‘apologies’ (See Coulthard 2007 for a discussion on the politics of reconciliation in Canada). ‘Historically, a desire to live on Indigenous land and to feel connected to it – bodily, emotionally, spiritually – has been the normative formation of settlers,’ writes settler-scholar Morgensen (2009, 157; see also Korteweg and Oakley this issue).

Here, we wish to differentiate the goal of settler emplacement, which is one way of resolving the colonial situation, from decolonization, which is another way. Settler emplacement, according to Morgensen (2009), can never lead to decolonization.

Decolonization does not follow if settlers simply study and emulate the lives of Indigenous people on Indigenous land ... [this] is relevant in particular to those for whom anarchism links them to communalism and counterculturalism, such as in rural communes, permaculture, squatting, hoboing, foraging, and neo-pagan, earth-based,

and New Age spirituality. These ‘alternative’ settler cultures formed by occupying and traversing stolen Indigenous land and often by practicing cultural and spiritual appropriation ... They must ask, then, if their interest to support Indigenous people arose not from an investment in decolonization, but in recolonization (157).

Settler emplacement is incommensurable with decolonization, because at its basis is a drive to replace the native as the rightful claimant of the land. Replacement relies on fantasies of the extinct or becoming-extinct Indian as natural, forgone, inevitable, indeed, and evolutionary (see Tuck and Gaztambide-Fernández 2013). Replacement is invested in settler futurity; in our use, futurity is more than the future, it is how human narratives and perceptions of the past, future, and present inform current practices and framings in a way that (over)determines what registers as the (possible) future. Settler futurity, then, refers to what Andrew Baldwin calls the ‘permanent virtuality’ (2012, 173) of the settler on stolen land. Theorizing the significance of futurity for researching whiteness and geography, Baldwin (2012) examines whether a history-centered analysis paves the way for the faulty,

teleological assumption that [settler colonialism] can be modernized away. Such an assumption privileges an ontology of linear causality in which the past is thought to act on the present and the present is said to be an effect of whatever came before [...] According to this kind of temporality, the future is the terrain upon or through which [settler colonialism] will get resolved. It cleaves the future from the present and, thus, gives the future discrete ontological form (174, insertion ours).

Replacement and emplacement, to be clear, are entirely concerned with settler futurity, which always indivisibly means the disruption of Indigenous life to aid settlement. Any form of justice or education that seeks to recuperate and not interrupt settler colonialism, to reform the settlement and incorporate Indigenous peoples into the multicultural settler colonial nation-state is invested in settler futurity.<sup>3</sup>

The resounding critique of place-based education offered by authors in this special issue is that ‘it does not go far enough to connect how place ... has been inexorably linked to the genocide of Indigenous peoples and continued settler colonialism’ (Calderon, 25; see also Bang et al.; Engel-Di Mauro and Carroll; and Paperson). ‘While settler colonial violence and oppression is not an explicit aspect of place-based education,’ Calderon continues, ‘it nonetheless fails to meaningfully address colonial legacies in education and particularly how conceptions of place have been involved in their continuance’ (25). In our view, the specific interventions that land education offers to place-based and environmental educators and researchers are (1) the refusal of emplacement and replacement discourses in place-based education and (2) the refusal of settler futurity as the referent of purpose or justice. We discuss each of these interventions in turn.

#### *The refusal of emplacement and replacement discourses in place-based education*

Gruenewald and Smith’s influential edited volume, *Place-Based Education in the Global Age* (2008), locates a book by Wes Jackson, called *Becoming Native to this Place* (1996), as providing questions that get at the core themes of place-based education (Gruenewald and Smith 2008, xix). These questions are indeed important, including ‘What educational forms promote care for places?’ and ‘What does it take to conserve, restore, and create ways of being that serve people and places?’

Yet to answer them, Jackson, a settler, problematically advocates adopting a ‘national goal’ of ‘becoming native to this place, this continent’ (1996, 3). With no lexiconical self-consciousness, Jackson appropriates a generalized version of Indigenous cultures, invoking the need to form an expanded *tribe*, the need to be *native* in a *modern world*. Mention of the ‘first natives here’ is entirely contained in the past – ‘they’ (the Indigenous peoples) were not burdened with the ‘exercise of technology assessment’ (evaluating uses of fossil fuels and other industrial impacts on the environment), as ‘we’ (the settlers) must be (3).

Gruenewald’s later chapter in the same edited volume employs Jackson’s focus on ‘becoming native’ to aid his introduction to the concept of *reinhabitation* (Gruenewald 2008; see also Greenwood 2013; Greenwood and McKenzie 2009; Swayze 2009). In Gruenewald’s words, ‘Reinhabitation roughly equates with the deeper agenda of many environmental educators: to learn how to live well together in a place without doing damage to others, human and nonhuman’ (2008, 143). In describing her approach to reinhabitation within an environmental education program, Swayze (2009) says it has included these aims, ‘embracing the local; using a customized, participatory approach (to inquiry); reconsidering the role of formal curriculum; and, re-thinking what “success” is and how it is measured’ (63).

Yet, because these definitions and approaches to reinhabitation do not recognize the settler colonial histories of and Indigenous claims to the land that is intended to be reinhabited, it is a concept that has been engaged and problematized by authors in this special issue (Bang et al.; Calderon; Paperson). Together, authors in this special issue ask, *how can a place be inhabited or reinhabited if it has already long been inhabited by Indigenous peoples without this functioning as another form of settler emplacement as colonization?* (see also Morgensen 2009). It is precisely at the juncture of concepts that have gained so much traction within place-based education discourses, like reinhabitation, that the epistemological and ontological differences between place-based education and land education may be readily observed, and where the need for a recognition and analysis of settler colonialism and settler emplacement and replacement are most evident.

More recent work on (re)inhabitation suggests it is necessarily coupled with decolonization (Greenwood 2013; Greenwood and McKenzie 2009; Gruenewald 2008; McKenzie 2008). But if theories of reinhabitation are reliant upon replacement discourses like Jackson’s, or other discourses that attempt to relieve settler anxiety and dis-location, reinhabitation may actually thwart decolonization.<sup>4</sup>

### *The refusal of settler futurity as the referent of purpose or justice*

A second intervention needs less explanation, but can have far greater impact on place-based and environmental education and research; understanding and fostering sustainable relationships to land and the environment cannot happen when those activities are accountable to a futurity in which settlers continue to dominate and occupy stolen Indigenous land. Maintaining settler futurity cannot be the purpose or side-effect of environmental education and research; this is not to say there is no future/ity for now-settlers, but that their relationships to Indigenous land and peoples must be informed by an unsettled imaginary. Environmental justice can only take place with Indigenous peoples and epistemologies at the center (see Calderon; Meyer; Sato, Silva and Jaber; Whitehouse et al. this issue). In addition, such theories of change cannot be expected to answer questions of what settlers’ lives will look

like in/after the process of decolonization (Morgensen 2009; Paperson this issue; Tuck and Yang 2012). Land education de-centers settlers and settler futurity as the primary referents for possibility. Land education seeks decolonization, not settler emplacement. Land education is accountable to an Indigenous futurity.

### ***Modes and methods of land education research***

A final key consideration of the special issue that we want to highlight is the methodologies and methods of research mobilized across the articles; as well as how the articles work across various registers and the further research considerations entailed in these crossings. We end by discussing modes and methodologies of research in relation to the authors of the articles, the article reviewers, editors at *Environmental Education Research*, and the articles' anticipated readers.

As indicated already, a range of methodologies and methods of research are drawn upon in the articles included in the collection. These include historical analysis (McCoy), critical cartography (Paperson), ethnography (Paperson), social mapping (Sato, Silva, and Jaber), community-based design research (Bang et al.), document analysis (Calderon; Whitehouse et al.), film analysis (Korteweg and Oakley), photography (Meyer), and descriptive analyses of teaching practices (Engel-Di Mauro and Carroll). Though varied in shape and approach, we regard all of the contributions as research articles: some drawing on and sharing empirical data collected through qualitative data collection methods (e.g. interviews and participant observation in the articles of Bang et al.; Paperson; Sato, Silva and Jaber), others are based on the empirical and conceptual analysis of textual or visual forms (e.g. the curriculum document analysis and film analysis of articles by Calderon; Korteweg and Oakley). Approaches of argumentation also vary across articles, from visual approaches (Meyer), poetic approaches (Bang et al.), to partial stories (Paperson), and reconstructed histories (McCoy). Forms of research in environmental education have expanded beyond those that are modeled on scientific methods and modes of representation (Hart 2005; McKenzie 2009), and with growing numbers of scholarly works available on Indigenous research methodologies and considerations (e.g. Kovach 2010; Smith 1999/2013; Wilson 2008), there is a need for a continued expansion of understandings in what counts as research in the reviewing, editing, and reading practices within environmental education.

We also want to draw attention to the ways in which the methodologies and methods engaged in the issue gather and represent data on a variety of registers in considering land and land education. These include the temporal and spatial, as well as material and other aspects of land. This is most clearly evident in the mapping articles by Sato, Silva, and Jaber, and by Paperson, in which relationships with land are mapped temporally (in relation to history/future) and spatially (in relation to geography) through visual and oral mapping exercises. Other articles, such as those by Bang et al. and Whitehouse et al., similarly work across these multiple registers in representing Chicago or Sea Country as storied land and as sites of land education. These methodological dimensions of the articles ask us to consider not only what land education is or might be, but how can we effectively research it? In what ways can we or should we try to understand learning in relationship to land? On what registers can we or should we collect data? And what are the various ethical considerations and protocols implied in these potential methods and modes of research? (Smith 1999/2013; Wilson 2008).

Also important for environmental education researchers to consider are the challenges in expanding the field topically into new domains and priorities, such as those of land education. Many of the authors represented in this issue could be considered ‘new’ or early career scholars, in that they have completed doctorates within the last 10 years; and to some extent bring new experiences and topical concerns to educational research. In some cases, authors also are part of growing proportion of critical Indigenous educators and researchers contributing to rapidly expanding bodies of scholarly work on Indigenous education and research within and beyond the field of environmental education. These are dynamics that both support the possibilities raised through this issue, but also are challenges in bridging fields, in getting past reviewers and/or in finding appropriate reviewers, in publishing with impact. As Linda Tuhiwai Smith wrote 15 years ago: ‘While researchers are trained to conform to the models provided for them, Indigenous researchers have to meet these criteria as well as Indigenous criteria which can judge research as not “useful,” “not Indigenous,” “not friendly,” “not just.” Reconciling such views can be difficult’ (1999/2013, 140). As special issue editors, at times we questioned who we were writing and editing for, and the extent to which the politics and language of this introduction and of the issue should be addressed to readers familiar and/or unfamiliar with the issues and priorities raised herein. We envision and appreciate the possibilities and responsibilities of reading and writing environmental education research across paradigms, methods, and audiences (Reid 2013).

In closing this introduction to the issue, we hope the collection inspires more place-based and environmental education works that specifically engage settler colonialism. Further, we hope the special issue draws attention to the need to analyze the settler colonial histories of the places and ways in which we conduct environmental education research. Settler colonialism has not only violently interrupted Indigenous life, but it has resulted in ‘quick and brutal’ environmental degradation (Robinson and Tout 2012, 156, see also McCoy this issue).

The mass extinctions; resource scarcity; reliance on damaging coal, mining and logging industries; public unpreparedness for seasonal drought, floods and bushfires; and rapid processes of urbanization, which together distinguish the contemporary Australian situation [and the situation of most other settler colonial nation-states], indicate that settler Australians have not yet managed to become grounded on this continent and do not yet possess adequate or appropriate knowledges – in either form or degree – concerning the management and maintenance of Australian lands. (Robinson and Tout 2012, 156, insertion ours)

We issued the call for this special issue in 2011, before the remarkable Indigenous movement *Idle No More* was founded in Canada; before it spread across North America and gained expressions of recognition and support from Indigenous and non-Indigenous peoples around the globe. *Idle No More* has already taught the world about what we hope a land education does and will do: that is, to remind people to place Indigenous understandings of land and life at the center of environmental issues and other (educational) issues; provide an explicit critique and rendering of settler colonialism, treaties, and sovereignty; invite and inspire acts of refusal, reclamation, regeneration, and reimagination; and theorize pathways to living as ‘separate sovereignties on shared territory’ (Simpson 2013). Structural antagonisms and incommensurabilities throb at the base of land education, but

because land education is accountable to Indigenous resistance and futurity, the pathways are already making their own tracings.

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### Notes

1. Multicultural settler societies may consider Indigenous peoples to be just another ethnic or race group, which now successfully folded into the multicultural fabric, should expect no pre-existing or special rights at all.
2. To punctuate a prior point, one of the contributions of settler colonial studies is the interruption of the binary of 'settler' and 'Indigenous,' by also theorizing the perspectives and structural locations of (descendants of) chattel slaves (Tuck and Yang 2012; Wilderson 2010; Wolfe 2006), arrivants, and migrant workers (Byrd 2011; Patel 2012), and others living in settler colonial nation-states.
3. In contrast, Indigenous futurity forecloses settler colonialism and settler epistemologies. This does not mean that Indigenous futurity forecloses living on Indigenous land by non-Indigenous peoples. That is to say that Indigenous futurity does not require the erasure of now-settlers in the ways that settler futurity requires of Indigenous peoples (see also Tuck and Gaztambide-Fernández 2013).
4. Tuck and Yang (2012) have cautioned against deploying the term 'decolonization' without specific attention to the repatriation of Indigenous land, recognition of Indigenous sovereignty, and abolition of slavery in all forms in the US nation-state. Decolonization is not a metaphor that can be applied to social justice projects that do not result in changes in land distribution, use, and especially relationships. Following Fanon (1968), Tuck and Yang emphasize that decolonization is always a historical process, specific to land and place.

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